Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 15 May

We lifted the anchor in Manzanillo Harbor at approximately 00:20 GMT. Crew change was completed in a safe and organized manner. We transited all day toward the first OBS drop location. We should arrive at the first location just before midnight local time.

We conducted Fire Drill and General Muster drill.

We had Risk Assessment Meeting with Captain and PI.

We had an organizational meeting with the Science Party and reviewed the shifts, some procedures and expectations.

We reviewed the MMO flowcharts and concerns/rules for this project.

The weather is cooperating and we are all anticipating a safe and productive hitch!

Daily Comment Summaries - Plan for Tomorrow

Sun 15 May

We will deploy OBS's all day.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Port Call	SB_PC	Sun 15. May 00:00	Sun 15. May 01:00	1.000
Crew change in Manzanillo, Mexico. Lifted anchors at 23:20 and departed at 01:00				
Transit	SB_TRT	Sun 15. May 01:00	Sun 15. May 24:00	23.000
Chargeable standby d/t being in Transit				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

15-May	Hours	% Percent
Chargeable Standby	**24.000**	**100.000**
Port Call	1.000	4.167
Transit	23.000	95.833
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, OBS_Deployment)

Category	Hours	% Percent
Chargeable Standby	**24.000**	**100.000**
Port Call	1.000	4.167
Transit	23.000	95.833
Total	24.000	

Basic Project Details

Source Only
General Details

Source Only					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

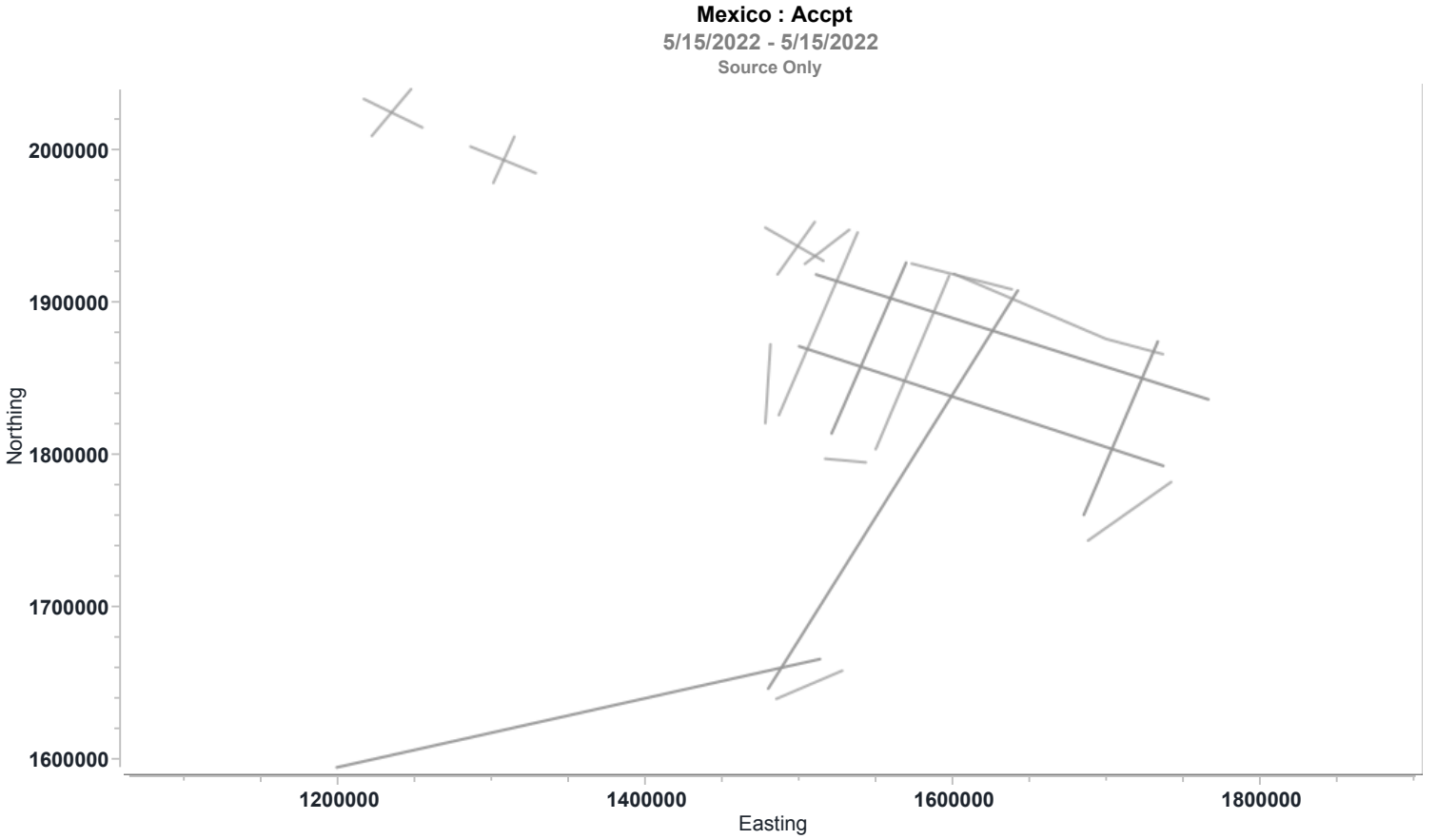
Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0.00**			

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

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

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

Sun 15 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Installing new benders for the additional GPS's

General Purpose Science:
Two XBT drops.

Daily Comment Summaries - Personnel Onboard

Sun 15 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO

Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Donna Shillington - Co-PI NAU
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Vessel Induction Tours	Trng_VIT	Sun 15. May 01:05	Sun 15. May 02:05
HSE - Vessel Induction Tour. Safety Orientation and Civility at Sea video.			
General Muster Drill	Drls_GM	Sun 15. May 15:20	Sun 15. May 15:40
HSE - General Muster Drill			
Abandon Ship Drill	Drls_AS	Sun 15. May 15:40	Sun 15. May 16:00
HSE - Abandon Ship Drill			
Daily HSE Ops Meeting	Mtgs_DOps	Sun 15. May 17:30	Sun 15. May 18:00
HSE - Daily HSE Operation Meeting. Captain, PI, OBSIC, Techs			
Start-up Meeting	Mtgs_StUp	Sun 15. May 18:00	Sun 15. May 18:45
Start-up Meeting. PSO, Science Party,			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2
5/15/2022		
Toolbox Meeting to discuss XBT launch Toolbox Meeting to discuss OBS deployment and deck configuration		

Daily Science Report

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COLUMBIA UNIVERSITY | EARTH INSTITUTE

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Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 16 May

A very steady and productive first day deploying OBS's. We have 23 OBS's deployed at the day change and have two more to deploy on the first OBS Line 1A. We should have all 26 of the OBS's deployed at approximately 9:30PM local time. We will begin deploying guns at that time. We hope to be ramped up around midnight local time.

We ran the compressors in the afternoon and checked the guns for leaks.

The A-frame has some occasional chatter when deploying the OBS's. We think that there might be some air in the hydraulic line after installing the new forward cylinder or the counter balance valve needs adjusting. We are monitoring it and will adjust this after we are done with the OBS portion of the job. It is not a shut-down item.

6 THC Cards have been submitted for review; 1 Suggestion for Approval submitted for review.

The weather has been perfect.

Daily Comment Summaries - Plan for Tomorrow

Mon 16 May

We will be shooting OBS Line 1A all day.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Transit	SB_TRT	Mon 16. May 00:00	Mon 16. May 04:53	4.883
Chargeable standby d/t being in Transit				
Deploy	AC_SM_De	Mon 16. May 04:53	Mon 16. May 24:00	19.117

Node operation 1 S/N: Line:Line 1a Block:Mexico SP:1 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:2 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:3 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:4 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:5 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:6 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:7 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:8 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:9 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:10 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:11 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:12 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:13 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:14 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:15 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:16 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:17 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:18 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:19 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:20 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:21 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:22 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:23 Deployment
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:24 Deployment

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

16-May	Hours	% Percent
Acquisition	**19.117**	**79.653**
Swath Move	19.117	79.653
Deploy	19.117	79.653
Chargeable Standby	**4.883**	**20.347**
Transit	4.883	20.347
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**19.117**	**39.826**
Swath Move	19.117	39.826
Deploy	19.117	39.826
Chargeable Standby	**28.883**	**60.174**
Port Call	1.000	2.083
Transit	27.883	58.090
Total	48.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m

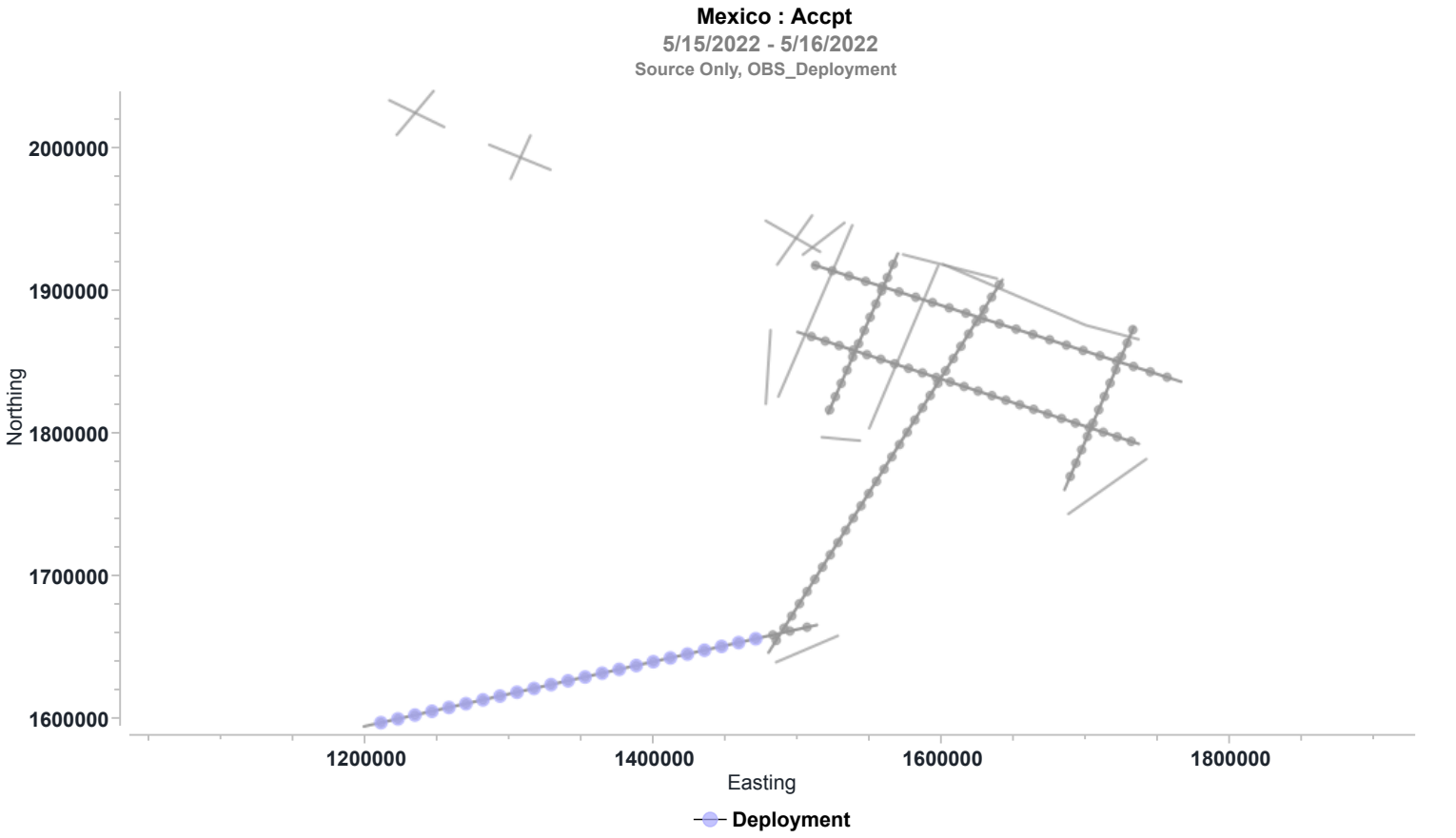
MCS 6000m					
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

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

Mon 16 May

Navigation:

Alan changed out a coax cable on the MMO tower. The Posnet antenna is working.

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Installing new benders for the additional GPS's

General Purpose Science:
We mounted the Maggie on the back deck and made it ready to deploy.

Daily Comment Summaries - Personnel Onboard

Mon 16 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 16. May 17:25	Mon 16. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO, OBSIC reviewed daily status and progress.			

Daily Total Category	Code	Count
STOP Cards	Re_Con_STOP	6
5/16/2022		
Six THC Cards submitted today.		
Toolbox Meetings	Mtgs_Tbox	4
5/16/2022		
Full Back Deck Toolbox Meeting at shift change. We reviewed the OBS deployment procedures and roles. Very good team discussion and dry run before beginning the first line. Toolbox Meeting to discuss better way to deploy Maggie. Toolbox Meeting to discuss the A-frame chatter and possible mitigation.		
5/16/2022		
Toolbox Meeting to discuss installing fans on the PSO shelter on the tower.		

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COLUMBIA UNIVERSITY | EARTH INSTITUTE

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Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 17 May

We finished deploying the last few OBS's and had the guns deployed shortly afterwards. The guns have been performing well. Good steady progress.

We had an airleak on gunstring #2 during the initial deployment and had to pick it back up to make repairs. We carried on deploying the other gun strings while these repairs were being made. We started the line with full gun volume and finished the day with full gun volume.

The new streamer fair leads have been installed on positions 2 & 3. They look very good.

We had the Weekly Tech Zoom Meeting today.

Daily Comment Summaries - Plan for Tomorrow

Tue 17 May

We will finish shooting OBS Line 1A and then begin recovering the OBS's about mid-afternoon.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Deploy	AC_SM_De	Tue 17. May 00:00	Tue 17. May 02:58	2.967
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:24 Deployment Node operation 1 S/N: Line:Line 1a Block:Mexico SP:25 Deployment Node operation 1 S/N: Line:Line 1a Block:Mexico SP:26 Deployment				
Deployment	MB_DP	Tue 17. May 02:58	Tue 17. May 03:11	0.217
Pre-deployment safety meeting. Clearing the main deck. Removing barriers. Testing remote boxes.				
Deployment	MB_DP	Tue 17. May 03:11	Tue 17. May 03:20	0.150
Deploying outboard equipment. PAM and Maggie.,				
Deployment	MB_DP	Tue 17. May 03:20	Tue 17. May 03:45	0.417
Deploying outboard equipment. Gunstring #1				
Deployment	MB_DP	Tue 17. May 03:45	Tue 17. May 04:06	0.350
Deploying outboard equipment. Gunstring #2				
Source	DT_SC	Tue 17. May 04:06	Tue 17. May 04:22	0.267
Downtime due to source. We recovered Gunstring #2 to fix an airleak.				
Deployment	MB_DP	Tue 17. May 04:22	Tue 17. May 04:42	0.333
Deploying outboard equipment. Gunstring #4				
Deployment	MB_DP	Tue 17. May 04:42	Tue 17. May 05:00	0.300
Deploying outboard equipment. Gunstring #3				
Source	DT_SC	Tue 17. May 05:00	Tue 17. May 05:38	0.633
Re-deploying Gunstring #2 after fixing airleak.				
Deployment	MB_DP	Tue 17. May 05:38	Tue 17. May 06:05	0.450
Soft-Start source array. Ramp up complete.				
Prime Line Change	AC_PLC	Tue 17. May 06:05	Tue 17. May 06:50	0.750
Seq: 1 Line: Line 1a				

Category	Code	Start	End	Duration
Nominal Prime line change. This is the initial line change onto the first sequence.				
Production Prime	AC_PP	Tue 17. May 06:50	Tue 17. May 24:00	17.167
Seq: 1 OBS Line 1A				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

17-May	Hours	% Percent
Acquisition	**20.883**	**87.014**
Prime Line Change	0.750	3.125
Production Prime	17.167	71.528
Swath Move	2.967	12.361
Deploy	2.967	12.361
DownTime	**0.900**	**3.750**
Source	0.900	3.750
Mobilisation	**2.217**	**9.236**
Deployment	2.217	9.236
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**40.000**	**55.556**
Prime Line Change	0.750	1.042
Production Prime	17.167	23.843
Swath Move	22.083	30.671
Deploy	22.083	30.671
Mobilisation	**2.217**	**3.079**
Deployment	2.217	3.079
Chargeable Standby	**28.883**	**40.116**
Port Call	1.000	1.389
Transit	27.883	38.727
DownTime	**0.900**	**1.250**
Source	0.900	1.250
Total	72.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		

MCS 15000m 50m					
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
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Length:	6000 m	Group interval:	12.5 m		
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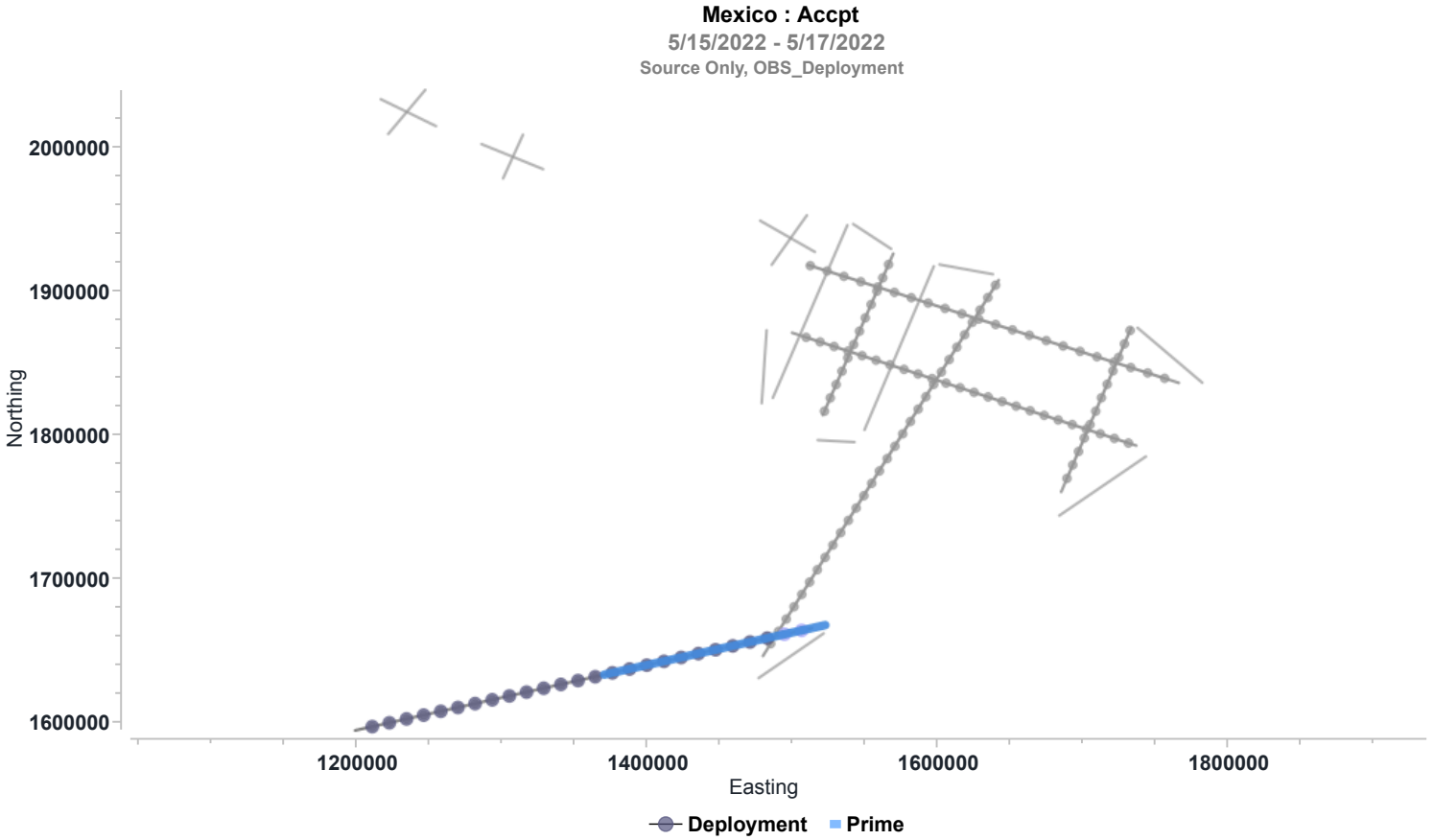
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	Line1a	257.3	1830	1441	Prime	156.00	4.894	Midnight	Part
Total						**156.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	156.00	156.00	156.00	156.00
Combined	**156.00**	**156.00**	**156.00**	**156.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 17 May

Navigation:

GPS on gunstring #1 is not working. GPS 2,3,4, are working well.

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Installing new menders for the additional GPS's.
Installing the new fairleads on the streamer deck.

General Purpose Science:
XBT drop.
Will test the spare PAM cable.

Daily Comment Summaries - Personnel Onboard

Tue 17 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
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Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 17. May 17:25	Tue 17. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns.			
Weekly Telecon	Mtgs_WTel	Tue 17. May 18:00	Tue 17. May 19:00
HSE - Weekly Tech Zoom			

Daily Science Report

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Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 18 May

We completed OBS Line 1A at approximately 3 PM local time. We turned the ship back towards the last OBS station and began recovering the guns, PAM cable and Maggie. All towed gear was on-board at approximately 5PM local time. We secured the sonars and sent the release command to OBS #1 and proceeded towards the recovery location. OBS #1 was on deck at 6:11 local time. (23:11 UTC)

The weather is very favorable and we are making very good progress with the OBS recoveries. We conducted a thorough Toolbox Meeting with the Science Party and Techs before recovering the first OBS.

We had to shut down for night-time visual clearance and soft start ramp-up after the air compressor dropped out. This created a 15 shot point hole in the coverage. (50 minutes to get back to full volume) The decision was made not to circle at that time. We have reviewed this event during the Daily Ops Meeting and have decided to circle for any similar scenarios in the future during the OBS source only portion of the prospect.

The spare PAM cable was brought to the back deck to be tested and the small wooden spool that it is stored on fell apart. We will have to deck out the spare PAM cable and re-spool it onto a new wooden spool for storage.

The gun strings were recovered without any problems and the #1 GPS pod itself was found to be the problem.

Daily Comment Summaries - Plan for Tomorrow

Wed 18 May

We will recover OBS's all day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Wed 18. May 00:00	Wed 18. May 19:42	19.700
Seq: 1 SOL Seq 1 Line:Line1a Block:Mexico FGSP:1440 FCSP:1440 Hdg:257.3° Prime EOL Seq 1 Line:Line1a Block:Mexico LGSP:1001 LCSP:1001 Complete				
Field Operations	SB_FO	Wed 18. May 19:42	Wed 18. May 20:04	0.367
Turning back towards OBS #1 and preparing to recover gunstring #3				
Field Operations	SB_FO	Wed 18. May 20:04	Wed 18. May 20:40	0.600
Recovering gunstring #3				
Field Operations	SB_FO	Wed 18. May 20:40	Wed 18. May 21:04	0.400
Recovering gunstring #4 and PAM cable.				
Field Operations	SB_FO	Wed 18. May 21:04	Wed 18. May 21:21	0.283
Recovering gunstring #2				
Field Operations	SB_FO	Wed 18. May 21:21	Wed 18. May 22:23	1.033
Recovering gunstring #1 and Maggie				
Recover	AC_SM_Re	Wed 18. May 22:23	Wed 18. May 24:00	1.617
Node operation 1 S/N: Line:Line 1a Block:Mexico SP:1 Recovery Node operation 1 S/N: Line:Line 1a Block:Mexico SP:2 Recovery				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

18-May	Hours	% Percent
Acquisition	**21.317**	**88.819**
Production Prime	19.700	82.083
Swath Move	1.617	6.736
Recover	1.617	6.736
Chargeable Standby	**2.683**	**11.181**
Field Operations	2.683	11.181
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**61.317**	**63.872**
Prime Line Change	0.750	0.781
Production Prime	36.867	38.403
Swath Move	23.700	24.688
Deploy	22.083	23.003
Recover	1.617	1.684
Mobilisation	**2.217**	**2.309**
Deployment	2.217	2.309
Chargeable Standby	**31.567**	**32.882**
Field Operations	2.683	2.795
Port Call	1.000	1.042
Transit	27.883	29.045
DownTime	**0.900**	**0.938**
Source	0.900	0.938
Total	96.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		

MCS 15000m 50m					
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:	0 m		

Basic Project Details

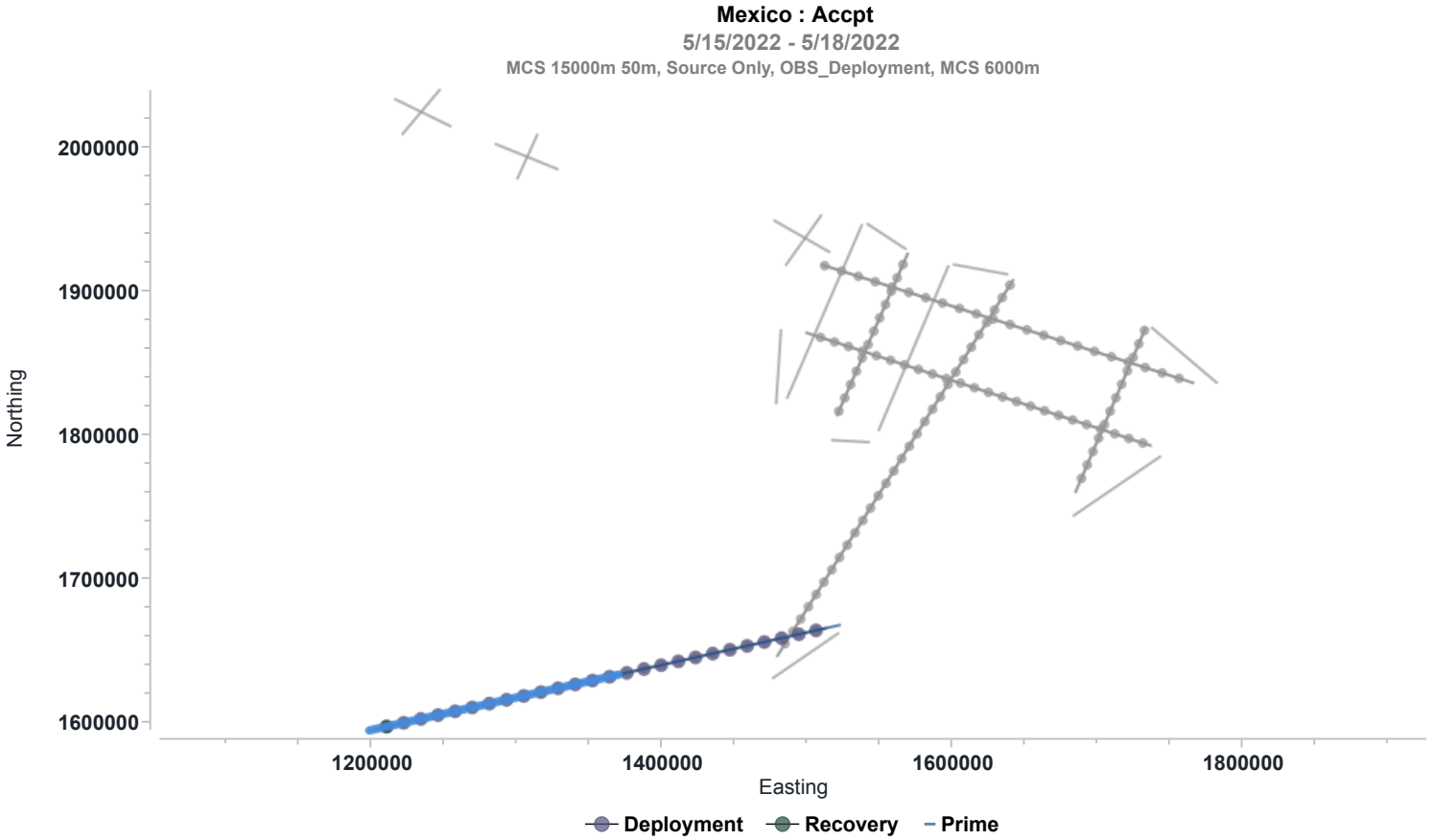
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	Line1a	257.3	1440	1001	Prime	176.00	4.857	Complete	Complete
Total						**176.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	176.00	332.00	332.00	332.00
Combined	**176.00**	**332.00**	**332.00**	**332.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 18 May

Navigation:

GPS on gunstring #1 has been replaced. All four GPS's should be working on re-deployment of the gunstrings.

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Installing new menders for the additional GPS's.
New fairleads are installed. The #1 fairlead still needs to be mounted.

General Purpose Science:
XBT drop.
Will test the spare PAM cable. Spool collapsed from rust and deterioration and needs to be replaced..

Daily Comment Summaries - Personnel Onboard

Wed 18 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth

Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Wed 18. May 17:25	Wed 18. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	1
5/18/2022		
Toolbox Meeting with entire Science Party and Techs to review the OBS recovery procedures. This was conducted on the main deck.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 19 May

We recovered OBS's all day long. We have 14 out of the 26 OBS's onboard from Line 1A.

Work on the gun-strings is progressing. The new GPS mender on gun-string #1 is installed. The GPS mounts are being fabricated in the machine shop.

The #1 fair-lead has been installed.

Hydraulics were shut down briefly for a leak on system #1

We tested and re-spooled the spare PAM cable.

Daily Comment Summaries - Plan for Tomorrow

Thu 19 May

We will recover OBS's all day.

Timing Diary (Marcus G Langseth, Source Only)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Thu 19. May 00:00	Thu 19. May 24:00	24.000

Node operation 2 S/N: Line:Line 1a Block:Mexico SP:2 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:3 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:4 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:5 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:6 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:7 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:8 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:9 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:10 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:11 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:12 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:13 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:14 Recovery

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

19-May	Hours	% Percent
Acquisition	**24.000**	**100.000**
Swath Move	24.000	100.000
Recover	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**85.317**	**71.097**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Prime Line Change	0.750	0.625
Production Prime	36.867	30.722
Swath Move	47.700	39.750
Deploy	22.083	18.403
Recover	25.617	21.347
Mobilisation	**2.217**	**1.847**
Deployment	2.217	1.847
Chargeable Standby	**31.567**	**26.306**
Port Call	1.000	0.833
Transit	27.883	23.236
Planned Operations	2.683	2.236
Source Recovery	2.683	2.236
DownTime	**0.900**	**0.750**
Source	0.900	0.750
Total	120.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

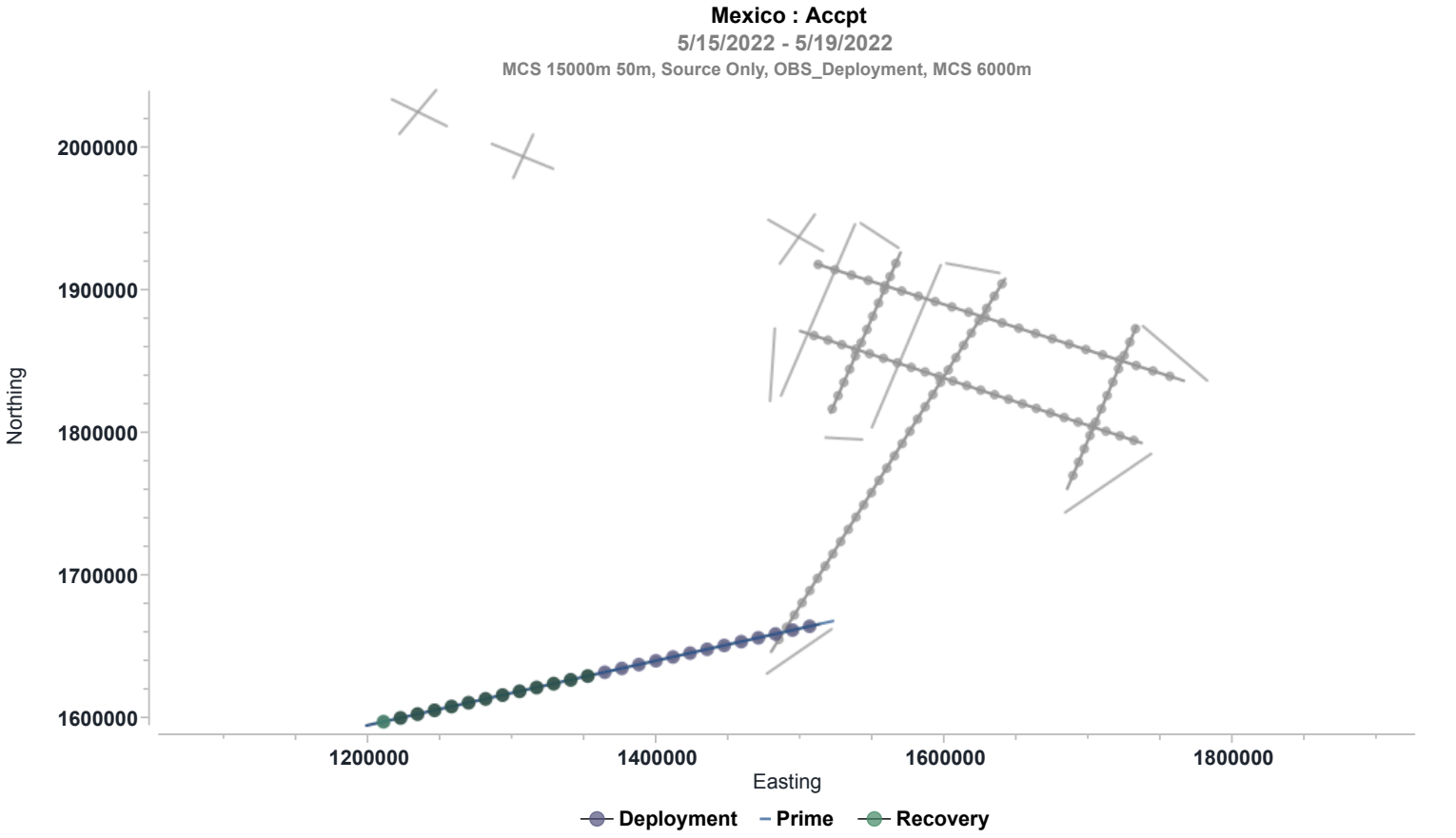
MCS 6000m					
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	332.00	332.00	332.00
Combined	**0.00**	**332.00**	**332.00**	**332.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 19 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Installed new mender on gustring #1l .
All fair-leads are installed.

General Purpose Science:
XBT drop.
We deployed the spare PAM cable and re-spooled it. It is a good spare, ready to use now.

Daily Comment Summaries - Personnel Onboard

Thu 19 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Thu 19. May 18:30	Thu 19. May 18:55
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	3
5/19/2022		
Toolbox Meeting to discuss changing the GPS mender.		
5/19/2022		
Toolbox Meeting to discuss deploying and re-spooling the spare PAM cable.		
5/19/2022		
Toolbox Meeting to discuss OBS recovery using System #2 tugger winch.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 20 May

We have recovered 25 out of 26 OBS's from Line 1A by the end of the Julian Day. We will have all of them on board and will be started deploying OBS's onto Line 2 before midnight local time.

We had a safety meeting today and reviewed the THC cards, action items, and responsibilities.

Good weather and steady progress.

Daily Comment Summaries - Plan for Tomorrow

Fri 20 May

The weather is cooperating and we are taking full advantage of this while deploying OBS's tomorrow.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Fri 20. May 00:00	Fri 20. May 24:00	24.000

Node operation 2 S/N: Line:Line 1a Block:Mexico SP:14 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:15 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:16 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:17 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:18 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:19 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:20 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:21 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:22 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:22 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:23 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:24 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:25 Recovery
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:26 Recovery

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

20-May	Hours	% Percent
Acquisition	**24.000**	**100.000**
Swath Move	24.000	100.000
Recover	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**109.317**	**75.914**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Prime Line Change	0.750	0.521
Production Prime	36.867	25.602
Swath Move	71.700	49.792
Deploy	22.083	15.336
Recover	49.617	34.456
Mobilisation	**2.217**	**1.539**
Deployment	2.217	1.539
Chargeable Standby	**31.567**	**21.921**
Port Call	1.000	0.694
Transit	27.883	19.363
Planned Operations	2.683	1.863
Source Recovery	2.683	1.863
DownTime	**0.900**	**0.625**
Source	0.900	0.625
Total	144.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

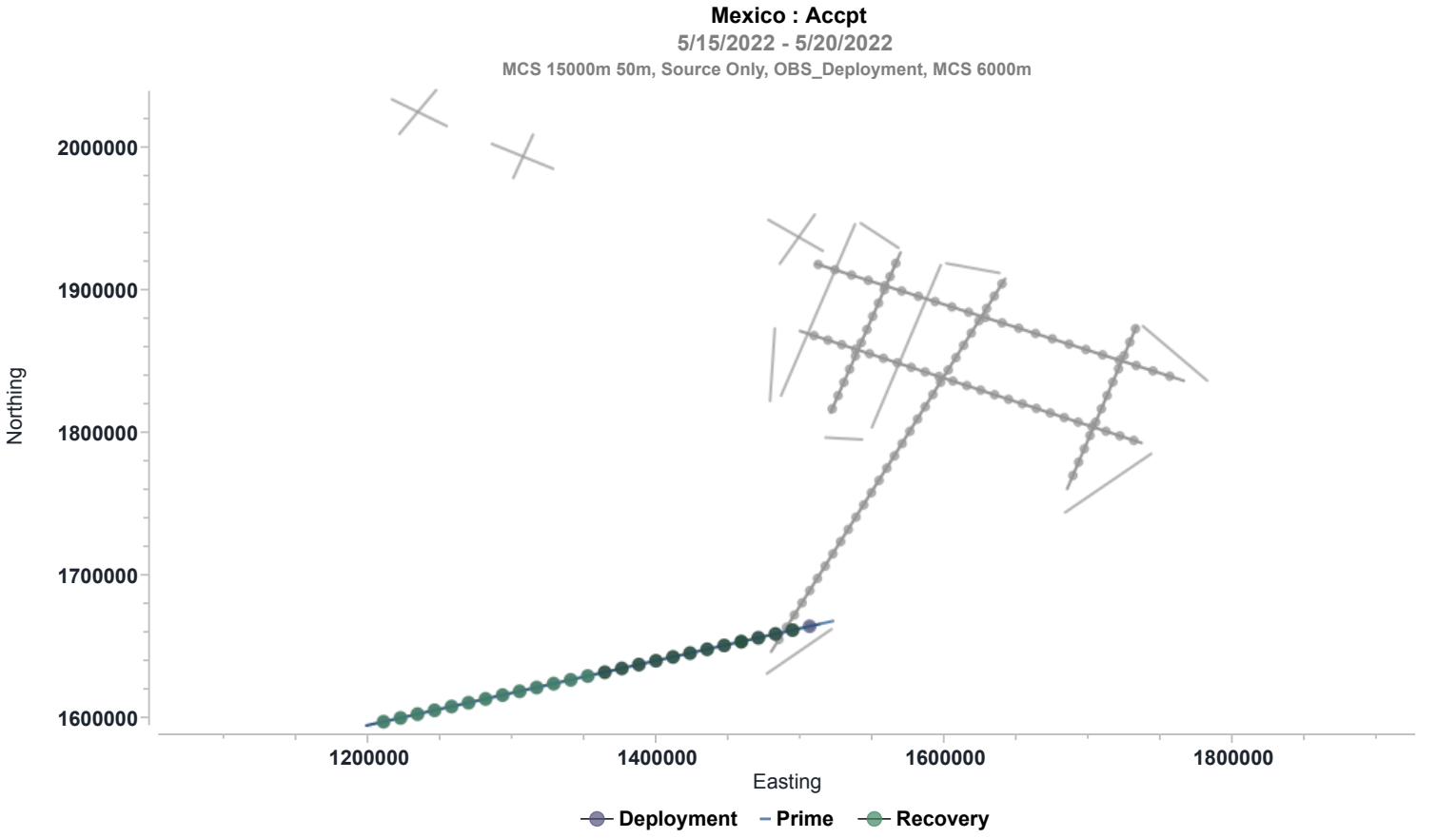
MCS 6000m					
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	332.00	332.00	332.00
Combined	**0.00**	**332.00**	**332.00**	**332.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 20 May

Navigation:
No Major Issues to Report

Information Technology (IT):

No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report.
Continue fabricating GPS mounts for the gun strings

General Purpose Science:
No Major Issues to Report
.

Daily Comment Summaries - Personnel Onboard

Fri 20 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
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Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Fri 20. May 17:20	Fri 20. May 18:20
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns.			
Safety Committee Meeting	Mtgs_SC	Fri 20. May 18:20	Fri 20. May 19:20
HSE - Safety Committee Meeting to review THC cards and action items.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	4

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 21 May

We have deployed 27 of 31 OBS's on Line 2. The entire line should be deployed by approximately 10PM local time. We will turn westerly to deploy the guns and stay out of the shallow water for ramp-up. We will require another night time visual clearance. We hope to be acquiring source data by midnight.

This will be the first deployment with six GPS pods installed on the gun-strings.

Very good progress today. The OBSIC team has done a terrific job all day.

There was some significant shipping traffic today.

Daily Comment Summaries - Plan for Tomorrow

Sat 21 May

We finish deploying the the source arrays and shoot all day.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Sat 21. May 00:00	Sat 21. May 01:12	1.200
Node operation 2 S/N: Line:Line 1a Block:Mexico SP:26 Recovery				
Transit	SB_TRT	Sat 21. May 01:12	Sat 21. May 02:38	1.433
Transit to OBS Line 2				
Deploy	AC_SM_De	Sat 21. May 02:38	Sat 21. May 24:00	21.367
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:1 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:2 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:3 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:4 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:5 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:6 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:7 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:8 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:9 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:10 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:11 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:12 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:13 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:14 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:15 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:16 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:17 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:18 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:19 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:20 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:21 Deployment				

Category	Code	Start	End	Duration
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:22 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:23 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:24 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:25 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:26 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:27 Deployment				
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:28 Deployment				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

21-May	Hours	% Percent
Acquisition	**22.567**	**94.028**
Swath Move	22.567	94.028
Deploy	21.367	89.028
Recover	1.200	5.000
Chargeable Standby	**1.433**	**5.972**
Transit	1.433	5.972
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
Acquisition	**131.883**	**78.502**
Prime Line Change	0.750	0.446
Production Prime	36.867	21.944
Swath Move	94.267	56.111
Deploy	43.450	25.863
Recover	50.817	30.248
Mobilisation	**2.217**	**1.319**
Deployment	2.217	1.319
Chargeable Standby	**33.000**	**19.643**
Port Call	1.000	0.595
Transit	29.317	17.450
Planned Operations	2.683	1.597
Source Recovery	2.683	1.597
DownTime	**0.900**	**0.536**
Source	0.900	0.536
Total	168.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m

MCS 15000m 50m					
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

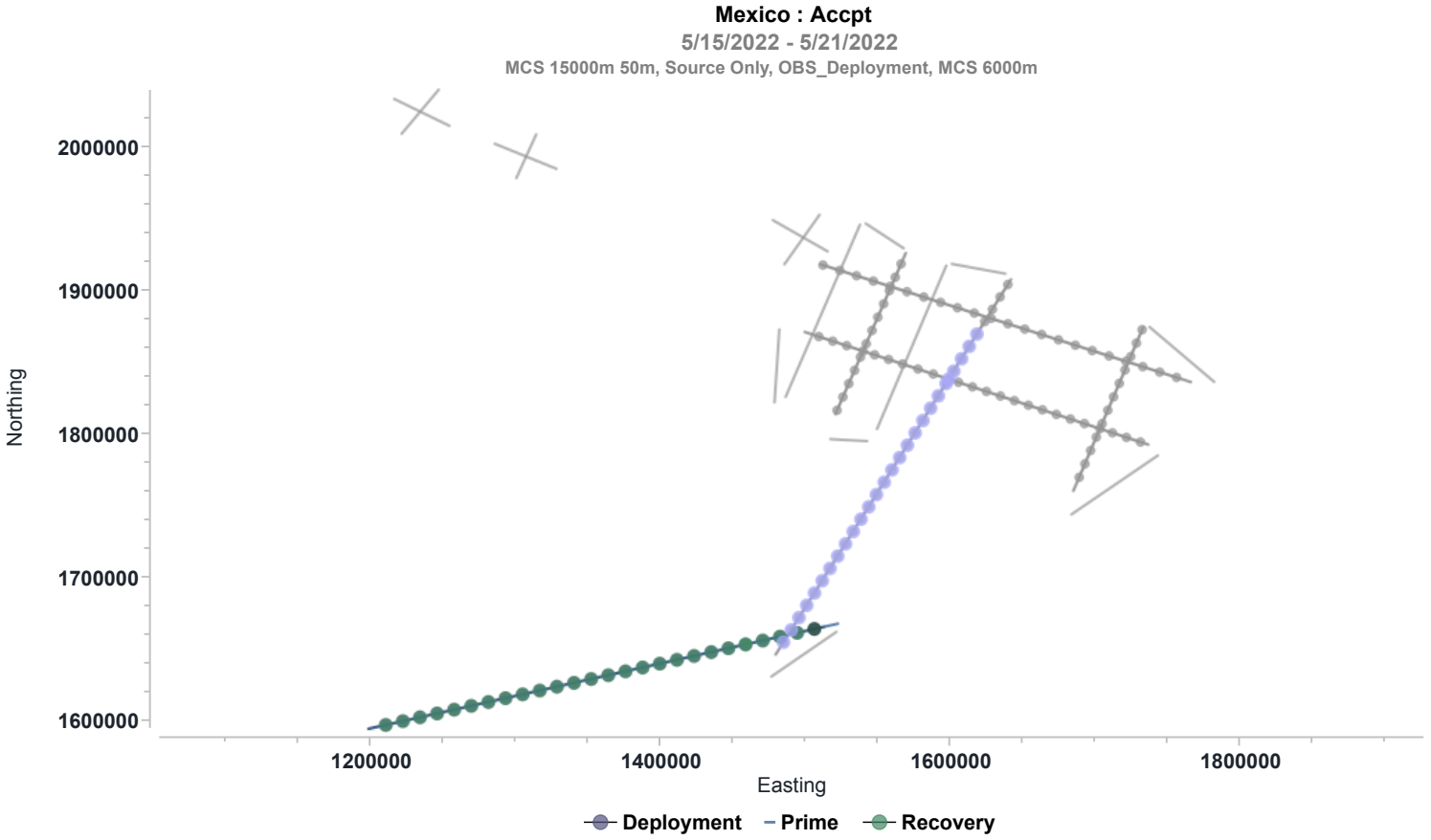
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	332.00	332.00	332.00
Combined	**0.00**	**332.00**	**332.00**	**332.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 21 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report.
Six GPS pods mounted on the gun strings!

General Purpose Science:
No Major Issues to Report.

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Daily Comment Summaries - Personnel Onboard

Sat 21 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
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Yessika Murillo - RPS PSO
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Heber Contreras - RPS PSO

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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 21. May 17:30	Sat 21. May 18:30
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed shallow water restrictions.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 22 May

We completed the OBS deployment and began shooting at approximately 1AM local time. There was a 30 minute shut-down for a turtle sighting at the beginning of our first attempt to soft start the source array.

Good weather and steady production all day.

The satellite domes are being obstructed by the tower and stacks on this line heading.

Daily Comment Summaries - Plan for Tomorrow

Sun 22 May

We will complete the source line for OBS 2 at approximately 1PM local time. We will then recover the guns and start picking up the OBS instruments for the rest of the day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Deploy	AC_SM_De	Sun 22. May 00:00	Sun 22. May 02:42	2.700
Node operation 3 S/N: Line:Line 2 Block:Mexico SP:28 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:29 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:30 Deployment Node operation 3 S/N: Line:Line 2 Block:Mexico SP:31 Deployment				
Source Deployment	SB_PO_SOD	Sun 22. May 02:42	Sun 22. May 03:04	0.367
Deploy Maggie and PAM before Source Deployment.				
Source Deployment	SB_PO_SOD	Sun 22. May 03:04	Sun 22. May 05:02	1.967
Chargeable Standby related to Planned Operations due to Source Deployment. Deployed all four gunstrings.				
Cetacean	DT_CT	Sun 22. May 05:02	Sun 22. May 05:05	0.050
Soft-Start source array. Aborted due to turtle sighting.				
Cetacean	DT_CT	Sun 22. May 05:05	Sun 22. May 05:36	0.517
30 minute shutdown due to turtle sighting.				
Source Deployment	SB_PO_SOD	Sun 22. May 05:36	Sun 22. May 05:57	0.350
Soft-Start source array. Ramp up complete.				
Prime Line Change	AC_PLC	Sun 22. May 05:57	Sun 22. May 06:01	0.067
Seq: 3 Line: Line 2 Nominal Prime line change after soft start for OBS Line 2				
Production Prime	AC_PP	Sun 22. May 06:01	Sun 22. May 24:00	17.983
Seq: 2				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
SOL Seq 2 Line:Line2 Block:Mexico FGSP:2022 FCSP:2022 Hdg:31.9° Prime MSP Seq 2 Line:Line2 Block:Mexico LGSP:1546 LCSP:1546 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

22-May	Hours	% Percent
Acquisition	**20.750**	**86.458**
Prime Line Change	0.067	0.278
Production Prime	17.983	74.931
Swath Move	2.700	11.250
Deploy	2.700	11.250
Chargeable Standby	**2.683**	**11.181**
Planned Operations	2.683	11.181
Source Deployment	2.683	11.181
DownTime	**0.567**	**2.361**
Cetacean	0.567	2.361
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.764**
Cetacean	0.567	0.295
Source	0.900	0.469
Acquisition	**152.633**	**79.497**
Prime Line Change	0.817	0.425
Production Prime	54.850	28.568
Swath Move	96.967	50.503
Deploy	46.150	24.036
Recover	50.817	26.467
Mobilisation	**2.217**	**1.155**
Deployment	2.217	1.155
Chargeable Standby	**35.683**	**18.585**
Port Call	1.000	0.521
Transit	29.317	15.269
Planned Operations	5.367	2.795
Source Recovery	2.683	1.398
Source Deployment	2.683	1.398
Total	192.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

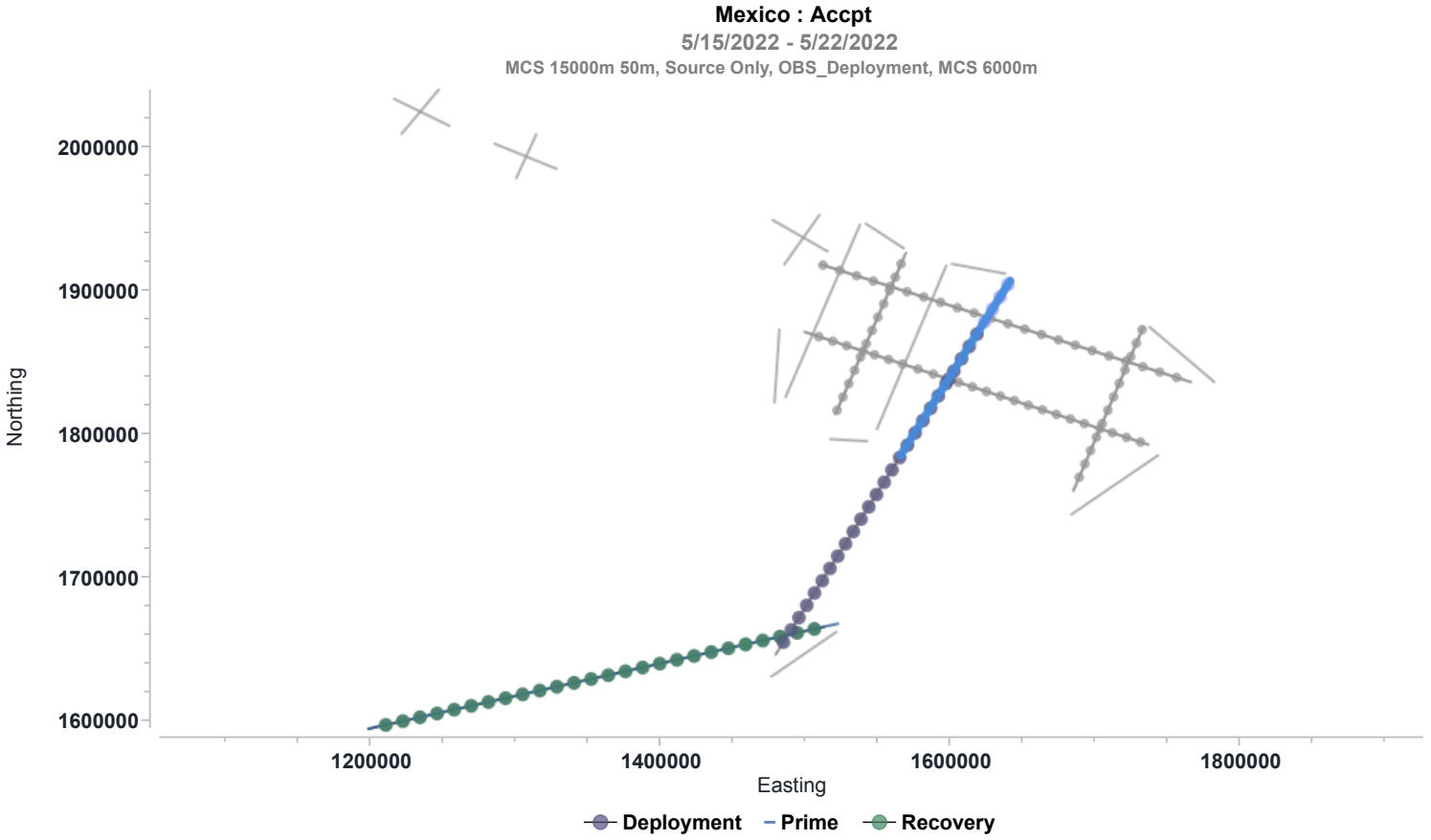
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
2	Line2	31.9	2022	1546	Prime	190.80	5.717	Midnight	Part
Total						**190.80**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	190.80	522.80	522.80	522.80
Combined	**190.80**	**522.80**	**522.80**	**522.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 22 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
No Major Issues to Report.
Six GPS pods mounted on the gun strings!

General Purpose Science:
No Major Issues to Report.

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Daily Comment Summaries - Personnel Onboard

Sun 22 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
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Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

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Yessika Murillo - RPS PSO
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Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 23 May

We finished shooting OBS Line 2 at 15:05. We picked up all of the towed gear and started picking up OBS instruments at 18:07. The weather has picked up somewhat, but we do not anticipate any delays. We have three of them recovered at the end of the day.

Source GPS maintenance and repair ongoing. Pod on gun-string #2 was repaired by replacing the depth jumper. The pod on gun-string #3 and fwd pod on #4 aren't resolved yet.

The port compressor dropped out briefly. We went to half volume for two shots. There was good communication from Engine Department to main lab to avoid missing any shots.

Discussed timing of OBP operations.

Daily Comment Summaries - Plan for Tomorrow

Mon 23 May

We will recover OBS instruments all day on Line 2.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 23. May 00:00	Mon 23. May 15:05	15.083
Seq: 2 SOL Seq 2 Line:Line2 Block:Mexico FGSP:1545 FCSP:1545 Hdg:31.9° Prime EOL Seq 2 Line:Line2 Block:Mexico LGSP:1001 LCSP:1001 Complete				
Source Recovery	SB_PO_SOR	Mon 23. May 15:05	Mon 23. May 17:17	2.200
Chargeable Standby related to Planned Operations due to Source Recovery. Recovered Gunstrings 1-4 and Maggie and PAM cable.				
Prime Line Change	AC_PLC	Mon 23. May 17:17	Mon 23. May 18:07	0.833
Seq: 2 Line: Line2 Short transit to OBS #1 recovery position.				
Recover	AC_SM_Re	Mon 23. May 18:07	Mon 23. May 24:00	5.883
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:1 Recovery Node operation 4 S/N: Line:Line 2 Block:Mexico SP:2 Recovery Node operation 4 S/N: Line:Line 2 Block:Mexico SP:3 Recovery Node operation 4 S/N: Line:Line 2 Block:Mexico SP:4 Recovery				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

23-May	Hours	% Percent
Acquisition	**21.800**	**90.833**
Prime Line Change	0.833	3.472
Production Prime	15.083	62.847
Swath Move	5.883	24.514
Recover	5.883	24.514
Chargeable Standby	**2.200**	**9.167**
Planned Operations	2.200	9.167

23-May	Hours	% Percent
Source Recovery	2.200	9.167
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.679**
Cetacean	0.567	0.262
Source	0.900	0.417
Acquisition	**174.433**	**80.756**
Prime Line Change	1.650	0.764
Production Prime	69.933	32.377
Swath Move	102.850	47.616
Deploy	46.150	21.366
Recover	56.700	26.250
Mobilisation	**2.217**	**1.026**
Deployment	2.217	1.026
Chargeable Standby	**37.883**	**17.539**
Port Call	1.000	0.463
Transit	29.317	13.573
Planned Operations	7.567	3.503
Source Recovery	4.883	2.261
Source Deployment	2.683	1.242
Total	216.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m

MCS 15000m 50m					
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	0 m		

Basic Project Details

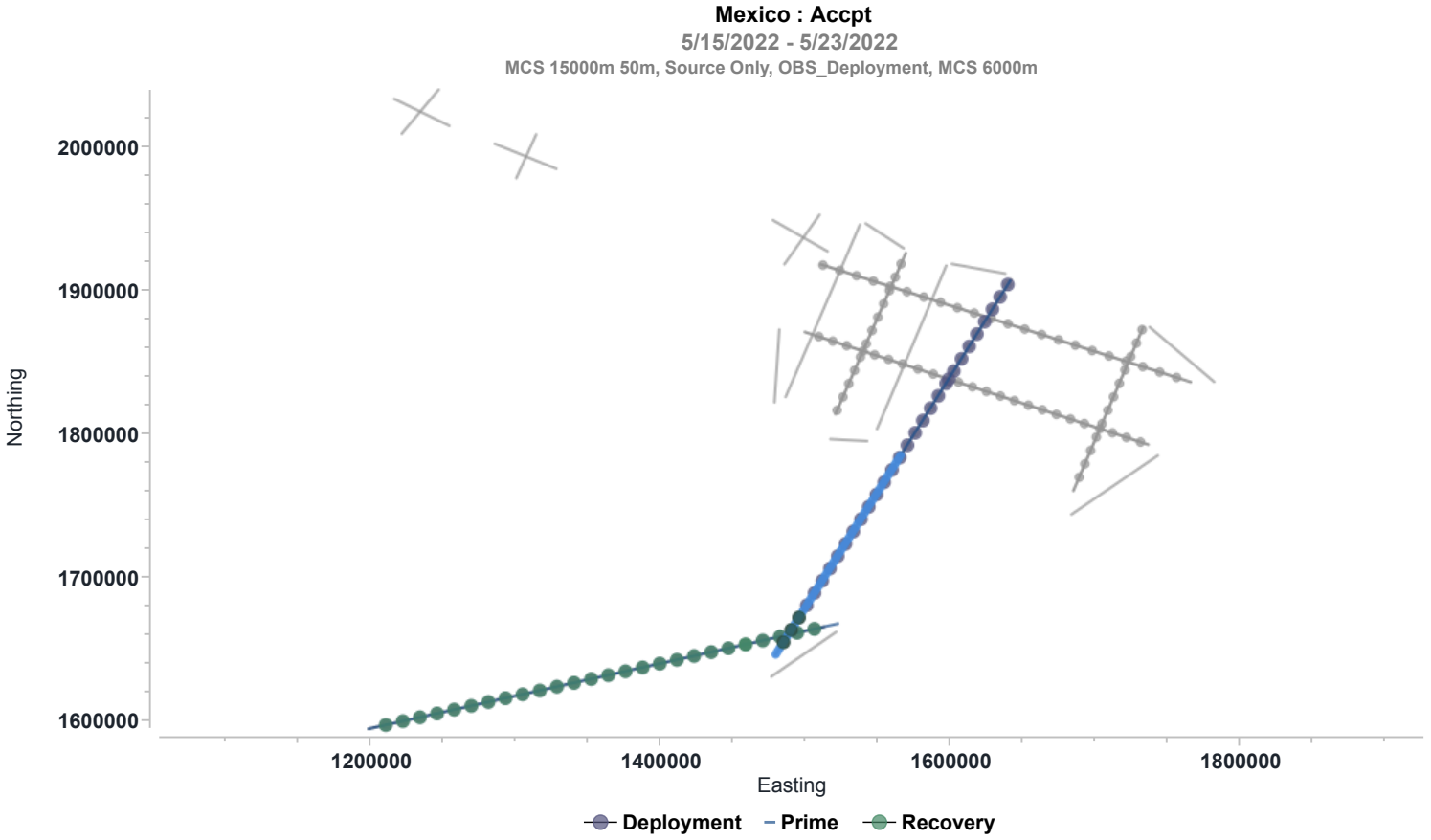
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
2	Line2	31.9	1545	1001	Prime	218.00	6.669	Complete	Complete
Total						**218.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	218.00	218.00	740.80	740.80
Combined	**218.00**	**218.00**	**740.80**	**740.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 23 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Source GPS maintenance and repair ongoing. Pod on gun-string #2 was repaired by replacing the depth jumper. The pod on gun-string #3 and fwd pod on #4 aren't resolved yet.

General Purpose Science:
The port compressor dropped out briefly . We went to half volume for a couple of shots. Good communication from Engine Department

.

Daily Comment Summaries - Personnel Onboard

Mon 23 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 23. May 17:30	Mon 23. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed possible OPN operations during this line segment recovery.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	4
5/23/2022		
Four THC Cards submitted.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 24 May

We recovered OBS instruments all day. We have 17 out of 31 on-board at the end of the day.

The Weekly Tech Meeting was conducted on Zoom.

Victor gave us a tutorial of the Sonardyne gear that we will be using with the OBP sensors. We have put together a procedure to rig and deploy this unit.

All six GPS pods are working on the gun-strings on deck. The last mender is being installed this evening. We will have all four of the new ones mounted when finished.

The A-frame remote box is repaired.

We have been discussing preparations for possible rough weather for the weekend. It looks like the forecasts have moderated somewhat, so we remain optimistic that we can press through and continue to work. Time will tell.

We have been some good THC reporting and participation from the crew.

It was a good day with safe and steady progress.

Daily Comment Summaries - Plan for Tomorrow

Tue 24 May

We will recover OBS instruments on Line 2.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Tue 24. May 00:00	Tue 24. May 24:00	24.000

Node operation 4 S/N: Line:Line 2 Block:Mexico SP:4 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:5 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:6 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:7 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:8 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:9 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:10 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:11 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:12 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:13 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:14 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:15 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:16 Recovery

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

24-May	Hours	% Percent
Acquisition	**24.000**	**100.000**
Swath Move	24.000	100.000
Recover	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.611**
Cetacean	0.567	0.236
Source	0.900	0.375
Acquisition	**198.433**	**82.681**
Prime Line Change	1.650	0.688
Production Prime	69.933	29.139
Swath Move	126.850	52.854
Deploy	46.150	19.229
Recover	80.700	33.625
Mobilisation	**2.217**	**0.924**
Deployment	2.217	0.924
Chargeable Standby	**37.883**	**15.785**
Port Call	1.000	0.417
Transit	29.317	12.215
Planned Operations	7.567	3.153
Source Recovery	4.883	2.035
Source Deployment	2.683	1.118
Total	240.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

Daily Science Report

Lamont-Doherty Earth Observatory
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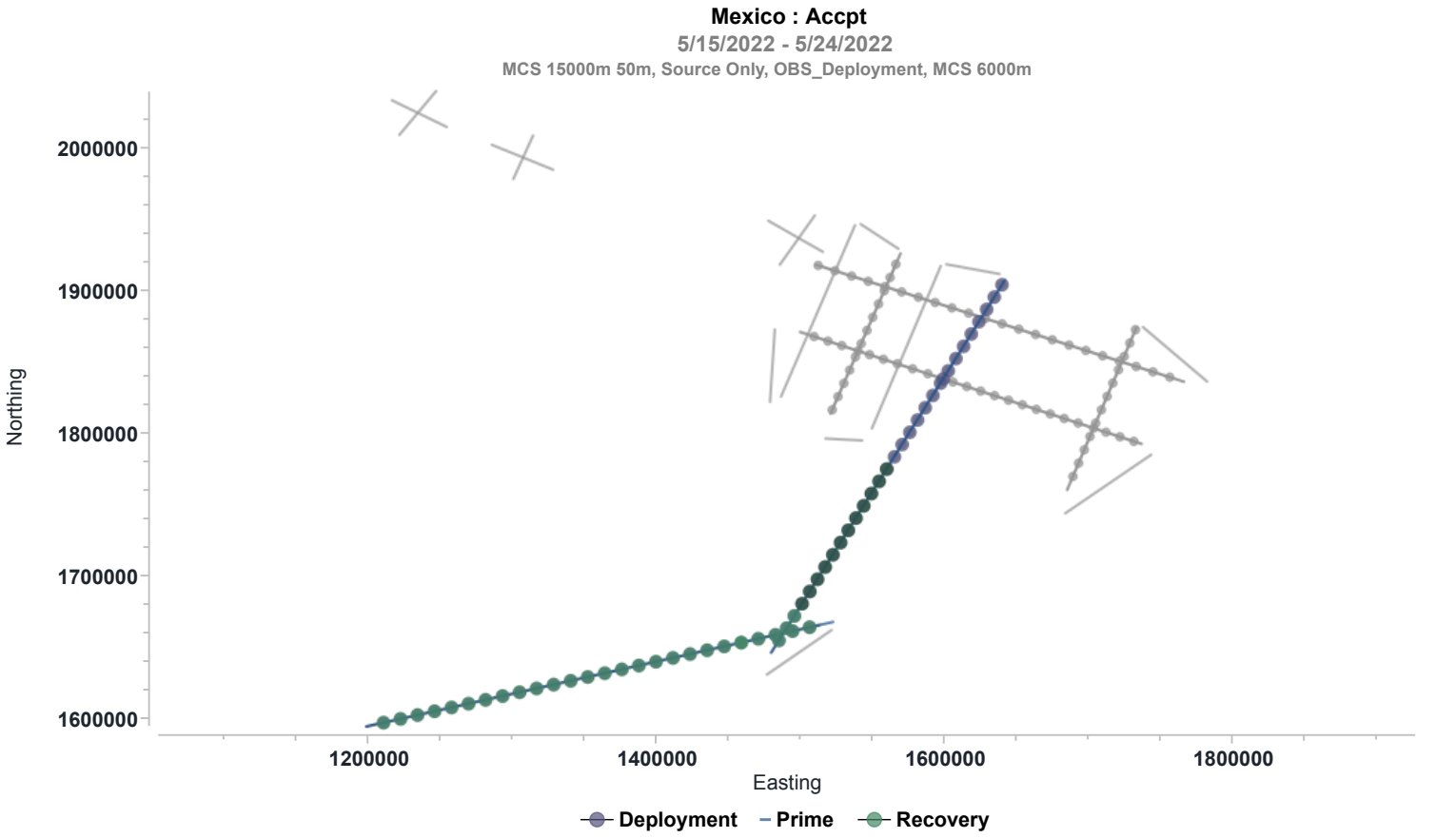
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	218.00	740.80	740.80
Combined	**0.00**	**218.00**	**740.80**	**740.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 24 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
All GPS pods working on deck. All four menders are mounted. Started fabricating the GPS brackets.

General Purpose Science
:No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Tue 24 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 24. May 17:25	Tue 24. May 18:25
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OPN operations and procedures. Lots of weather chatter.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	3
5/24/2022		
Three THC cards submitted today.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 25 May

We have 28 OBS instruments on-board at the end of the day. There are 2 left to recover from OBS Line 2. We left one unit, OBS 23, on the transect. We will transit approximately 5-6 hours to start deploying the OBS instruments onto Line 3.

MOB drills were conducted today.

Very good progress today. We should be deploying guns by noon tomorrow.

Lots of MCS planning today.

Daily Comment Summaries - Plan for Tomorrow

Wed 25 May

Transit approximately 5-6 hours to start deploying OBS instruments onto Line 3. We should be shooting after noon local time.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Wed 25. May 00:00	Wed 25. May 24:00	24.000

Node operation 4 S/N: Line:Line 2 Block:Mexico SP:16 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:17 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:18 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:19 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:20 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:21 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:22 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:24 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:25 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:26 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:27 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:28 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:29 Recovery
Node operation 4 S/N: Line:Line 2 Block:Mexico SP:30 Recovery

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

25-May	Hours	% Percent
Acquisition	**24.000**	**100.000**
Swath Move	24.000	100.000
Recover	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.556**
Cetacean	0.567	0.215
Source	0.900	0.341
Acquisition	**222.433**	**84.255**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Prime Line Change	1.650	0.625
Production Prime	69.933	26.490
Swath Move	150.850	57.140
Deploy	46.150	17.481
Recover	104.700	39.659
Mobilisation	**2.217**	**0.840**
Deployment	2.217	0.840
Chargeable Standby	**37.883**	**14.350**
Port Call	1.000	0.379
Transit	29.317	11.105
Planned Operations	7.567	2.866
Source Recovery	4.883	1.850
Source Deployment	2.683	1.016
Total	264.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

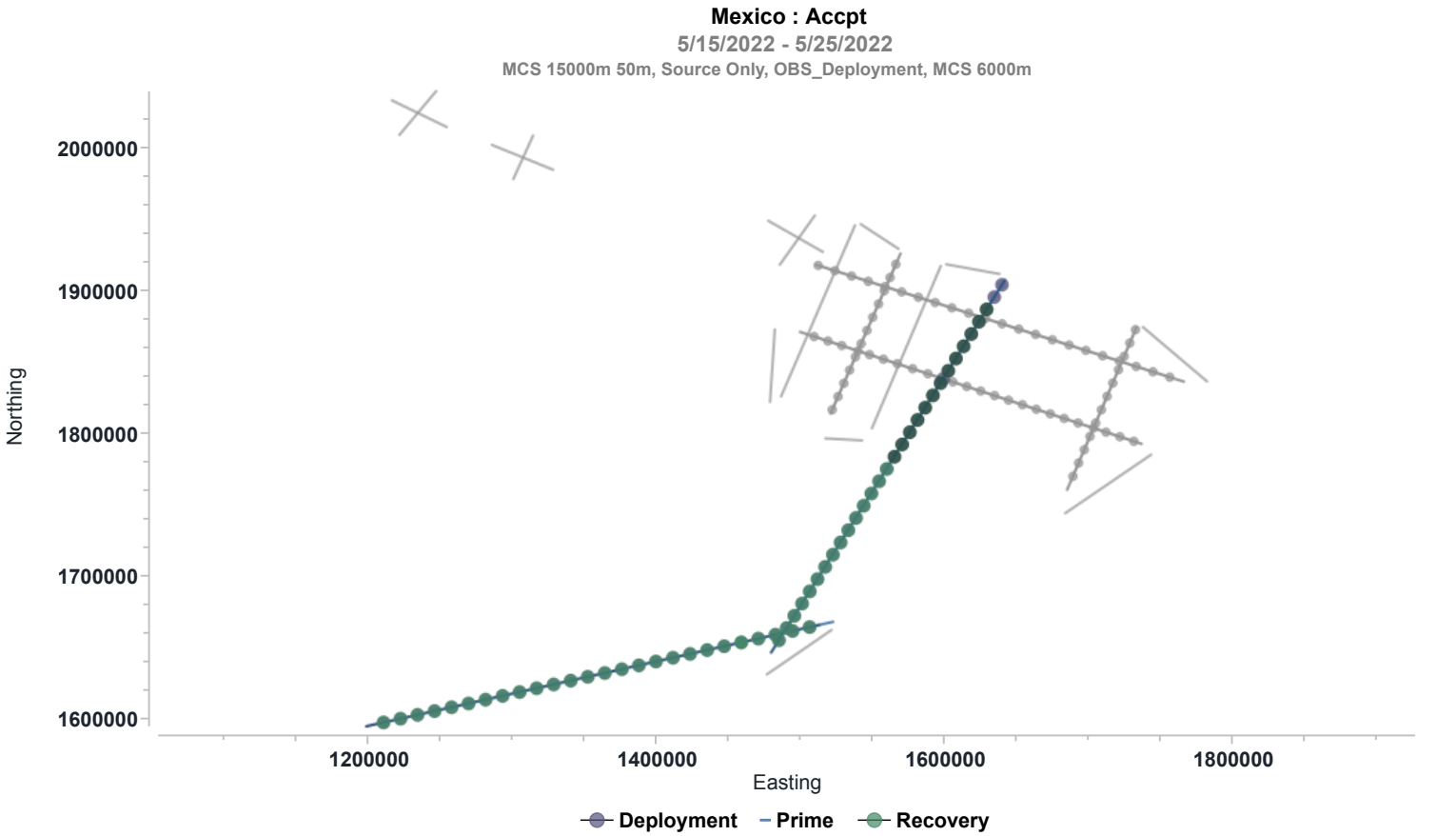
MCS 6000m					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	218.00	740.80	740.80
Combined	**0.00**	**218.00**	**740.80**	**740.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 25 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):

No Major Issues to Report

Towing and Handling (Source):
All GPS pods working on deck. All four menders are mounted. Started fabricating the GPS brackets.

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Wed 25 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
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Ray Hatton - Contract Source Mech
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Brian Boston - Co-PI LDEO
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Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
MOB Drill	Drls_MOB	Wed 25. May 15:20	Wed 25. May 16:00
HSE - MOB Drill. Science Muster and review MOB switches, MOB raft and MOB Markus Lift.			
Chiefs Meeting	Mtgs_Chfs	Wed 25. May 17:30	Wed 25. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OPN operations and timing.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	3

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 26 May

We deployed all thirteen OBS instruments onto Line #3. Guns were deployed at approximately 19:50 PM and we started shooting at 20:40 PM.

The line began with reduced volume. Gun 301 had a pinched pigtail and failed during the soft start. We picked up gun-string #3 and quickly made the repair. We were back at full volume in less than 20 minutes. The gunners did a great job fixing this at the beginning of the line.

A turtle sighting caused us to shut-down approximately an hour into the line. We decided to circle around and fill the gap in the coverage. This cost us approximately 1.5 hours.

The Maggie failed and was retrieved for inspection/ repair. We found a small nick in the lead-in close to the termination. We cleaned it up and patched it with rubber tape and scotch coat. That attempt didn't work, so isolated the fault and swapped out the Maggie lead-in with the spare. It's working now. We will need to re-terminate the bad lead-in.

The current line is fairly short and will be finished by early morning. We should have all of the towed gear recovered by day break.

A safe day with steady progress. Weather is favourable.

Daily Comment Summaries - Plan for Tomorrow

Thu 26 May

We will recover the source arrays and start picking up OBS instruments all day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Prime Extended L/C	AC_PXL	Thu 26. May 00:00	Thu 26. May 07:49	7.817
Extended Prime line change. Transit to Line OBS Line #3 to deploy.				
Deploy	AC_SM_De	Thu 26. May 07:49	Thu 26. May 17:56	10.117
Node operation 5 S/N: Line:Line 3 Block:Mexico SP:1 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:2 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:3 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:4 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:5 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:6 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:7 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:8 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:9 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:10 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:11 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:12 Deployment Node operation 5 S/N: Line:Line 3 Block:Mexico SP:13 Deployment				
Source Deployment	SB_PO_SOD	Thu 26. May 17:56	Thu 26. May 19:26	1.500
Chargeable Standby for Source Deployment. Deploy Source Array, PAM and Maggie.				
Source Deployment	SB_PO_SOD	Thu 26. May 19:26	Thu 26. May 19:48	0.367
Soft start for MMO regulations.				

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Thu 26. May 19:48	Thu 26. May 20:41	0.883
Seq: 3 Line: Line3 Nominal Prime line change after gun deployment and soft start.				
Production Prime	AC_PP	Thu 26. May 20:41	Thu 26. May 21:38	0.950
Seq: 3 SOL Seq 3 Line:Line3 Block:Mexico FGSP:1001 FCSP:1001 Hdg:22.9° Prime EOL Seq 3 Line:Line3 Block:Mexico LGSP:1034 LCSP:1034 Complete				
Cetacean	SB_CT	Thu 26. May 21:38	Thu 26. May 23:10	1.533
Chargeable standby due to close proximity of Cetaceans. Turtle shutdown. Circle.				
Production Prime	AC_PP	Thu 26. May 23:10	Thu 26. May 24:00	0.833
Seq: 4 SOL Seq 4 Line:Line3 Block:Mexico FGSP:1035 FCSP:1035 Hdg:22.9° Prime MSP Seq 4 Line:Line3 Block:Mexico LGSP:1052 LCSP:1052 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

26-May	Hours	% Percent
Acquisition	**20.600**	**85.833**
Prime Extended L/C	7.817	32.569
Prime Line Change	0.883	3.681
Production Prime	1.783	7.431
Swath Move	10.117	42.153
Deploy	10.117	42.153
Recover	0.000	0.000
Chargeable Standby	**3.400**	**14.167**
Cetacean	1.533	6.389
Planned Operations	1.867	7.778
Source Deployment	1.867	7.778
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.509**
Cetacean	0.567	0.197
Source	0.900	0.313
Chargeable Standby	**41.283**	**14.334**
Cetacean	1.533	0.532
Port Call	1.000	0.347
Transit	29.317	10.179
Planned Operations	9.433	3.275
Source Recovery	4.883	1.696
Source Deployment	4.550	1.580
Acquisition	**243.033**	**84.387**
Prime Extended L/C	7.817	2.714
Prime Line Change	2.533	0.880
Production Prime	71.717	24.902
Swath Move	160.967	55.891
Deploy	56.267	19.537
Recover	104.700	36.354

Category	Hours	% Percent
Mobilisation	**2.217**	**0.770**
Deployment	2.217	0.770
Total	288.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

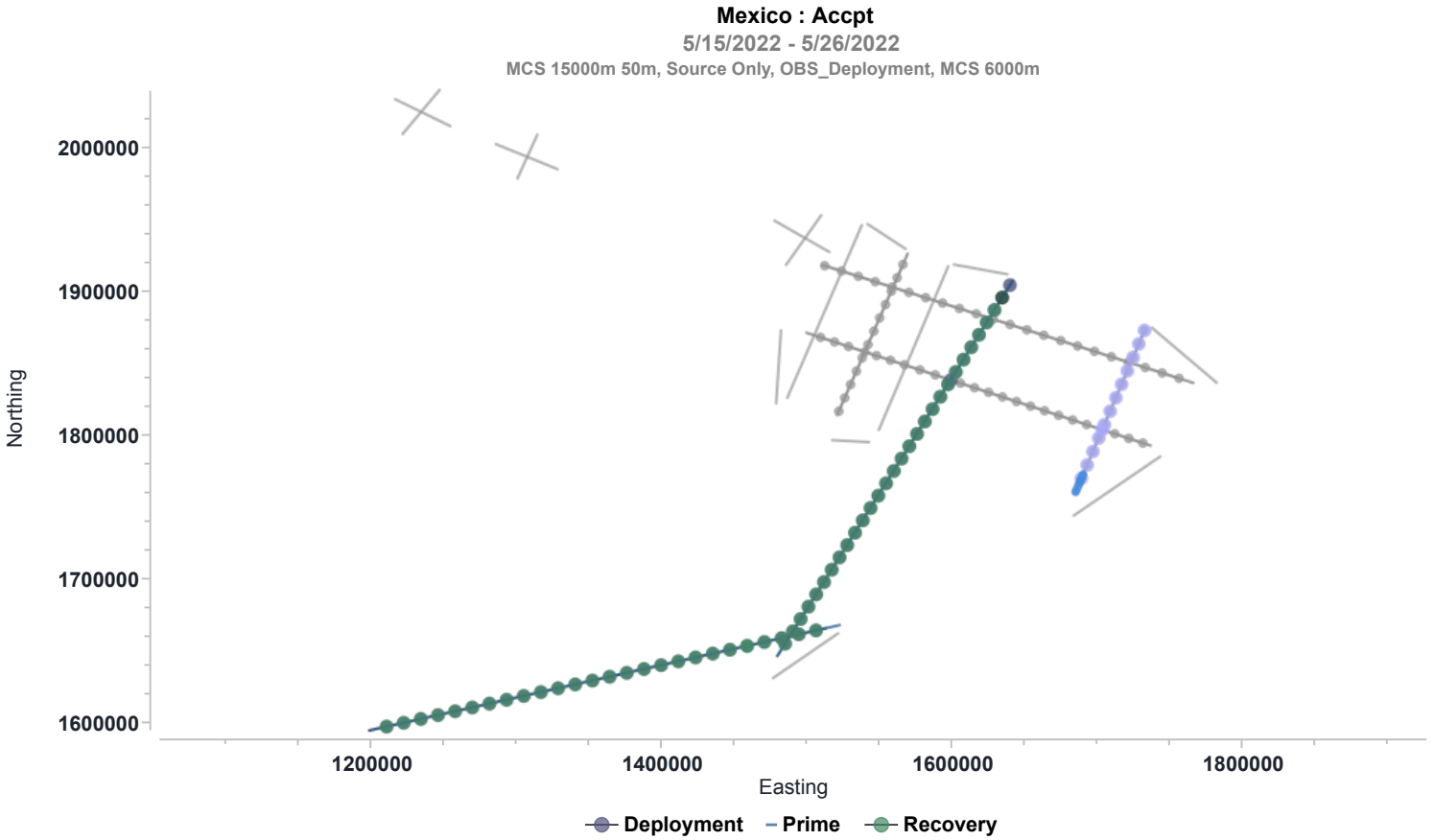
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
3	Line3	22.9	1001	1034	Prime	13.60	7.503	Complete	Complete
4	Line3	22.9	1035	1052	Prime	7.20	4.406	Midnight	Part
Total						**20.80**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	20.80	238.80	761.60	761.60
Combined	**20.80**	**238.80**	**761.60**	**761.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 26 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
GPS pod on gunstring #2 failed. Five of them working. Pigtail on Gun 301 was replaced shortly after the BOL.

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Thu 26 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Thu 26. May 17:15	Thu 26. May 17:45
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OPN operations and timing.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	2
Toolbox Meetings	Mtgs_Tbox	2
5/26/2022		
Toolbox Meeting to discuss source deployment Toolbox Meeting to discuss Maggie Cable replacement		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 27 May

We finished shooting OBS Line 3 at 10:48 UTC. We completed the line with full gun volume. We turned away from the shallow water and recovered the guns. We are currently recovering OBS 3-7 and should be finished with these 13 instruments at approximately 8 AM local time.

The weather may become an issue over the weekend, but we remain optimistic that we can continue deploying OBS instruments onto Line 5. We should begin deploying by ~11:30 AM local time.

All six GPS pods on the gun-strings are working on the deck and ready to deploy. The GPS pod on gun-string #2 was repaired after failing on the last source line. We changed out the depth jumper.

All DI's, PI's and NFH's are working on the gun-strings with the exception of the middle NFH on gun-string 3. This is 3-2 on plate 3. It has some minor electrical leakage.

The replacement Maggie cable performed well on Line #3 and was recovered without incident. We are optimistic that it will work on the next line. We are adding a back-up lanyard today to the new cable, just like the last one.

We reviewed the Vessel Strike Avoidance Procedures today.

Making preparations for MCS operation. Calibrating Digibird DI's.

Daily Comment Summaries - Plan for Tomorrow

Fri 27 May

We will finish recovering OBS instruments and begin deploying them onto Line 5 after midnight local time.

We will deploy OBS's for the balance of the day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 27. May 00:00	Fri 27. May 10:48	10.800
Seq: 4 SOL Seq 4 Line:Line3 Block:Mexico FGSP:1053 FCSP:1053 Hdg:22.9° Prime EOL Seq 4 Line:Line3 Block:Mexico LGSP:1494 LCSP:1494 Complete				
Prime Line Change	AC_PLC	Fri 27. May 10:48	Fri 27. May 11:22	0.567
Seq: 6 Line: Line 3 Nominal Prime line change. Turning away from shallow water to recover guns.				
Source Recovery	SB_PO_SOR	Fri 27. May 11:22	Fri 27. May 12:40	1.300
Chargeable Standby for Source Recovery. Gunstrings 1-4				
Source Recovery	SB_PO_SOR	Fri 27. May 12:40	Fri 27. May 12:50	0.167
Chargeable Standby for Source Recovery. Completed PAM cable recovery. All towed gear onboard.				
Source Recovery	SB_PO_SOR	Fri 27. May 12:50	Fri 27. May 13:35	0.750
Short transit after source recovery to begin OBS recovery				

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Fri 27. May 13:35	Fri 27. May 24:00	10.417

Node operation 6 S/N: Line:Line 3 Block:Mexico SP:1 Recovery
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:2 Recovery
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:3 Recovery
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:4 Recovery
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:5 Recovery
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:6 Recovery

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

27-May	Hours	% Percent
Acquisition	**21.783**	**90.764**
Prime Line Change	0.567	2.361
Production Prime	10.800	45.000
Swath Move	10.417	43.403
Recover	10.417	43.403
Chargeable Standby	**2.217**	**9.236**
Planned Operations	2.217	9.236
Source Recovery	2.217	9.236
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.470**
Cetacean	0.567	0.182
Source	0.900	0.288
Chargeable Standby	**43.500**	**13.942**
Cetacean	1.533	0.491
Port Call	1.000	0.321
Transit	29.317	9.396
Planned Operations	11.650	3.734
Source Recovery	7.100	2.276
Source Deployment	4.550	1.458
Acquisition	**264.817**	**84.877**
Prime Extended L/C	7.817	2.505
Prime Line Change	3.100	0.994
Production Prime	82.517	26.448
Swath Move	171.383	54.931
Deploy	56.267	18.034
Recover	115.117	36.896
Mobilisation	**2.217**	**0.710**
Deployment	2.217	0.710
Total	312.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m

Source Only					
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	16 m		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

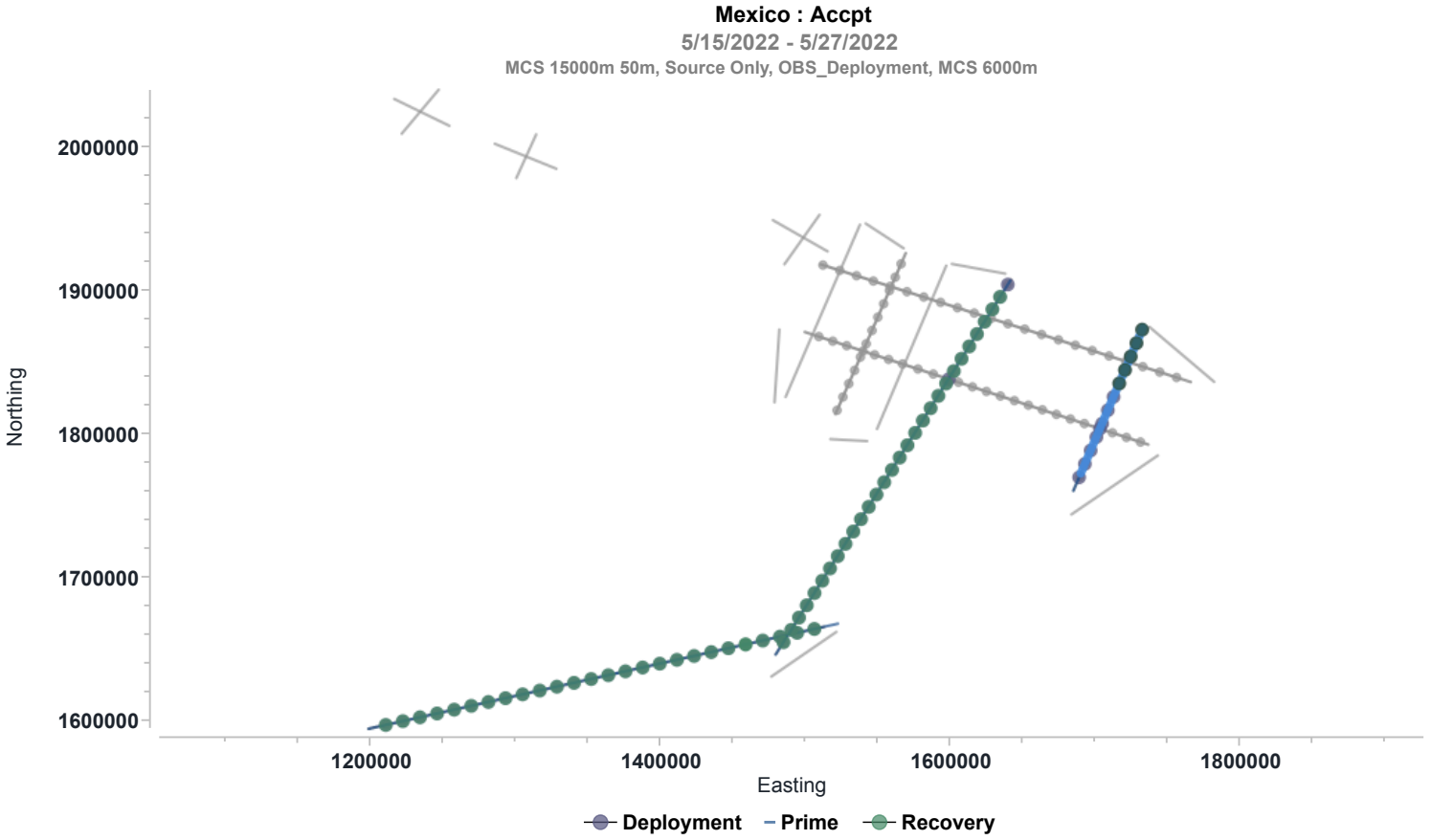
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
4	Line3	22.9	1053	1494	Prime	176.80	8.522	Complete	Complete
Total						**176.80**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	176.80	415.60	938.40	938.40
Combined	**176.80**	**415.60**	**938.40**	**938.40**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 27 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

Gusntring #2 GPS failed during the last line. It has been repaired and is working on deck.
The NFH 3-2 has some electrical leakage

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Fri 27 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Fri 27. May 17:35	Fri 27. May 18:35
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations and WX.			
Departmental Meeting	Mtgs_Dept	Fri 27. May 23:15	Fri 27. May 24:00
HSE - Departmental Meeting to discuss the Vessel Strike Avoidance Procedures. Bridge Perosnnel, PSO Lead, CSO reviewed thei procedure.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	1
5/27/2022		
Toolbox Meeting to discuss Source Array recovery.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 28 May

We finished recovering the instruments from Line #3 at 9:08 AM local time.

We transited about 3 hours and began deploying instruments onto Line 5. The first OBS was deployed at 12:11 pm.

We have 11 OBS's deployed at the end of the day. The deployments have been going very quickly.

Due to the rough seas from Tropical Storm Agatha on the east end of our prospect, we will start to deploy OBS's onto Line 6 at the end of Line 5 rather than shooting Line 5 right away. This will give us an efficient way to delay shooting back to the east end, near the storm. This provides for a ~12 hour delay and gives the storm time to move away and dissipate some before we arrive. This has been discussed and agreed upon with PI and Captain.

The seas have started to pick up moderately by the end of the day. We secured the main deck for rough seas. We added some extra chains to the WHOI container for peace of mind. Reviewed the procedures and precautions for deploying in rough seas.

Strong HSE reporting over the last couple of days.

The last GPS bracket for the guns is being fabricated.

Daily Comment Summaries - Plan for Tomorrow

Sat 28 May

We will finish deploying OBS instruments on Line 5 at around 8AM local. We will then transit to the south end of Line 6 and start deploying more OBS instruments. We will deploy 5-7 instruments on Line 6 and then position ourselves to start shooting into Line 5.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Sat 28. May 00:00	Sat 28. May 14:08	14.133
Node operation 6 S/N: Line:Line 3 Block:Mexico SP:6 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:7 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:8 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:10 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:11 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:12 Recovery Node operation 6 S/N: Line:Line 3 Block:Mexico SP:13 Recovery				
Prime Extended L/C	AC_PXL	Sat 28. May 14:08	Sat 28. May 17:11	3.050
Extended Prime line change. Moving from Line 3 to Line 5.				
Deploy	AC_SM_De	Sat 28. May 17:11	Sat 28. May 24:00	6.817
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:1 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:2 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:3 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:5 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:5 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:6 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:6 Deployment				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:7 Deployment				
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:8 Deployment				
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:9 Deployment				
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:10 Deployment				
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:10 Deployment				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

28-May	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Extended L/C	3.050	12.708
Swath Move	20.950	87.292
Deploy	6.817	28.403
Recover	14.133	58.889
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.437**
Cetacean	0.567	0.169
Source	0.900	0.268
Chargeable Standby	**43.500**	**12.946**
Cetacean	1.533	0.456
Port Call	1.000	0.298
Transit	29.317	8.725
Planned Operations	11.650	3.467
Source Recovery	7.100	2.113
Source Deployment	4.550	1.354
Acquisition	**288.817**	**85.957**
Prime Extended L/C	10.867	3.234
Prime Line Change	3.100	0.923
Production Prime	82.517	24.559
Swath Move	192.333	57.242
Deploy	63.083	18.775
Recover	129.250	38.467
Mobilisation	**2.217**	**0.660**
Deployment	2.217	0.660
Total	336.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

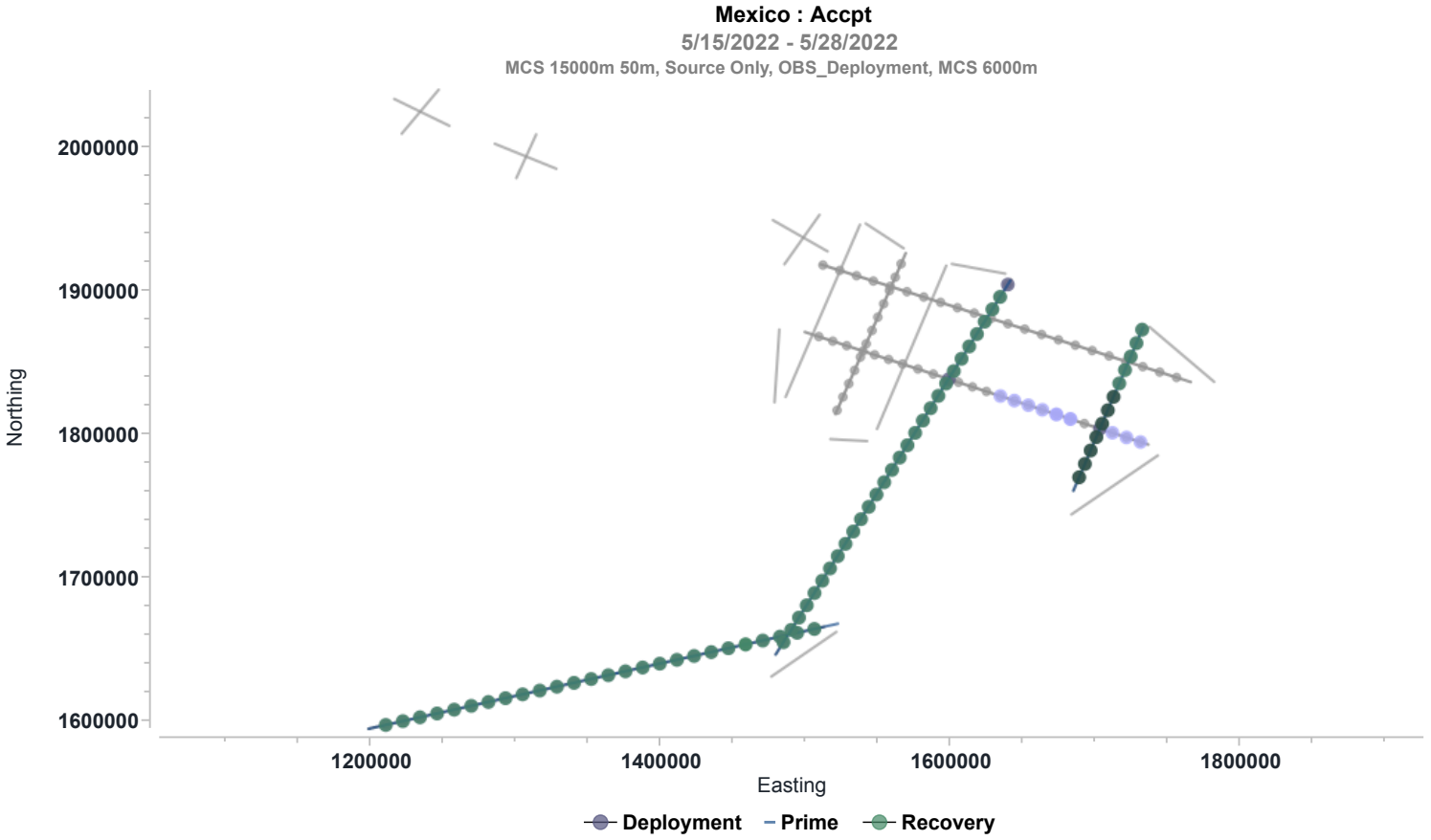
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	415.60	938.40	938.40
Combined	**0.00**	**415.60**	**938.40**	**938.40**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 28 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Sat 28 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Klayton Curtis - Contract Tech

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Yessika Murillo - RPS PSO
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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 28. May 17:30	Sat 28. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations and WX.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	5

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 29 May

We completed the deployment of OBS instruments onto Line 5 at 09:50 UTC. Due to Hurricane Agatha on the East end of our prospect, we elected to start deploying additional OBS instruments onto our next line. We have 7 units deployed onto OBS Line 6 at 17:16 UTC.

We transited to the far West end of Line 5 and deployed the guns while travelling into the swell.

We began deploying Maggie, PAM and the source arrays at 5PM and were shooting at 7:01PM.

We started the line with full gun volume. All six GPS pods are working. All DI's and PI's working. Two of the source acoustic pods are solid and the other's are intermittent. We are making some small adjustments to the source lay backs. We lengthened gunstring #3 about 2.5 meters further back.

Daily Comment Summaries - Plan for Tomorrow

Sun 29 May

We will shoot Line 5 all day. This is in the direction of Hurricane Agatha. We are expecting to see increasing swells as we move in that direction.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Deploy	AC_SM_De	Sun 29. May 00:00	Sun 29. May 09:50	9.833
Node operation 7 S/N: Line:Line 5 Block:Mexico SP:1 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:2 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:3 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:5 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:6 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:7 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:8 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:9 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:10 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:11 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:12 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:13 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:14 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:16 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:17 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:18 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:19 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:20 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:21 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:22 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:23 Deployment Node operation 7 S/N: Line:Line 5 Block:Mexico SP:24 Deployment				
Prime Extended L/C	AC_PXL	Sun 29. May 09:50	Sun 29. May 13:33	3.717
Extended Prime line change. Moving from OBS Line 5 to OBS Line 6 to deploy.				
Deploy	AC_SM_De	Sun 29. May 13:33	Sun 29. May 18:07	4.567
Node operation 8 S/N: Line:Line 6 Block:Mexico SP:1 Deployment Node operation 8 S/N: Line:Line 6 Block:Mexico SP:2 Deployment				

Category	Code	Start	End	Duration
Node operation 8 S/N: Line:Line 6 Block:Mexico SP:3 Deployment Node operation 8 S/N: Line:Line 6 Block:Mexico SP:4 Deployment Node operation 8 S/N: Line:Line 6 Block:Mexico SP:5 Deployment Node operation 8 S/N: Line:Line 6 Block:Mexico SP:7 Deployment				
Prime Extended L/C	AC_PXL	Sun 29. May 18:07	Sun 29. May 22:05	3.967
Extended Prime line change. Moving from OBS Line 6 to deploy guns and acquire OBS Line 5.				
Source Deployment	SB_PO_SOD	Sun 29. May 22:05	Sun 29. May 23:37	1.533
Deploy PAM, Maggie, and all four gunstrings.				
Source Deployment	SB_PO_SOD	Sun 29. May 23:37	Sun 29. May 24:00	0.383
Softstart				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

29-May	Hours	% Percent
Acquisition	**22.083**	**92.014**
Prime Extended L/C	7.683	32.014
Swath Move	14.400	60.000
Deploy	14.400	60.000
Chargeable Standby	**1.917**	**7.986**
Planned Operations	1.917	7.986
Source Deployment	1.917	7.986
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.407**
Cetacean	0.567	0.157
Source	0.900	0.250
Chargeable Standby	**45.417**	**12.616**
Cetacean	1.533	0.426
Planned Operations	13.567	3.769
Source Deployment	6.467	1.796
Source Recovery	7.100	1.972
Port Call	1.000	0.278
Transit	29.317	8.144
Acquisition	**310.900**	**86.361**
Prime Extended L/C	18.550	5.153
Prime Line Change	3.100	0.861
Production Prime	82.517	22.921
Swath Move	206.733	57.426
Deploy	77.483	21.523
Recover	129.250	35.903
Mobilisation	**2.217**	**0.616**
Deployment	2.217	0.616
Total	360.000	

Basic Project Details

Source Only
General Details

Source Only					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

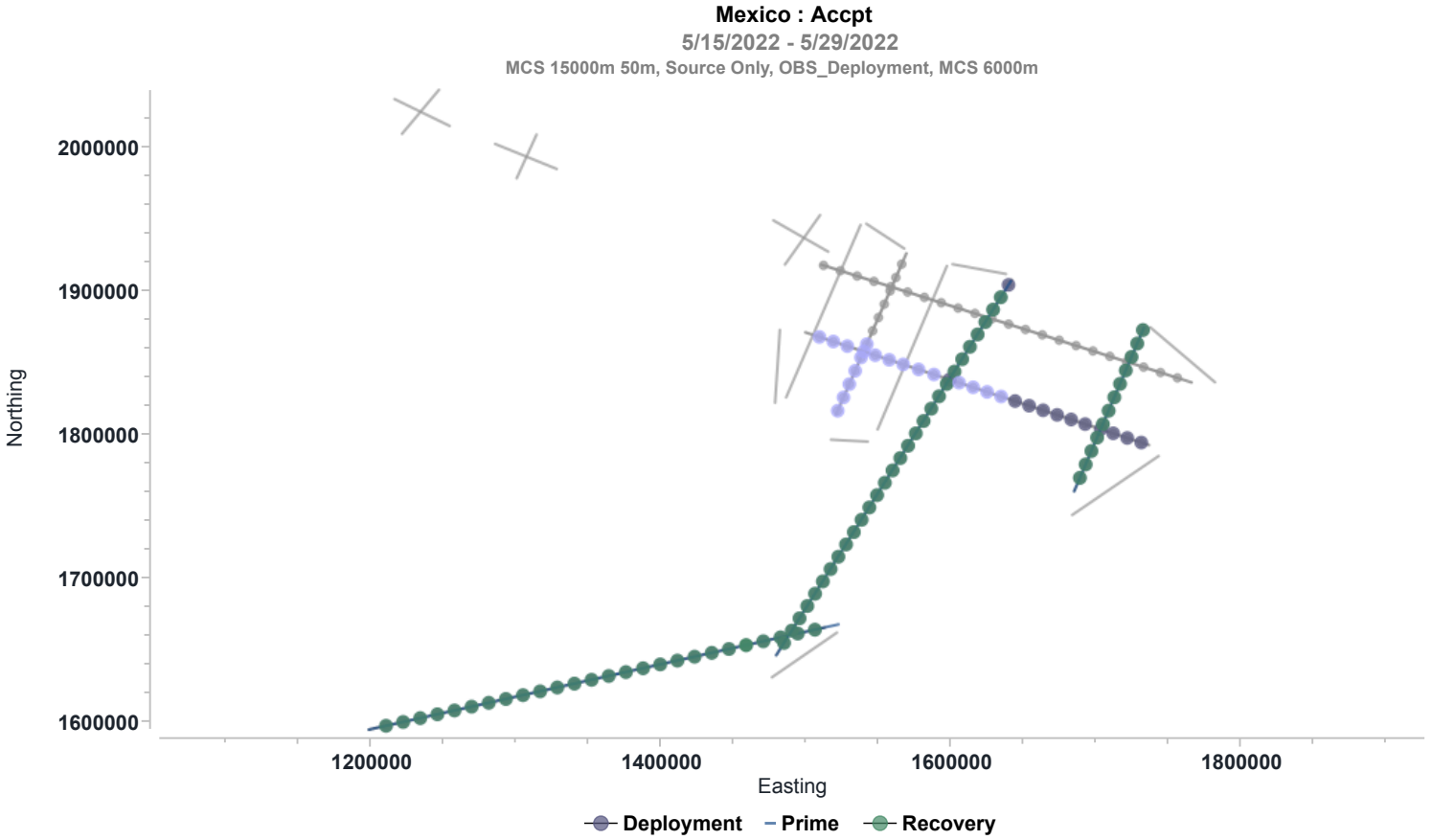
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	415.60	938.40	938.40
Combined	**0.00**	**415.60**	**938.40**	**938.40**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 29 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Sun 29 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
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Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sun 29. May 17:40	Sun 29. May 18:10
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations and WX.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	0
5/29/2022		
Toolbox meeting to discuss rough weather and ship communication. Toolbox meeting to discuss A-frame placement.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 30 May

We started shooting OBS Line 5 just as the day began. We have been shooting steady all day and will finish this line around 2AM local time on Tuesday.

We finished the day with full gun volume, six working gun pods, and all DI's and PI's working. Two gun acoustics are solid and two are marginal.

Lots of discussion/planning about the upcoming MCS work. We intend to add some PMI armour and weight to the lead-in just ahead of the gun-strings. This should help keep the lead-in down enough to keep it out of the gun-strings when we are turning.

The wind and seas have increased moderately as we move east.

We shut-down for a whale sighting at approximately 7:30AM and circled the ship. This took less than an hour including the soft-start.

Labelled gun reels with large placards. Inspected streamer head float. Started fabricating pipe for Maggie level-wind guide. Sorted and disposed of old and deteriorated depth ropes. Clearly marked umbilicals so that we stop at the correct spot for connecting the deck leads. Fabricating locking pins for gun reels.

Daily Comment Summaries - Plan for Tomorrow

Mon 30 May

We will shoot Line 5 until approximately 2AM local. We will recover the guns and start picking up the OBS instruments for the rest of the day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Source Deployment	SB_PO_SOD	Mon 30. May 00:00	Mon 30. May 00:01	0.017
Chargeable Standby related to Planned Operations due to Source Deployment				
Production Prime	AC_PP	Mon 30. May 00:01	Mon 30. May 12:28	12.450
Seq: 5 SOL Seq 5 Line:Line5 Block:Mexico FGSP:1001 FCSP:1001 Hdg:108.3° Prime EOL Seq 5 Line:Line5 Block:Mexico LGSP:1309 LCSP:1309 Complete EEOL and Circle for whale				
Cetacean	SB_CT	Mon 30. May 12:28	Mon 30. May 13:20	0.867
Chargeable standby due to close proximity of Cetaceans. Circle and softstart.				
Production Prime	AC_PP	Mon 30. May 13:20	Mon 30. May 24:00	10.667
Seq: 6 SOL Seq 6 Line:Line5 Block:Mexico FGSP:1001 FCSP:1001 Hdg:108.3° Prime MSP Seq 6 Line:Line5 Block:Mexico LGSP:1450 LCSP:1450 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

30-May	Hours	% Percent
Acquisition	**23.117**	**96.319**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

30-May	Hours	% Percent
Production Prime	23.117	96.319
Chargeable Standby	**0.883**	**3.681**
Cetacean	0.867	3.611
Planned Operations	0.017	0.069
Source Deployment	0.017	0.069
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.382**
Cetacean	0.567	0.148
Source	0.900	0.234
Chargeable Standby	**46.300**	**12.057**
Cetacean	2.400	0.625
Planned Operations	13.583	3.537
Source Deployment	6.483	1.688
Source Recovery	7.100	1.849
Port Call	1.000	0.260
Transit	29.317	7.635
Acquisition	**334.017**	**86.984**
Prime Extended L/C	18.550	4.831
Prime Line Change	3.100	0.807
Production Prime	105.633	27.509
Swath Move	206.733	53.837
Deploy	77.483	20.178
Recover	129.250	33.659
Mobilisation	**2.217**	**0.577**
Deployment	2.217	0.577
Total	384.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m

MCS 15000m 50m					
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

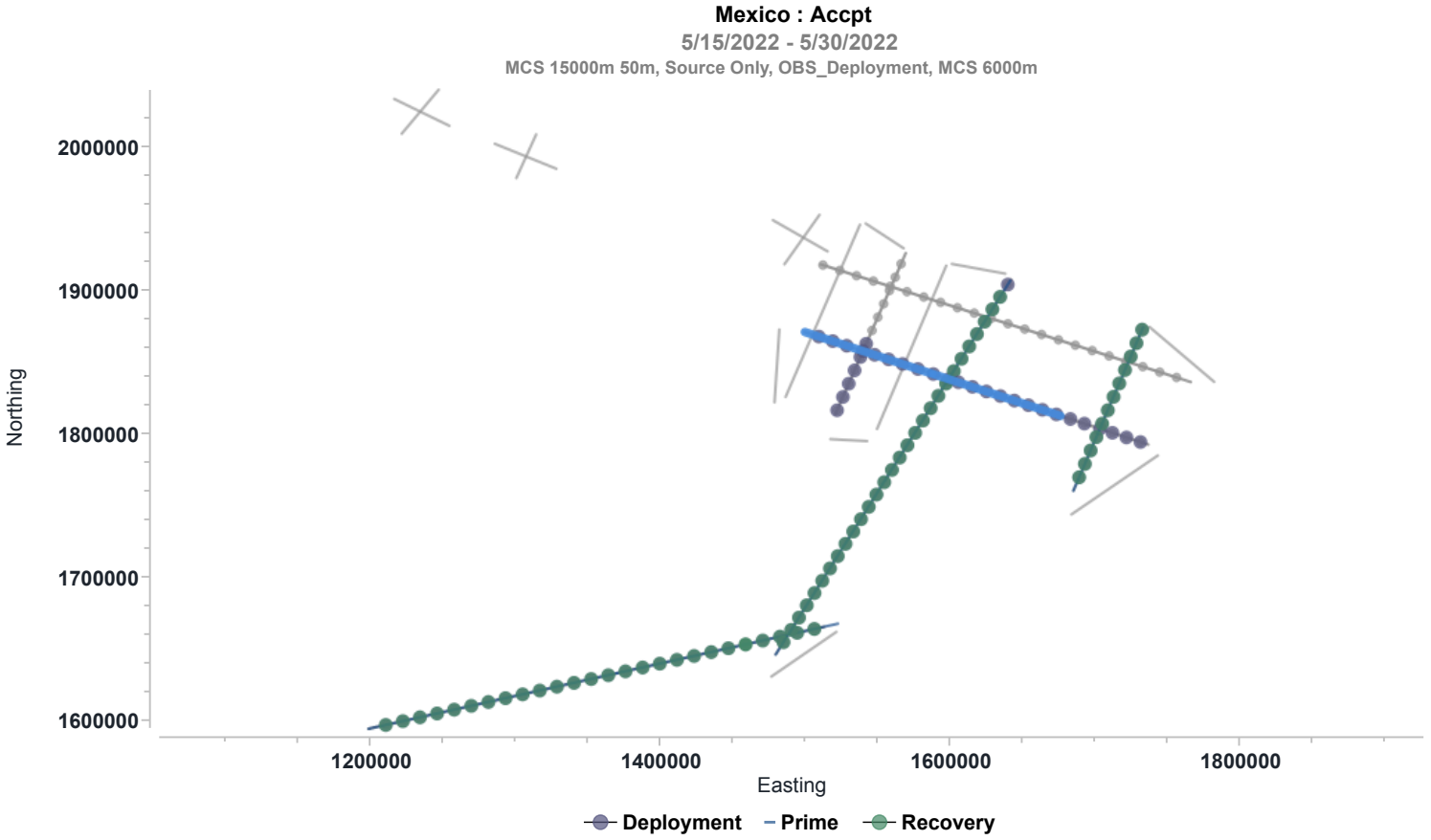
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
5	Line5	108.3	1001	1309	Prime	123.60	5.343	Complete	Complete
6	Line5	108.3	1310	1619	Prime	124.00	6.257	Midnight	Part
Total						**247.60**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	247.60	247.60	1186.00	1186.00
Combined	**247.60**	**247.60**	**1186.00**	**1186.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 30 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic cylinder on gunstring #1 is leaking.

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Daily Comment Summaries - Personnel Onboard

Mon 30 May

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
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Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
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Heber Contreras - RPS PSO

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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 30. May 17:25	Mon 30. May 18:25
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations and WX.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 31 May

We finished shooting OBS Line 5 just approximately 1:30AM. The gunstrings, PAM and Maggie were recovered in less than two hours and we commenced OBS recovery ops. The first OBS was onboard at 5AM local time. We have 8 OBS's onboard at the end of the day.

Continue discussion/planning of the upcoming MCS work.

The NFH on gunstring #3 has been fixed. (opened the octoblock and moved wires to pins 3,4 and matched inside J-box). Welded angle iron on reels 2,3 to make the locking pins functional and safe.

Alan re-terminated the Maggie cable so that we have a good working spare again.

Several more THC action items have been closed out. Great progress with this. Reporting has been phenomenal.

Weekly Tech Meeting on Zoom today.

The weather is muy bueno at the moment.

Daily Comment Summaries - Plan for Tomorrow

Tue 31 May

We will recover OBS instruments all day.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 31. May 00:00	Tue 31. May 06:39	6.650
Seq: 6 SOL Seq 6 Line:Line5 Block:Mexico FGSP:1620 FCSP:1620 Hdg:108.3° Prime EOL Seq 6 Line:Line5 Block:Mexico LGSP:1832 LCSP:1832 Complete				
Prime Line Change	AC_PLC	Tue 31. May 06:39	Tue 31. May 07:11	0.533
Seq: 6 Line: Line5 Turn back into wind before source recovery				
Source Recovery	SB_PO_SOR	Tue 31. May 07:11	Tue 31. May 08:40	1.483
Chargeable Standby related to Planned Operations due to Source Recovery Recovered all source arrays, PAM, and Maggie				
Recover	AC_SM_Re	Tue 31. May 08:40	Tue 31. May 24:00	15.333
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:1 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:1 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:3 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:9 - 13 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:5 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:6 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:7 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:8 Recovery				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

31-May	Hours	% Percent
Acquisition	**22.517**	**93.819**
Prime Line Change	0.533	2.222
Production Prime	6.650	27.708
Swath Move	15.333	63.889
Recover	15.333	63.889
Chargeable Standby	**1.483**	**6.181**
Planned Operations	1.483	6.181
Source Recovery	1.483	6.181
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.359**
Cetacean	0.567	0.139
Source	0.900	0.221
Chargeable Standby	**47.783**	**11.712**
Cetacean	2.400	0.588
Planned Operations	15.067	3.693
Source Deployment	6.483	1.589
Source Recovery	8.583	2.104
Port Call	1.000	0.245
Transit	29.317	7.185
Acquisition	**356.533**	**87.386**
Prime Extended L/C	18.550	4.547
Prime Line Change	3.633	0.891
Production Prime	112.283	27.520
Swath Move	222.067	54.428
Deploy	77.483	18.991
Recover	144.583	35.437
Mobilisation	**2.217**	**0.543**
Deployment	2.217	0.543
Total	408.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					

MCS 15000m 50m					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

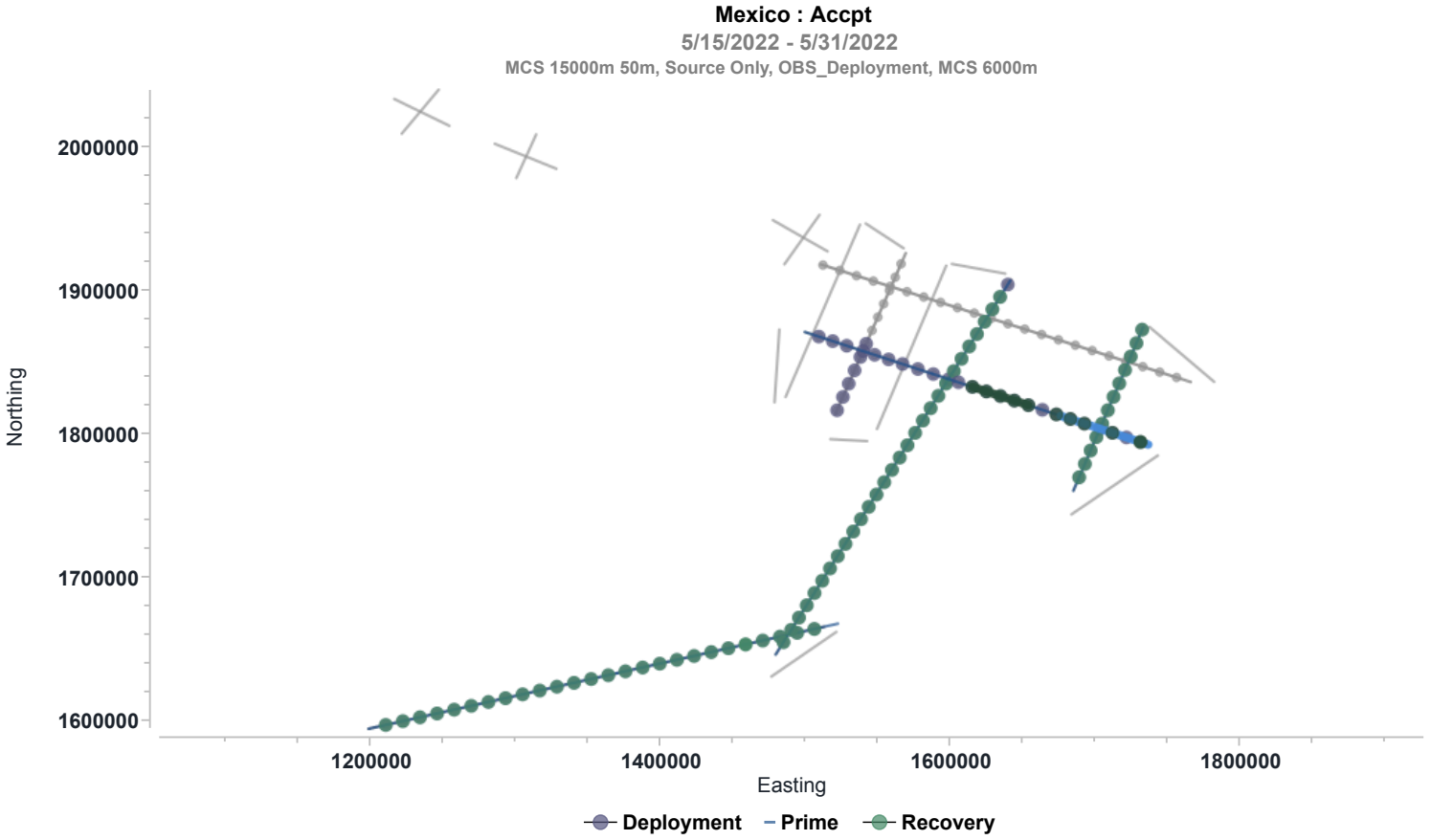
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
6	Line5	108.3	1620	1832	Prime	85.20	6.511	Complete	Complete
Total						**85.20**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	85.20	332.80	1271.20	1271.20
Combined	**85.20**	**332.80**	**1271.20**	**1271.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 31 May

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic cylinder on gunstring #1 is leaking.

.

Daily Comment Summaries - Personnel Onboard

Tue 31 May

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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 31. May 17:30	Tue 31. May 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations and picnic.			
Weekly Telecon	Mtgs_WTel	Tue 31. May 18:05	Tue 31. May 19:05
HSE - Weekly ZOOM Call			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	5

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 01 Jun

We recovered OBS instruments all day long. We have 19 out of 24 OBS's onboard at the end of the day. We will have OBS Line 5 completely recovered at approximately 4AM local time.

We reviewed THC cards today and are updating a list of open action items to share with responsible party's.

We have adjusted some of the OBS deployment drops for the next line.

Paint fumes became strong in the accommodations during the afternoon. We vented the passageways and everything is OK now.

Reviewed some of the MCS planning. We will drop the head-float down from the OBS Deck at the next good opportunity. The tailbouy will be moved to the stern, as well.

Installed pod brackets on source arrays 2,3. Greased gun reels. Re-labelled with air manifold with paint stencils. Checked solenoid for leakage on array #2 Gun #4. opened the #3 bell housing to check for water intrusion. No water. Problem resolved with adding the missing o-rings.Clea

Worked on closing any open action items from the Captain's Safety + Sanitation Inspection.

Daily Comment Summaries - Plan for Tomorrow

Wed 01 Jun

We will finish recovering OBS instruments at approximately 4AM, then transit to Line 6 and start deploying. We should be shooting by mid-afternoon.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Wed 1. Jun 00:00	Wed 1. Jun 24:00	24.000

Node operation 9 S/N: Line:Line 5 Block:Mexico SP:8 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:9 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:10 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:11 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:12 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:13 Recovery
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:14 Recovery
Node operation 9 S/N: Line:Line 2 Block:Mexico SP:15 Recovery
Node operation 9 S/N: Line:Line 2 Block:Mexico SP:16 Recovery
Node operation 9 S/N: Line:Line 2 Block:Mexico SP:17 Recovery
Node operation 9 S/N: Line:Line 2 Block:Mexico SP:18 Recovery
Node operation 9 S/N: Line:Line 2 Block:Mexico SP:19 Recovery

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

1-Jun	Hours	% Percent
Acquisition	**24.000**	**100.000**
Swath Move	24.000	100.000
Recover	24.000	100.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.340**
Cetacean	0.567	0.131
Source	0.900	0.208
Chargeable Standby	**47.783**	**11.061**
Cetacean	2.400	0.556
Planned Operations	15.067	3.488
Source Deployment	6.483	1.501
Source Recovery	8.583	1.987
Port Call	1.000	0.231
Transit	29.317	6.786
Acquisition	**380.533**	**88.086**
Prime Extended L/C	18.550	4.294
Prime Line Change	3.633	0.841
Production Prime	112.283	25.992
Swath Move	246.067	56.960
Deploy	77.483	17.936
Recover	168.583	39.024
Mobilisation	**2.217**	**0.513**
Deployment	2.217	0.513
Total	432.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4

MCS 15000m 50m					
String Separation:	6 m	String length:	0 m		

Basic Project Details

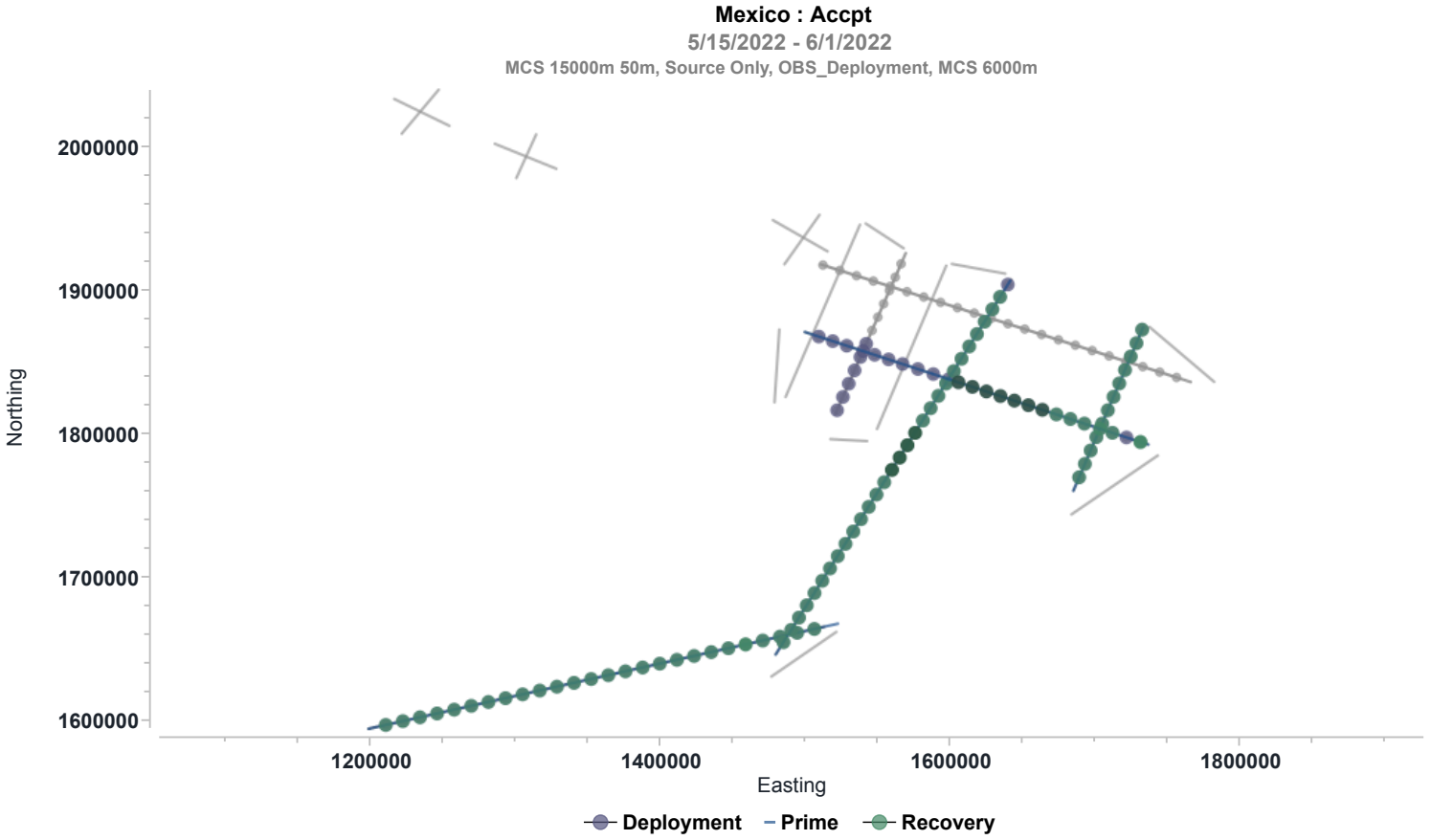
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	332.80	0.00	1271.20
Combined	**0.00**	**332.80**	**0.00**	**1271.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 01 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,3 Good; 3-2 has electrical leakage
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic cylinder on gunstring #1 is leaking.

.

Daily Comment Summaries - Personnel Onboard

Wed 01 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO

Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Wed 1. Jun 17:35	Wed 1. Jun 18:35
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations.			
Chiefs Meeting	Mtgs_Chfs	Wed 1. Jun 18:40	Wed 1. Jun 19:10
HSE - Chiefs Meeting with Captain to review THC cards and open action item reporting protocols.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 02 Jun

Recovery operation for OBS instruments on Line 5 was complete at 1:00 UTC. There was a two hour transit to begin deploying OBS's onto Line 6.

We completed deploying all of the instruments onto Line 6 very quickly because of our earlier efforts while we were avoiding Hurricane Agatha. OBS Line 6 was completely deployed at 17:20 UTC.

We deployed Maggie, PAM and the gun strings. We took a little extra time to measure the umbilical's and fine-tune the tow points. We also confirmed our stern tow rope measurements.

There were multiple visual detections of turtles while we tried to ramp up in the shallow water. PSO reported seeing +20 turtles, several sting rays, a yellow bellied snake and multiple dolphins. We decided to cut our losses and move away from the shallow water and continue down the line into deeper water. This worked. We missed ~6 kms of the source line while ramping up and moving away.

We lost about two hours due to turtle detection and mitigation.

The brake cylinders on the gun reels seem to be fixed. Josh was able to tighten up the nuts on each of them. We'll keep an eye on them over the next few days. Re-welded the tail piece on array #3 dt a pin hole leak. Re-connected the Maggie for deployment. Finished stencilling the manifold.

GPS pods on gun string #4 are not working. We will fix this at the end of the source line.

A general safety meeting was held in the Mess today.

Possible crew picnic tomorrow.

Daily Comment Summaries - Plan for Tomorrow

Thu 02 Jun

We will finish shooting OBS Line 6 around breakfast time. We recover the towed gear and start picking up OBS instruments for the rest of the day.

Possible Crew Picnic.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Thu 2. Jun 00:00	Thu 2. Jun 11:00	11.000
Node operation 9 S/N: Line:Line 5 Block:Mexico SP:19 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:20 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:22 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:23 Recovery Node operation 9 S/N: Line:Line 5 Block:Mexico SP:24 Recovery				
Transit	SB_TRT	Thu 2. Jun 11:00	Thu 2. Jun 13:15	2.250
Transit to line 6 station 8 to continue deployments				
Deploy	AC_SM_De	Thu 2. Jun 13:15	Thu 2. Jun 17:20	4.083

Category	Code	Start	End	Duration
Node operation 10 S/N: Line:6 Block:Mexico SP:8 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:9 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:10 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:11 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:12 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:13 Deployment Node operation 10 S/N: Line:6 Block:Mexico SP:14 Deployment				
Source Deployment	SB_PO_SOD	Thu 2. Jun 17:20	Thu 2. Jun 17:36	0.267
Chargeable Standby for PAM, Maggie deployment				
Source Deployment	SB_PO_SOD	Thu 2. Jun 17:36	Thu 2. Jun 19:44	2.133
Chargeable Standby for Source Deployment. Measured the umbilicals during depolyment and adjusted one tow point on #4				
Cetacean	SB_CT	Thu 2. Jun 19:44	Thu 2. Jun 21:22	1.633
Chargeable standby due to close proximity of Cetaceans. We couldn't get visual clearance to begin ramp up due to multiple turtle sightings. (+18).				
Cetacean	SB_CT	Thu 2. Jun 21:22	Thu 2. Jun 21:24	0.033
Chargeable standby due to close proximity of Cetaceans. Turtles. Aborted soft start				
Cetacean	SB_CT	Thu 2. Jun 21:24	Thu 2. Jun 21:39	0.250
Chargeable standby due to close proximity of Cetaceans. We couldn't get visual clearance to begin ramp up due to multiple turtle sightings.				
Production Prime	AC_PP	Thu 2. Jun 21:39	Thu 2. Jun 21:59	0.333
Seq: 7 SOL Seq 7 Line:Line6 Block:Mexico FGSP:1001 FCSP:1001 Hdg:203.4° Prime EOL Seq 7 Line:Line6 Block:Mexico LGSP:1032 LCSP:1032 Complete This is the ramp up with internal nav cycles.				
Cetacean	SB_CT	Thu 2. Jun 21:59	Thu 2. Jun 22:07	0.133
Chargeable standby due to close proximity of Cetaceans. Short transit while reconfiguring Orca after completing soft-start in internal cycles.				
Production Prime	AC_PP	Thu 2. Jun 22:07	Thu 2. Jun 24:00	1.883
Seq: 8 SOL Seq 8 Line:Line6 Block:Mexico FGSP:1036 FCSP:1036 Hdg:203.4° Prime MSP Seq 8 Line:Line6 Block:Mexico LGSP:1104 LCSP:1104 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

2-Jun	Hours	% Percent
Acquisition	**17.300**	**72.083**
Production Prime	2.217	9.236
Swath Move	15.083	62.847
Deploy	4.083	17.014
Recover	11.000	45.833
Chargeable Standby	**6.700**	**27.917**
Cetacean	2.050	8.542
Planned Operations	2.400	10.000
Source Deployment	2.400	10.000
Transit	2.250	9.375
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.322**
Cetacean	0.567	0.124
Source	0.900	0.197

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Chargeable Standby	**54.483**	**11.948**
Cetacean	4.450	0.976
Planned Operations	17.467	3.830
Source Deployment	8.883	1.948
Source Recovery	8.583	1.882
Port Call	1.000	0.219
Transit	31.567	6.923
Acquisition	**397.833**	**87.244**
Prime Extended L/C	18.550	4.068
Prime Line Change	3.633	0.797
Production Prime	114.500	25.110
Swath Move	261.150	57.270
Deploy	81.567	17.887
Recover	179.583	39.382
Mobilisation	**2.217**	**0.486**
Deployment	2.217	0.486
Total	456.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m
General Details

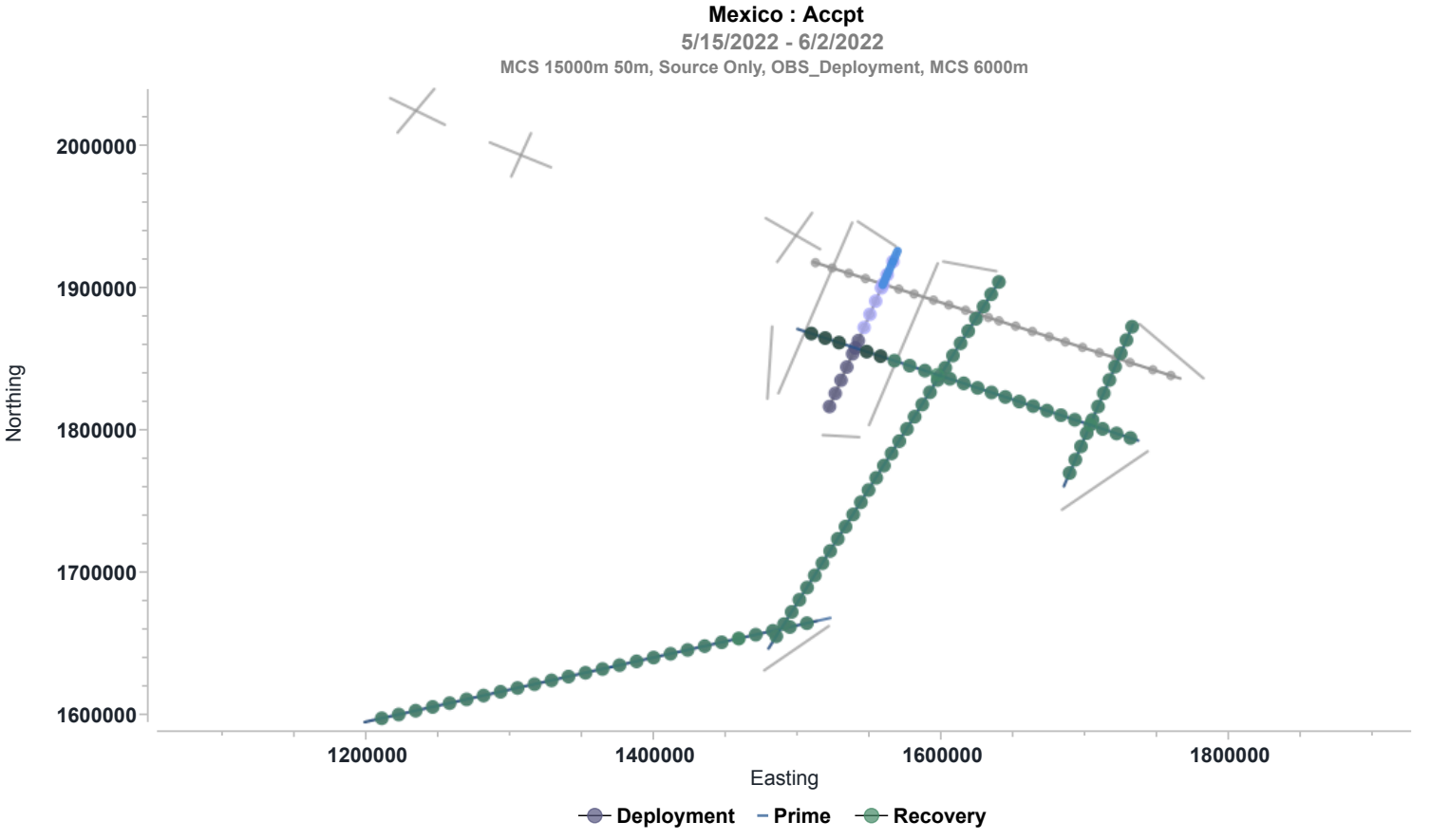
MCS 6000m					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
7	Line6	203.4	1001	1032	Prime	12.80	20.086	Complete	Complete
8	Line6	203.4	1036	1104	Prime	27.60	7.798	Midnight	Part
Total						**40.40**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	40.40	373.20	40.40	1311.60
Combined	**40.40**	**373.20**	**40.40**	**1311.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 02 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic brake cylinders on gunstring #1-4 are not leaking anymore.

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Daily Comment Summaries - Personnel Onboard

Thu 02 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
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Brian Boston - Co-PI LDEO
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Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 03 Jun

We finished shooting OBS Line 6 at approximately 5:30 AM local time. All towed gear was recovered and on board by ~7:00 AM.

We have 6 out of the 14 OBS instruments from Line 6 recovered at the end of the day.

The Seal Display has been giving us some headaches. We are working with Gilles and David and Sercel Customer Support as we try to troubleshoot the problem.

Gun-string #4 has two working GPS pods again. Changed out one depth jumper and one adaptor cable. Both are transmitting on deck.

We transferred the head float from the OBS deck to the stern of the main deck. The tail buoy was also transferred to the stern of the streamer deck and secured so we can finish rigging it up.

Removed sausage float mender on array #2 due to it being cracked. These custom menders have been very high maintenance so far.

Changed channel on array 3 hydrophone #2 from channel 3 to channel 4. Changed solenoid jumper on array 1 gun 1 due to damage and leakage. Fixed knotted rope on array 3, plate 3. Rigging up a-frame winch for the dunker. Lots of misc.

A special shout out to the Galley Staff for grilling chicken and beef along with all the fixins' for a fun crew picnic today!

Daily Comment Summaries - Plan for Tomorrow

Fri 03 Jun

We will finish recovering OBS instruments on Line 6 and begin deploying units onto the final OBS line. Line 4.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 3. Jun 00:00	Fri 3. Jun 10:16	10.267
Seq: 8 SOL Seq 8 Line:Line6 Block:Mexico FGSP:1105 FCSP:1105 Hdg:203.4° Prime EOL Seq 8 Line:Line6 Block:Mexico LGSP:1489 LCSP:1489 Complete				
Source Recovery	SB_PO_SOR	Fri 3. Jun 10:16	Fri 3. Jun 12:03	1.783
Chargeable Standby related to Planned Operations due to Source Recovery.				
Prime Line Change	AC_PLC	Fri 3. Jun 12:03	Fri 3. Jun 12:49	0.767
Seq: 8 Line: Line6 Nominal Prime line change. Transit to recover OBS instruments on Line 6				
Recover	AC_SM_Re	Fri 3. Jun 12:49	Fri 3. Jun 24:00	11.183
Node operation 11 S/N: Line:6 Block:Mexico SP:1 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:2 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:3 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:4 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:5 Recovery				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Node operation 11 S/N: Line:6 Block:Mexico SP:6 Recovery				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

3-Jun	Hours	% Percent
Acquisition	**22.217**	**92.569**
Prime Line Change	0.767	3.194
Production Prime	10.267	42.778
Swath Move	11.183	46.597
Recover	11.183	46.597
Chargeable Standby	**1.783**	**7.431**
Planned Operations	1.783	7.431
Source Recovery	1.783	7.431
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.306**
Cetacean	0.567	0.118
Source	0.900	0.188
Chargeable Standby	**56.267**	**11.722**
Cetacean	4.450	0.927
Planned Operations	19.250	4.010
Source Deployment	8.883	1.851
Source Recovery	10.367	2.160
Port Call	1.000	0.208
Transit	31.567	6.576
Acquisition	**420.050**	**87.510**
Prime Extended L/C	18.550	3.865
Prime Line Change	4.400	0.917
Production Prime	124.767	25.993
Swath Move	272.333	56.736
Deploy	81.567	16.993
Recover	190.767	39.743
Mobilisation	**2.217**	**0.462**
Deployment	2.217	0.462
Total	480.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

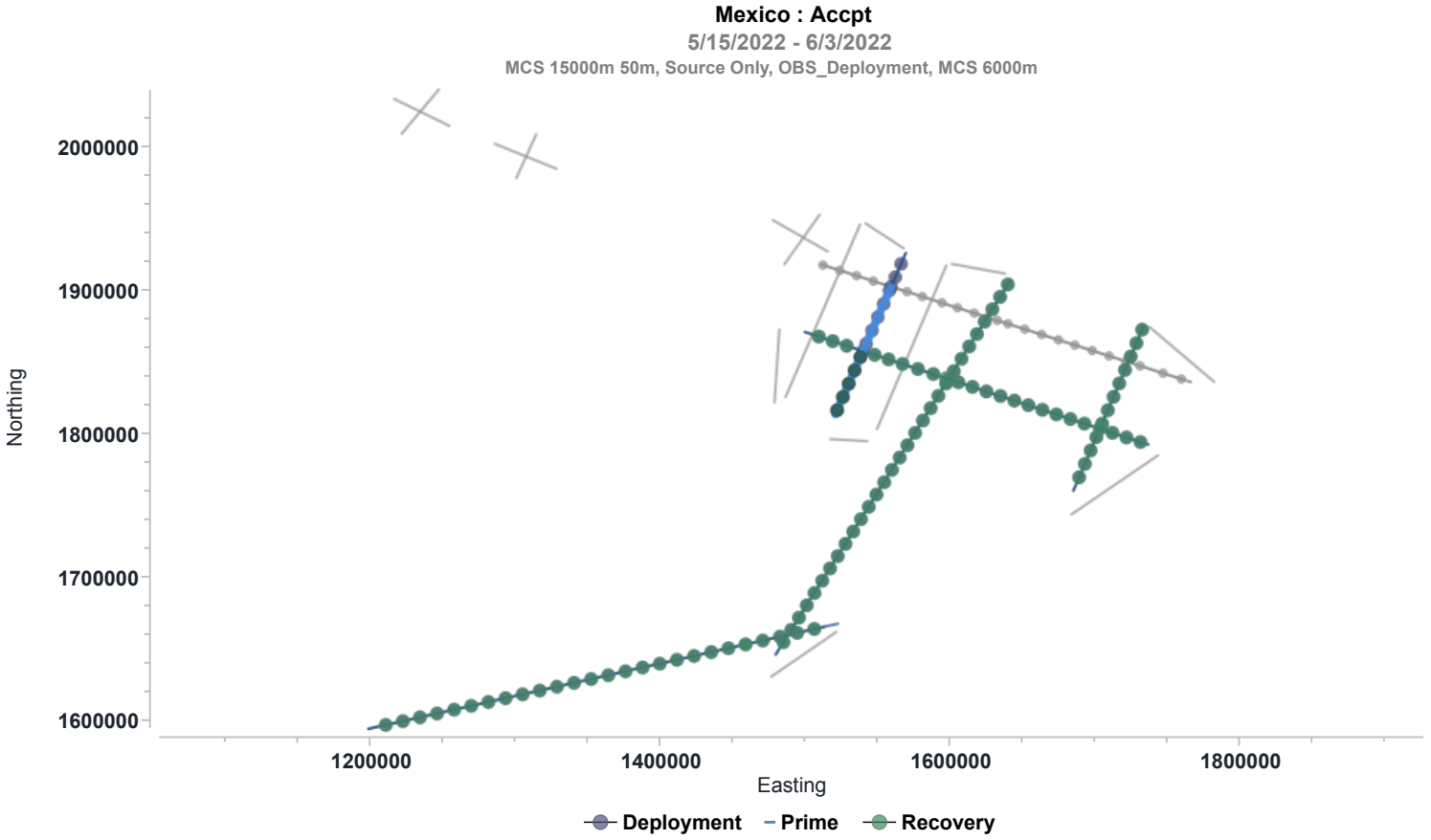
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
8	Line6	203.4	1105	1489	Prime	154.00	8.053	Complete	Complete
Total						**154.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	154.00	527.20	194.40	1465.60
Combined	**154.00**	**527.20**	**194.40**	**1465.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 03 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic brake cylinders on gunstring #1-4 are not leaking anymore.

.

Daily Comment Summaries - Personnel Onboard

Fri 03 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
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Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Fri 3. Jun 17:30	Fri 3. Jun 18:30
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	3
Toolbox Meetings	Mtgs_Tbox	1
6/3/2022		
Toolbox Meeting with Tech Dept to discuss transfer of tailbuoy and headfloat.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 04 Jun

We finished recovering OBS Line 6 at approximately 7:40 AM local time. After a ~3 hour transit we began deploying OBS instruments onto Line 4. We have 10 out of 22 instruments deployed at the end of the day.

We should be shooting around breakfast time tomorrow.

The Seal display issue has been ironed out. We tip our hat to Gilles for the great work on this.

Small delay for OBS 4-1 when the sensor fell off the pin and had to be swapped out with a different instrument.

We saw some small fishing boat traffic. It appears to be fairly light, but we saw one boat up close while we were stopped on station to deploy the first OBS on Line 4.

Prepared the tailbuoy for MCS work. Arranged the streamer deck for MCS work. Replaced bungees on arrays where needed. Changed out streamer reel level winder control valve handles and regulated the flow, greased and covered back up. Added protection over the GPS jumpers where needed. Made some hooks to replace deteriorated cable runs to hang streamer deck leads. Prepared 10mm spectra rope for dunker. Checked solenoid for leakage on array 4 gun 3. Drilled holes in angle iron and mounted stoppers on the end of trolley rails.

Reviewed the crane operation procedures and protocols.

Daily Comment Summaries - Plan for Tomorrow

Sat 04 Jun

We will finish deploying OBS instruments on Line 4 and start shooting.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Sat 4. Jun 00:00	Sat 4. Jun 12:42	12.700
Node operation 11 S/N: Line:6 Block:Mexico SP:1 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:2 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:3 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:4 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:5 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:6 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:7 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:8 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:9 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:10 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:11 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:13 Recovery Node operation 11 S/N: Line:6 Block:Mexico SP:14 Recovery				
Transit	SB_TRT	Sat 4. Jun 12:42	Sat 4. Jun 15:42	3.000
Chargeable standby d/t being in Transit				
Deploy	AC_SM_De	Sat 4. Jun 15:42	Sat 4. Jun 24:00	8.300
Node operation 12 S/N: Line:4 Block:Mexico SP:1 Deployment				

Category	Code	Start	End	Duration
Node operation 12 S/N: Line:4 Block:Mexico SP:2 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:3 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:4 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:6 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:7 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:8 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:9 Deployment				
Node operation 12 S/N: Line:4 Block:Mexico SP:10 Deployment				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

4-Jun	Hours	% Percent
Acquisition	**21.000**	**87.500**
Swath Move	21.000	87.500
Deploy	8.300	34.583
Recover	12.700	52.917
Chargeable Standby	**3.000**	**12.500**
Transit	3.000	12.500
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.291**
Cetacean	0.567	0.112
Source	0.900	0.179
Chargeable Standby	**59.267**	**11.759**
Cetacean	4.450	0.883
Planned Operations	19.250	3.819
Source Deployment	8.883	1.763
Source Recovery	10.367	2.057
Port Call	1.000	0.198
Transit	34.567	6.858
Acquisition	**441.050**	**87.510**
Prime Extended L/C	18.550	3.681
Prime Line Change	4.400	0.873
Production Prime	124.767	24.755
Swath Move	293.333	58.201
Deploy	89.867	17.831
Recover	203.467	40.370
Mobilisation	**2.217**	**0.440**
Deployment	2.217	0.440
Total	504.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

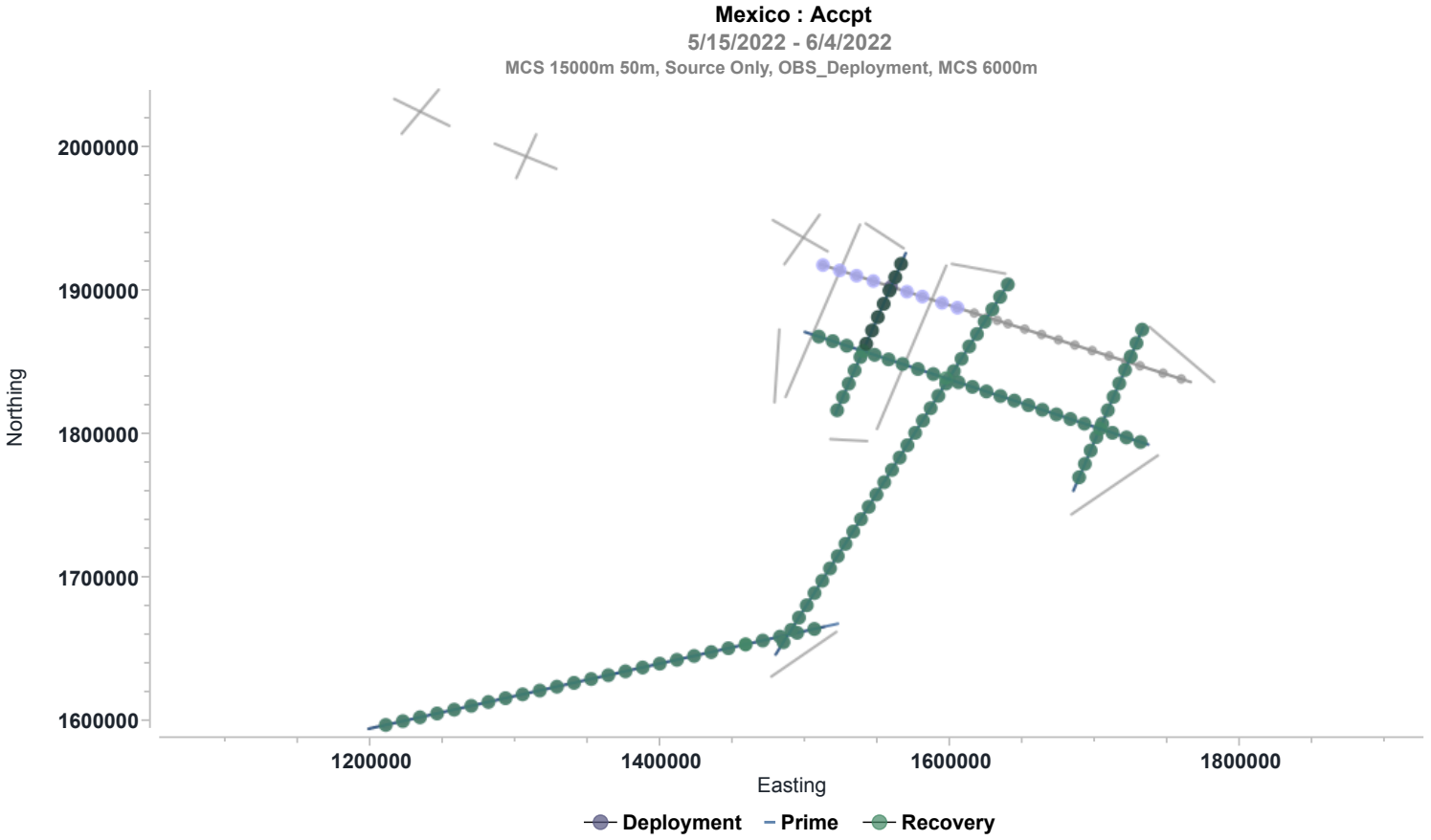
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	527.20	194.40	1465.60
Combined	**0.00**	**527.20**	**194.40**	**1465.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 04 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic brake cylinders on gunstring #1-4 are not leaking anymore.

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Daily Comment Summaries - Personnel Onboard

Sat 04 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO

Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 4. Jun 17:35	Sat 4. Jun 18:35
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations. Small boat traffic and crane op.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	3

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 05 Jun

We finished deploying the last OBS at approximately 6 AM local time. We had a brief Toolbox Meeting and deployed the Maggie, PAM and gun strings. We were ramped up and shooting by 7:47 AM local time. We should be finished shooting the last OBS Line at approximately 2PM local time tomorrow.

Turtle sightings caused us to shut-down and circle twice on OBS Line 4. We lost approximately 2 hours for turtles.

We have all six GPS pods at the SOL and throughout the day.

MCS planning and preparations. Tightened the umbilical reel brake cylinder. There is a small amount of oil under it. Shortened the cluster hanging ropes. Cleaned and organized work areas.

Relocated boxes and crates from the port lab to start pre-packing some OBS equipment and prepare for the end of the OBS portion of this mission.

Daily Comment Summaries - Plan for Tomorrow

Sun 05 Jun

We will finish shooting OBS Line 4 and start recovering the OBS instruments.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Deploy	AC_SM_De	Sun 5. Jun 00:00	Sun 5. Jun 10:53	10.883
Node operation 12 S/N: Line:4 Block:Mexico SP:10 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:11 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:12 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:13 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:14 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:15 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:16 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:17 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:18 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:19 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:20 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:21 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:22 Deployment Node operation 12 S/N: Line:4 Block:Mexico SP:23 Deployment				
Source Deployment	SB_PO_SOD	Sun 5. Jun 10:53	Sun 5. Jun 11:08	0.250
Chargeable Standby Source Deployment. PAM and MAGGIE				
Source Deployment	SB_PO_SOD	Sun 5. Jun 11:08	Sun 5. Jun 12:08	1.000
Chargeable Standby Source Deployment. Gunstrings 1-4				
Source Deployment	SB_PO_SOD	Sun 5. Jun 12:08	Sun 5. Jun 12:19	0.183
Chargeable Standby Source Deployment. Turning towards BOL.				
Source Deployment	SB_PO_SOD	Sun 5. Jun 12:19	Sun 5. Jun 12:39	0.333
Softstart Ramp-up.				

Daily Science Report

Lamont-Doherty Earth Observatory
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Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 5. Jun 12:39	Sun 5. Jun 12:47	0.133
Seq: 12				
Production Prime	AC_PP	Sun 5. Jun 12:47	Sun 5. Jun 13:20	0.550
Seq: 9 SOL Seq 9 Line:Line4 Block:Mexico FGSP:1001 FCSP:1001 Hdg:107.8° Prime EOL Seq 9 Line:Line4 Block:Mexico LGSP:1001 LCSP:1001 Complete				
Cetacean	SB_CT	Sun 5. Jun 13:20	Sun 5. Jun 13:40	0.333
Circle for turtle sighting.				
Cetacean	SB_CT	Sun 5. Jun 13:40	Sun 5. Jun 14:01	0.350
Circle for turtle sighting. Soft start, Ramp up				
Cetacean	SB_CT	Sun 5. Jun 14:01	Sun 5. Jun 14:19	0.300
Reconfigure for new line dt turtle.				
Production Prime	AC_PP	Sun 5. Jun 14:19	Sun 5. Jun 18:26	4.117
Seq: 10 SOL Seq 10 Line:Line4 Block:Mexico FGSP:1003 FCSP:1003 Hdg:287.8° Prime EOL Seq 10 Line:Line4 Block:Mexico LGSP:1159 LCSP:1159 Complete				
Cetacean	SB_CT	Sun 5. Jun 18:26	Sun 5. Jun 18:37	0.183
Circle for turtle				
Cetacean	SB_CT	Sun 5. Jun 18:37	Sun 5. Jun 18:58	0.350
Circle for turtle. Soft start, Ramp up				
Cetacean	SB_CT	Sun 5. Jun 18:58	Sun 5. Jun 19:04	0.100
Circle for turtle, configure Orca				
Production Prime	AC_PP	Sun 5. Jun 19:04	Sun 5. Jun 24:00	4.933
Seq: 11 SOL Seq 11 Line:Line4 Block:Mexico FGSP:1110 FCSP:1110 Hdg:287.8° Prime MSP Seq 11 Line:Line4 Block:Mexico LGSP:1260 LCSP:1260 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

5-Jun	Hours	% Percent
Acquisition	**20.617**	**85.903**
Production Prime	9.733	40.556
Swath Move	10.883	45.347
Deploy	10.883	45.347
Chargeable Standby	**3.383**	**14.097**
Cetacean	1.617	6.736
Planned Operations	1.767	7.361
Source Deployment	1.767	7.361
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.278**
Cetacean	0.567	0.107
Source	0.900	0.170
Chargeable Standby	**62.650**	**11.866**
Cetacean	6.067	1.149
Planned Operations	21.017	3.980
Source Deployment	10.650	2.017
Source Recovery	10.367	1.963

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Port Call	1.000	0.189
Transit	34.567	6.547
Acquisition	**461.667**	**87.437**
Prime Extended L/C	18.550	3.513
Prime Line Change	4.400	0.833
Production Prime	134.500	25.473
Swath Move	304.217	57.617
Deploy	100.750	19.081
Recover	203.467	38.535
Mobilisation	**2.217**	**0.420**
Deployment	2.217	0.420
Total	528.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					

Daily Science Report

Lamont-Doherty Earth Observatory
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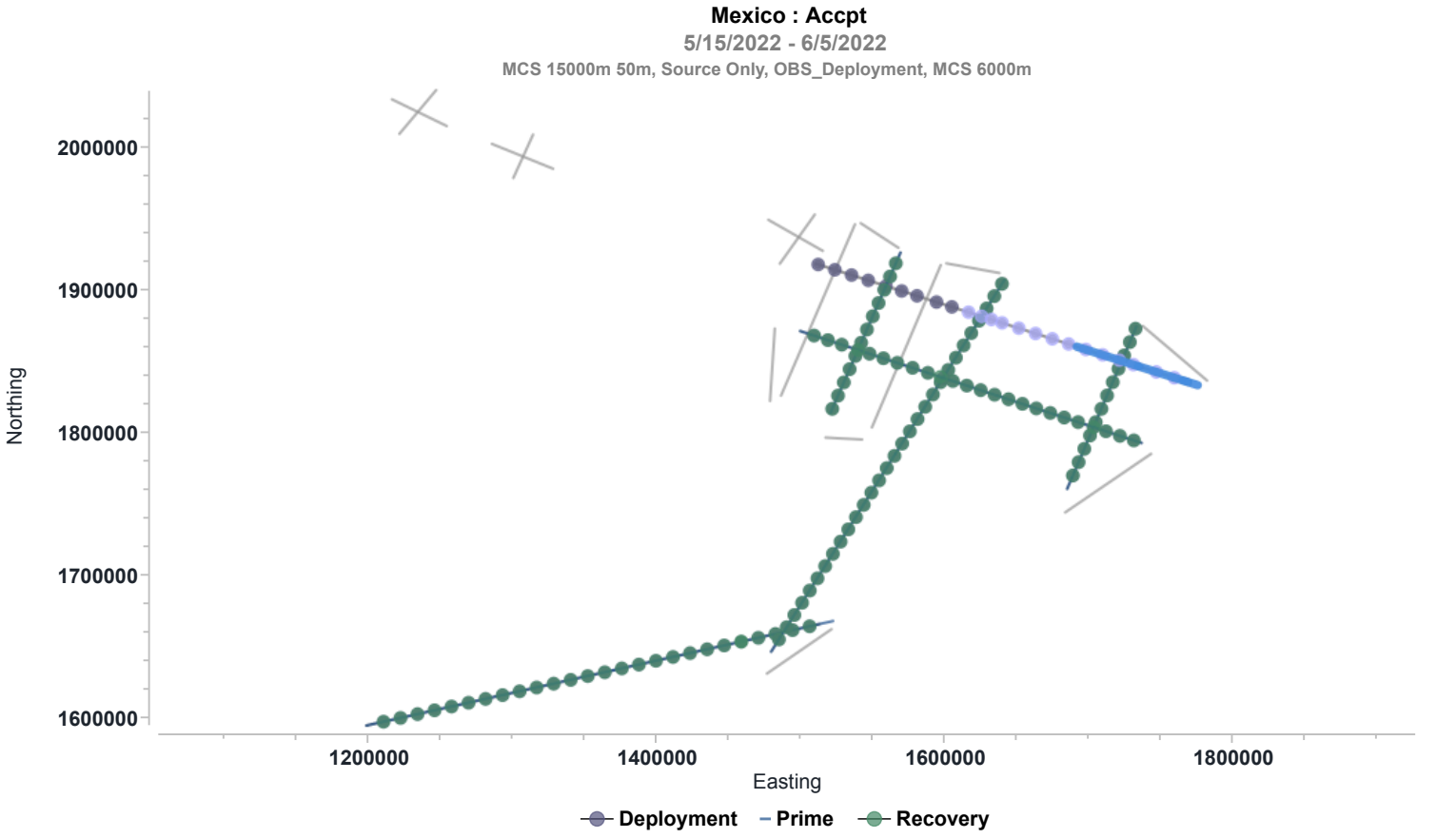
MCS 6000m					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
9	Line4	287.8	967	1002	Prime	14.40	13.744	Complete	Complete
10	Line4	287.8	991	1110	Prime	48.00	6.372	Complete	Complete
11	Line4	287.8	1110	1260	Prime	60.40	6.567	Midnight	Part
Total						**122.80**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	122.80	650.00	317.20	1588.40
Combined	**122.80**	**650.00**	**317.20**	**1588.40**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 05 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Hydraulic brake cylinders on gunstring #1-4 are not leaking anymore.

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Daily Comment Summaries - Personnel Onboard

Sun 05 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sun 5. Jun 17:35	Sun 5. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 06 Jun

We had a lot of turtle sightings the last OBS line. We had to shut-down or extended our ramp-ups over 10 times during the daylight hours. We circled 3 times and lost approximately 4 hours to turtles today. Sixteen detections in total.

We recorded onto 9 sequences on OBS Line 4. We recorded ramp-up shot points at 50 meter spacings on several sequences.

We finished shooting the OBS program at approximately 7:40 PM local time and are picking up the towed gear at the end of the day. We will be recovering OBS instruments all day tomorrow.

We replaced several hydraulic hoses on the back deck as regular/preventative maintenance.

We plan to measure and confirm all GPS locations on the source array while on-board this time.

We finished the program with full gun volume and all six GPS pods working.

Daily Comment Summaries - Plan for Tomorrow

Mon 06 Jun

We will finish shooting OBS Line 4 and start recovering the OBS instruments.

Timing Diary (Marcus G Langseth, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 6. Jun 00:00	Mon 6. Jun 14:37	14.617
Seq: 11 SOL Seq 11 Line:Line4 Block:Mexico FGSP:1261 FCSP:1261 Hdg:287.8° Prime EOL Seq 11 Line:Line4 Block:Mexico LGSP:1712 LCSP:1712 Complete EEOL due to turtle sighting				
Cetacean	SB_CT	Mon 6. Jun 14:37	Mon 6. Jun 15:42	1.083
Shutdown for turtle sighting. Circle and soft start				
Production Prime	AC_PP	Mon 6. Jun 15:42	Mon 6. Jun 15:57	0.250
Seq: 12 SOL Seq 12 Line:Line4 Block:Mexico FGSP:1705 FCSP:1705 Hdg:287.8° Prime EOL Seq 12 Line:Line4 Block:Mexico LGSP:1708 LCSP:1708 Complete EEOL due to turtle sighting.				
Cetacean	SB_CT	Mon 6. Jun 15:57	Mon 6. Jun 16:07	0.167
Standby for turtles				
Production Prime	AC_PP	Mon 6. Jun 16:07	Mon 6. Jun 17:35	1.467
Seq: 13 SOL Seq 13 Line:Line4 Block:Mexico FGSP:1713 FCSP:1713 Hdg:287.8° Prime EOL Seq 13 Line:Line4 Block:Mexico LGSP:1750 LCSP:1750 Complete				
Cetacean	SB_CT	Mon 6. Jun 17:35	Mon 6. Jun 18:20	0.750

Daily Science Report

Lamont-Doherty Earth Observatory
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Category	Code	Start	End	Duration
Shutdown for turtles and reconfig to 300m sps				
Production Prime	AC_PP	Mon 6. Jun 18:20	Mon 6. Jun 18:46	0.433
Seq: 14 SOL Seq 14 Line:Line4 Block:Mexico FGSP:1746 FCSP:1746 Hdg:287.8° Prime EOL Seq 14 Line:Line4 Block:Mexico LGSP:1759 LCSP:1759 Complete Shutdown for turtles				
Cetacean	SB_CT	Mon 6. Jun 18:46	Mon 6. Jun 19:03	0.283
Shutdown for turtles				
Production Prime	AC_PP	Mon 6. Jun 19:03	Mon 6. Jun 19:54	0.850
Seq: 15 SOL Seq 15 Line:Line4 Block:Mexico FGSP:1758 FCSP:1758 Hdg:287.8° Prime EOL Seq 15 Line:Line4 Block:Mexico LGSP:1796 LCSP:1796 Complete				
Cetacean	SB_CT	Mon 6. Jun 19:54	Mon 6. Jun 19:58	0.067
Reconfigure Orca dt turtle				
Production Prime	AC_PP	Mon 6. Jun 19:58	Mon 6. Jun 20:21	0.383
Seq: 16 SOL Seq 16 Line:Line4 Block:Mexico FGSP:1785 FCSP:1785 Hdg:287.8° Prime EOL Seq 16 Line:Line4 Block:Mexico LGSP:1796 LCSP:1796 Complete				
Cetacean	SB_CT	Mon 6. Jun 20:21	Mon 6. Jun 21:25	1.067
Shutdown for turtles				
Production Prime	AC_PP	Mon 6. Jun 21:25	Mon 6. Jun 22:03	0.633
Seq: 17 SOL Seq 17 Line:Line4 Block:Mexico FGSP:1791 FCSP:1791 Hdg:287.8° Prime EOL Seq 17 Line:Line4 Block:Mexico LGSP:1815 LCSP:1815 Complete				
Cetacean	SB_CT	Mon 6. Jun 22:03	Mon 6. Jun 22:18	0.250
Standby for Turtle				
Production Prime	AC_PP	Mon 6. Jun 22:18	Mon 6. Jun 23:15	0.950
Seq: 18 SOL Seq 18 Line:Line4 Block:Mexico FGSP:1816 FCSP:1816 Hdg:287.8° Prime EOL Seq 18 Line:Line4 Block:Mexico LGSP:1824 LCSP:1824 Complete EEOL dt turtle				
Cetacean	SB_CT	Mon 6. Jun 23:15	Mon 6. Jun 23:24	0.150
Standby for Turtle				
Production Prime	AC_PP	Mon 6. Jun 23:24	Mon 6. Jun 24:00	0.600
Seq: 19 SOL Seq 19 Line:Line4 Block:Mexico FGSP:1824 FCSP:1824 Hdg:287.8° Prime MSP Seq 19 Line:Line4 Block:Mexico LGSP:1859 LCSP:1859 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only)

6-Jun	Hours	% Percent
Acquisition	**20.183**	**84.097**
Production Prime	20.183	84.097
Chargeable Standby	**3.817**	**15.903**
Cetacean	3.817	15.903
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.266**
Cetacean	0.567	0.103
Source	0.900	0.163

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Chargeable Standby	**66.467**	**12.041**
Cetacean	9.883	1.790
Planned Operations	21.017	3.807
Source Deployment	10.650	1.929
Source Recovery	10.367	1.878
Port Call	1.000	0.181
Transit	34.567	6.262
Acquisition	**481.850**	**87.292**
Prime Extended L/C	18.550	3.361
Prime Line Change	4.400	0.797
Production Prime	154.683	28.022
Swath Move	304.217	55.112
Deploy	100.750	18.252
Recover	203.467	36.860
Mobilisation	**2.217**	**0.402**
Deployment	2.217	0.402
Total	552.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m
General Details

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

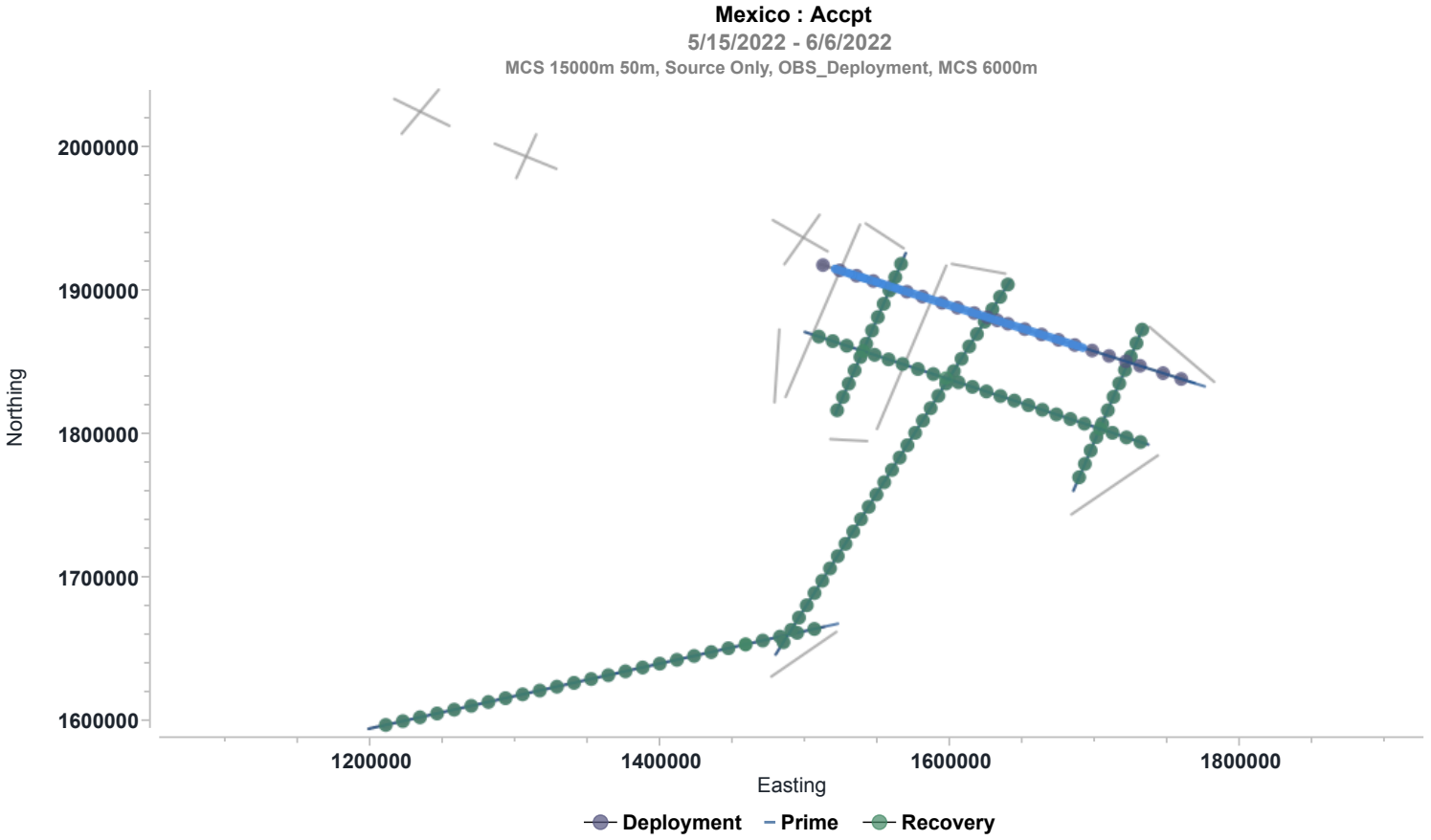
MCS 6000m					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
11	Line4	287.8	1261	1712	Prime	180.80	6.651	Complete	Complete
12	Line4	287.8	1705	1708	Prime	1.60	2.592	Complete	Complete
13	Line4	287.8	1713	1750	Prime	15.20	5.449	Complete	Complete
14	Line4	287.8	1746	1759	Prime	5.60	6.479	Complete	Complete
15	Line4	287.8	1758	1796	Prime	15.60	9.656	Complete	Complete
16	Line4	287.8	1785	1796	Prime	4.80	6.198	Complete	Complete
17	Line4	287.8	1791	1815	Prime	10.00	8.185	Complete	Complete
18	Line4	287.8	1816	1824	Prime	3.60	1.819	Complete	Complete
19	Line4	287.8	1824	1859	Prime	14.40	12.599	Midnight	Part
Total						**251.60**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	251.60	251.60	568.80	1840.00
Combined	**251.60**	**251.60**	**568.80**	**1840.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 06 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Mon 06 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO

Cassandra Frey - RPS PSO
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Felipe Moreno - RPS PSO
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Anne Becel - PI LDEO
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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Tanner Acquisto - Scientist LDEO
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 6. Jun 17:25	Mon 6. Jun 18:25
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 07 Jun

We recovered OBS instruments all day. We have 16 instruments on-board at the day change. We should be finished recovering them at approximately 8AM.

The A/C was shut-down for a short while for servicing. It seems to be back up and working now.

Built tail buoy Comi-box bracket. Removed solenoid to check for oil in guns from compressor. Looks good.

Stocked streamer deck with tape and bulldog. Located streamer camps and rigged for transferring and clamping during upcoming deployment. Tightened sausage float bands on string 1 section 3. Re-taped airlines on arrays as needed. Staged long link chain for lead-in weight on streamer deck. Welded hydraulic block mounts on streamer deck controls for 1,3,4. Prepped the back deck for PMI installation on lead-in.

Lots of misc preparations for crew change and MCS deployment.

Very strong THC reporting.

Daily Comment Summaries - Plan for Tomorrow

Tue 07 Jun

Finish recovering OBS instruments. Collect OBP data. Head to Acapulco for crew change and provisions.

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 7. Jun 00:00	Tue 7. Jun 00:40	0.667
Seq: 19 SOL Seq 19 Line:Line4 Block:Mexico FGSP:1860 FCSP:1860 Hdg:287.8° Prime EOL Seq 19 Line:Line4 Block:Mexico LGSP:1894 LCSP:1894 Complete				
Source Recovery	SB_PO_SOR	Tue 7. Jun 00:40	Tue 7. Jun 02:57	2.283
Recovering guns and Maggie and PAM				
Recover	AC_SM_Re	Tue 7. Jun 02:57	Tue 7. Jun 24:00	21.050
Node operation 13 S/N: Line:4 Block:Mexico SP:1 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:2 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:3 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:4 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:5 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:6 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:7 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:8 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:9 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:10 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:11 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:12 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:13 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:14 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:15 Recovery				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

7-Jun	Hours	% Percent
Acquisition	**21.717**	**90.486**
Production Prime	0.667	2.778
Swath Move	21.050	87.708
Recover	21.050	87.708
Chargeable Standby	**2.283**	**9.514**
Planned Operations	2.283	9.514
Source Recovery	2.283	9.514
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.255**
Cetacean	0.567	0.098
Source	0.900	0.156
Chargeable Standby	**68.750**	**11.936**
Cetacean	9.883	1.716
Planned Operations	23.300	4.045
Source Deployment	10.650	1.849
Source Recovery	12.650	2.196
Port Call	1.000	0.174
Transit	34.567	6.001
Acquisition	**503.567**	**87.425**
Prime Extended L/C	18.550	3.220
Prime Line Change	4.400	0.764
Production Prime	155.350	26.970
Swath Move	325.267	56.470
Deploy	100.750	17.491
Recover	224.517	38.979
Mobilisation	**2.217**	**0.385**
Deployment	2.217	0.385
Total	576.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					

MCS 15000m 50m					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

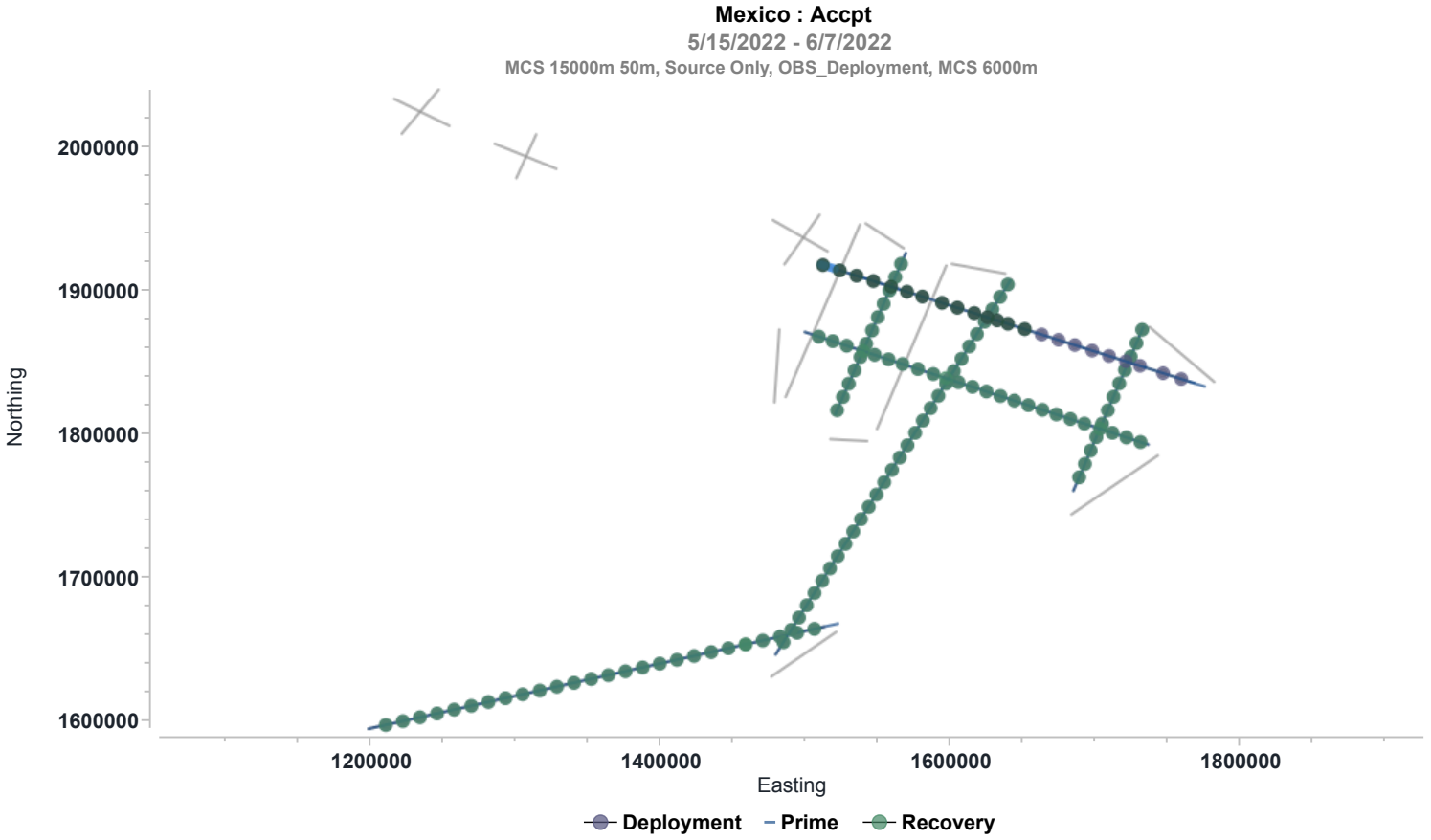
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
19	Line4	287.8	1860	1894	Prime	14.00	11.936	Complete	Complete
Total						**14.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	14.00	265.60	582.80	1854.00
Combined	**14.00**	**265.60**	**582.80**	**1854.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 07 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Tue 07 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 7. Jun 17:35	Tue 7. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed OBS operations Crew change. WX			
Weekly Telecon	Mtgs_WTel	Tue 7. Jun 18:30	Tue 7. Jun 19:30
HSE - Weekly Tech ZOOM Call			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	8

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 08 Jun

Completed OBS portion of the mission and went to Acapulco for crew change. OBSIC crewman Daniel Kot, Kevin Nikolaus, Justin Smith are departing for a well deserved break. Also,Tanner Acquisto is departing and Donna Shillington is joining.

There was a transit of ~4.5 hours to OBPN1 after we picked up the last OBS. We were on station for ~40 minutes while we deployed the dunker and downloaded the data from OBPN1. This operation went very well.

We arrived in the harbour for crew change and dropped anchor at ~3:15 PM local time. Provisions on board at ~9:00. Will begin transit to OBP site shortly afterwards.

After a lengthy discussion about the weather we have decided to start deploying streamer shortly after the last OBP is complete, approximately 8AM tomorrow morning.

There was a meeting with PI's and Techs to discuss the streamer deployment plan. The plan is to deploy an additional +10 meters of umbilical and install a single RVIM. This will give us a ~210 meter COS-CNG.

The two additional GPS pods have been added to gun strings 2 & 3. The tail buoy has been rigged and tested. Inspected Y-bridal ropes to head floats. Painted and remarked the streamer tow points to match the actual handles. Performed hardware checks on all gun arrays. Made two 9 meter ropes for spare tow. Measured, marked and spooled rope for dunker operation.

A busy day.

Daily Comment Summaries - Plan for Tomorrow

Wed 08 Jun

Collect OBP data and start deploying streamer.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Recover	AC_SM_Re	Wed 8. Jun 00:00	Wed 8. Jun 12:49	12.817
Node operation 13 S/N: Line:4 Block:Mexico SP:15 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:16 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:17 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:18 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:19 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:20 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:21 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:22 Recovery Node operation 13 S/N: Line:4 Block:Mexico SP:23 Recovery				
Field Operations	SB_FO	Wed 8. Jun 12:49	Wed 8. Jun 17:24	4.583
Transit to OBPN1 On station.				
Field Operations	SB_FO	Wed 8. Jun 17:24	Wed 8. Jun 18:00	0.600
Deploy dunker and transit/recieve data from OBPN1				
Port Call	SB_PC	Wed 8. Jun 18:00	Wed 8. Jun 20:00	2.000
Heading into Acapulco for crew change.				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Port Call	SB_PC	Wed 8. Jun 20:00	Wed 8. Jun 24:00	4.000
Crew Change 3 OBSIC, 1 Science Party depart. Donna Shillington joins. On anchor @ 20:15. Recieved provisions.				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

8-Jun	Hours	% Percent
Acquisition	**12.817**	**53.403**
Swath Move	12.817	53.403
Recover	12.817	53.403
Chargeable Standby	**11.183**	**46.597**
Field Operations	5.183	21.597
Port Call	6.000	25.000
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.244**
Cetacean	0.567	0.094
Source	0.900	0.150
Chargeable Standby	**79.933**	**13.322**
Cetacean	9.883	1.647
Field Operations	5.183	0.864
Planned Operations	23.300	3.883
Source Deployment	10.650	1.775
Source Recovery	12.650	2.108
Port Call	7.000	1.167
Transit	34.567	5.761
Acquisition	**516.383**	**86.064**
Prime Extended L/C	18.550	3.092
Prime Line Change	4.400	0.733
Production Prime	155.350	25.892
Swath Move	338.083	56.347
Deploy	100.750	16.792
Recover	237.333	39.556
Mobilisation	**2.217**	**0.369**
Deployment	2.217	0.369
Total	600.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

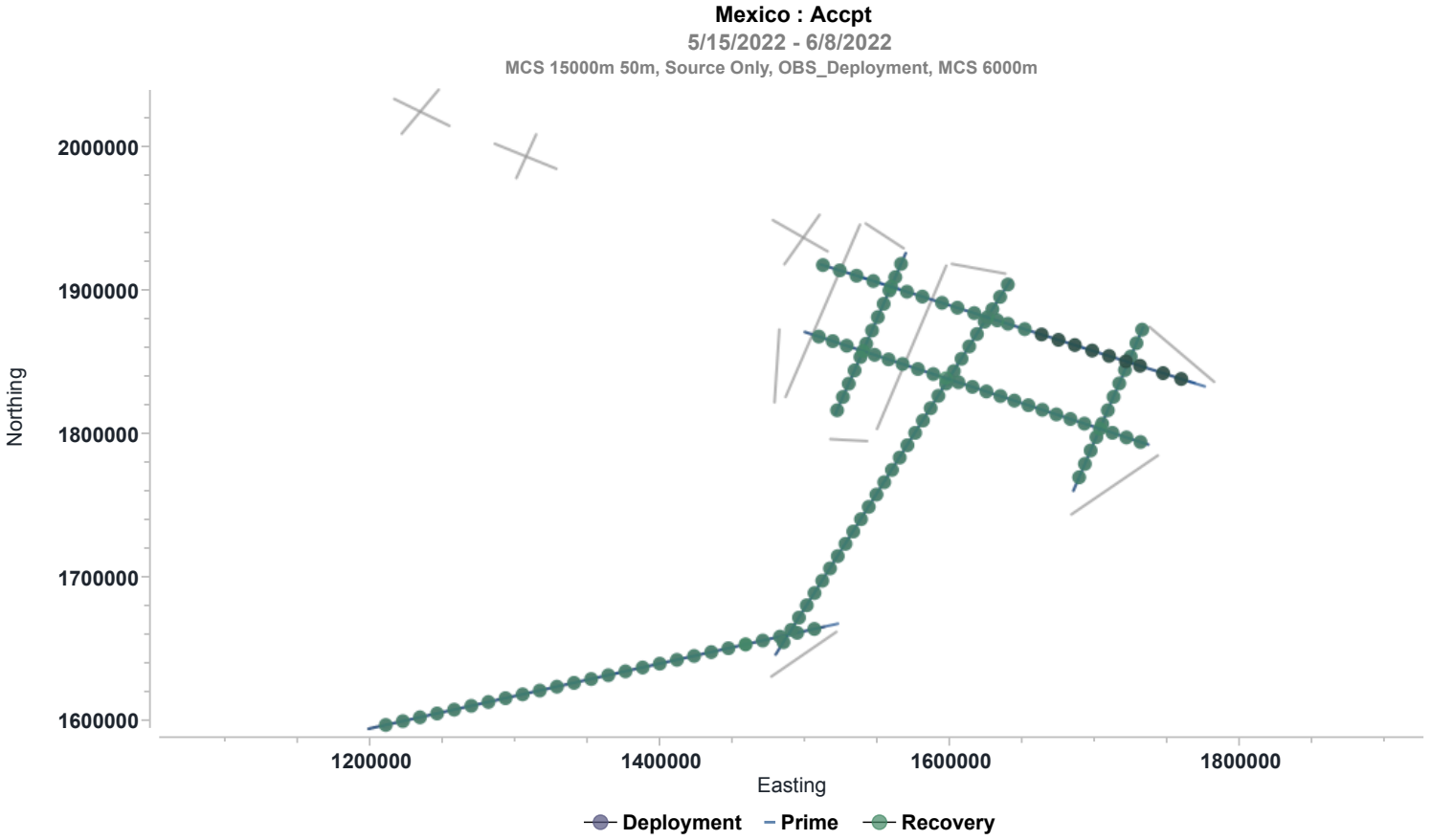
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	0.00	265.60	582.80	1854.00
Combined	**0.00**	**265.60**	**582.80**	**1854.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 08 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Wed 08 Jun

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Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU
Daniel Kot - OBS Tech WHOI
Kevin Nikolaus - OBS Tech WHOI
Justin Smith - OBS Tech Scripps
Tanner Acquisto - Scientist LDEO

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Wed 8. Jun 17:35	Wed 8. Jun 18:35
HSE - Chiefs Meeting			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 09 Jun

We completed crew change and provisions at ~02:20 UTC. Lifted anchor and started transit to first OBP station. We completed all of the OBP's at 13:38 and started deploying the MCS streamer at 14:00.

We deployed streamer all day and had the streamer deployed at the end of the day. We had to troubleshoot some leakage and changed out a LAUM and the cable looks good. We took time to test the ballast several time during the deployment and it looks like the adjustments that we made adding weights during the deployment worked well.

The weather forecasts have moderated considerably. The plan is still to get the streamer deployed and begin shooting on Line MCS04 from the west end.

We added PMI armour and weights to the lead-in. We changed the tow points on all of the gun umbilicals to set the source back 10 meters. We added the last two GPS pods and all eight GPS Pods on the gunstrings are working.We have full gun volume.

We conducted Muster Drill, Fire Drill, Abandon Ship Drill. The new bullhorn helped the crew to be able to hear the First Mate speak during the training.

It was a very good day.

Daily Comment Summaries - Plan for Tomorrow

Thu 09 Jun

Start production on MCS Line 4

Timing Diary (Marcus G Langseth, OBS_Deployment)

Category	Code	Start	End	Duration
Port Call	SB_PC	Thu 9. Jun 00:00	Thu 9. Jun 02:11	2.183
Finished crew change and provisions, lifted anchor. Begin transit to OBP				
Field Operations	SB_FO	Thu 9. Jun 02:11	Thu 9. Jun 06:13	4.033
Transit to OBP5				
Field Operations	SB_FO	Thu 9. Jun 06:13	Thu 9. Jun 07:12	0.983
Deploy Dunker and download data from OBP5/ Complete				
Field Operations	SB_FO	Thu 9. Jun 07:12	Thu 9. Jun 09:22	2.167
Transit to OBP4				
Field Operations	SB_FO	Thu 9. Jun 09:22	Thu 9. Jun 10:06	0.733
Deploy Dunker and download data from OBP4/ Complete				
Field Operations	SB_FO	Thu 9. Jun 10:06	Thu 9. Jun 12:00	1.900
Transit to OBP7				
Field Operations	SB_FO	Thu 9. Jun 12:00	Thu 9. Jun 13:38	1.633
Deploy Dunker and download data from OBP7/ Complete				
Deployment	MB_DP	Thu 9. Jun 13:38	Thu 9. Jun 14:00	0.367
Pre-deployment Toolbox Meeting				
Deployment	MB_DP	Thu 9. Jun 14:00	Thu 9. Jun 14:45	0.750

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Category	Code	Start	End	Duration
Deploy Tailbouy. Troubleshoot GPS. Redeploy Tailbuoy.				
Deployment	MB_DP	Thu 9. Jun 14:45	Thu 9. Jun 15:28	0.717
Deploying streamer from Reel #2				
Deployment	MB_DP	Thu 9. Jun 15:28	Thu 9. Jun 15:38	0.167
Install RVIM				
Deployment	MB_DP	Thu 9. Jun 15:38	Thu 9. Jun 18:25	2.783
Deploying streamer from Reel #4				
Deployment	MB_DP	Thu 9. Jun 18:25	Thu 9. Jun 19:32	1.117
Testing streamer ballast. Slow down. Speed up. All good. Resume deployment				
Deployment	MB_DP	Thu 9. Jun 19:32	Thu 9. Jun 21:30	1.967
Resume deploying streamer from Reel #4				
Deployment	MB_DP	Thu 9. Jun 21:30	Thu 9. Jun 24:00	2.500
Deploying streamer from Reel #4				

Timing Day By Day (Marcus G Langseth, OBS_Deployment)

9-Jun	Hours	% Percent
Chargeable Standby	**13.633**	**56.806**
Field Operations	11.450	47.708
Port Call	2.183	9.097
Mobilisation	**10.367**	**43.194**
Deployment	10.367	43.194
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**1.467**	**0.235**
Cetacean	0.567	0.091
Source	0.900	0.144
Chargeable Standby	**93.567**	**14.995**
Cetacean	9.883	1.584
Field Operations	16.633	2.666
Planned Operations	23.300	3.734
Source Deployment	10.650	1.707
Source Recovery	12.650	2.027
Port Call	9.183	1.472
Transit	34.567	5.540
Acquisition	**516.383**	**82.754**
Prime Extended L/C	18.550	2.973
Prime Line Change	4.400	0.705
Production Prime	155.350	24.896
Swath Move	338.083	54.180
Deploy	100.750	16.146
Recover	237.333	38.034
Mobilisation	**12.583**	**2.017**
Deployment	12.583	2.017
Total	624.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

Production Totals (Accpt km)

Daily Science Report

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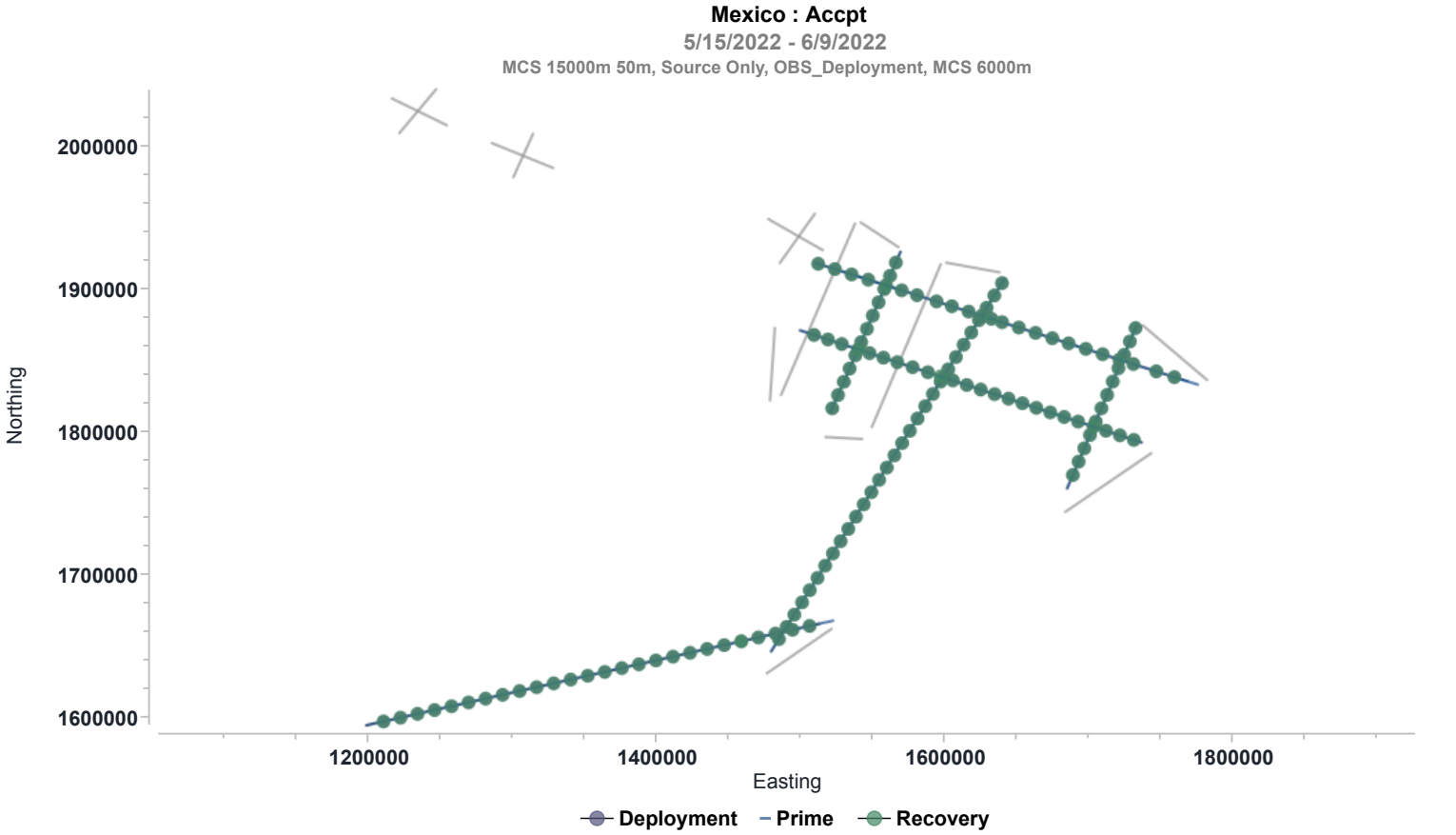
Accepted km	Day	Week	Month	Project
Prime	0.00	265.60	582.80	1854.00
Combined	**0.00**	**265.60**	**582.80**	**1854.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 09 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Thu 09 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech

Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Abandon Ship Drill	Drls_AS	Thu 9. Jun 17:30	Thu 9. Jun 17:50
HSE - Abandon Ship Drill. Muster drill.			
Fire Drill	Drls_Fi	Thu 9. Jun 17:50	Thu 9. Jun 18:30
HSE - Fire Drill			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	5
6/9/2022		
Toolbox to discuss dunker OBPN operation. Toolbox to discuss tailbouy deployment Toolbox to discuss streamer transfer from reel 2 to reel 4 Toolbox to discuss streamer deployment ops at shift change		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 10 Jun

We started the first MCS Line at 09:07 this morning. We didn't get too far down the line when the streamer power dropped out. The Seal 408 seems to be the culprit. Alan has been in contact with Sercel Support and trying a lot of different hardware and configurations. We were troubleshooting this for much of the day.

We circled the ship headed back to the beginning of the line for a night-time pass on the same line.

When the Seal 408 and streamer finally came back up we ran a test line to check all of the settings and configurations. There was a lot of changes made during the troubleshooting process. A great job by all getting Seal up and running!

The PSO's have reported seeing some turtles in the exclusion zone through out the day.

The Captain, Lead PSO and CSO reviewed the updated Vessel Strike Avoidance policy. All affected parties understand the procedure.

We are online shooting with full gun volume. All GPS pods working at the end of the day. The streamer is towing like a champion and the weather is cooperating.

Daily Comment Summaries - Plan for Tomorrow

Fri 10 Jun

Start production on MCS Line 4

Timing Diary (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Code	Start	End	Duration
Deployment	MB_DP	Fri 10. Jun 00:00	Fri 10. Jun 01:31	1.517
Deploying streamer from Reel #4				
Deployment	MB_DP	Fri 10. Jun 01:31	Fri 10. Jun 02:45	1.233
Deploying headfloat and lead-in. Added PMI armour and weights at the 210meter mark from the bell. Parked on the soft tow.				
Deployment	MB_DP	Fri 10. Jun 02:45	Fri 10. Jun 03:30	0.750
Reviewing the ballast. Dropping the streamer to operational depth.				
Deployment	MB_DP	Fri 10. Jun 03:30	Fri 10. Jun 03:51	0.350
Deploying Maggie and PAM				
Source Deployment	SB_PO_SOD	Fri 10. Jun 03:51	Fri 10. Jun 06:33	2.700
Deploying gunstrings and changing the towpoints on the umbilicals. We moved the entire source array back 10 meters.				
Source Deployment	SB_PO_SOD	Fri 10. Jun 06:33	Fri 10. Jun 06:59	0.433
Connecting the deck leads to the gun reels.				
Source Deployment	SB_PO_SOD	Fri 10. Jun 06:59	Fri 10. Jun 07:21	0.367
Softstart ramp-up/ complete				
Transit	SB_TRT	Fri 10. Jun 07:21	Fri 10. Jun 09:07	1.767
Turning towards Line MGL2204020M04				
Production Prime	AC_PP	Fri 10. Jun 09:07	Fri 10. Jun 09:40	0.550
Seq: 20				

Category	Code	Start	End	Duration
SOL Seq 20 Line:MCS04 Block:Mexico FGSP:747 Hdg:107.8° Prime EOL Seq 20 Line:MCS04 Block:Mexico LGSP:850 Complete				
Recording	DT_RC	Fri 10. Jun 09:40	Fri 10. Jun 21:04	11.400
Troubleshoot SEAL 408. Heading back to the SOL for a test line. MGL2204021T01				
Production Prime	AC_PP	Fri 10. Jun 21:04	Fri 10. Jun 22:47	1.717
Seq: 21 SOL Seq 21 Line:MGL2204021T01 - Test Line Preplot:1025 Block:Mexico FGSP:21110 Hdg:109.2° Prime EOL Seq 21 Line:MGL2204021T01 - Test Line Preplot:1025 Block:Mexico LGSP:21399 Complete				
Recording	DT_RC	Fri 10. Jun 22:47	Fri 10. Jun 24:00	1.217
Downtime due to recording systems. Transit to configure for new line.				

Timing Day By Day (Marcus G Langseth, Source Only, OBS_Deployment)

10-Jun	Hours	% Percent
Acquisition	**2.267**	**9.444**
Production Prime	2.267	9.444
Chargeable Standby	**5.267**	**21.944**
Planned Operations	3.500	14.583
Source Deployment	3.500	14.583
Transit	1.767	7.361
DownTime	**12.617**	**52.569**
Recording	12.617	52.569
Mobilisation	**3.850**	**16.042**
Deployment	3.850	16.042
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**14.083**	**2.173**
Cetacean	0.567	0.087
Recording	12.617	1.947
Source	0.900	0.139
Chargeable Standby	**98.833**	**15.252**
Cetacean	9.883	1.525
Field Operations	16.633	2.567
Planned Operations	26.800	4.136
Source Deployment	14.150	2.184
Source Recovery	12.650	1.952
Port Call	9.183	1.417
Transit	36.333	5.607
Acquisition	**518.650**	**80.039**
Prime Extended L/C	18.550	2.863
Prime Line Change	4.400	0.679
Production Prime	157.617	24.324
Swath Move	338.083	52.173
Deploy	100.750	15.548
Recover	237.333	36.626
Mobilisation	**16.433**	**2.536**
Deployment	16.433	2.536

Category	Hours	% Percent
Total	648.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Daily Science Report

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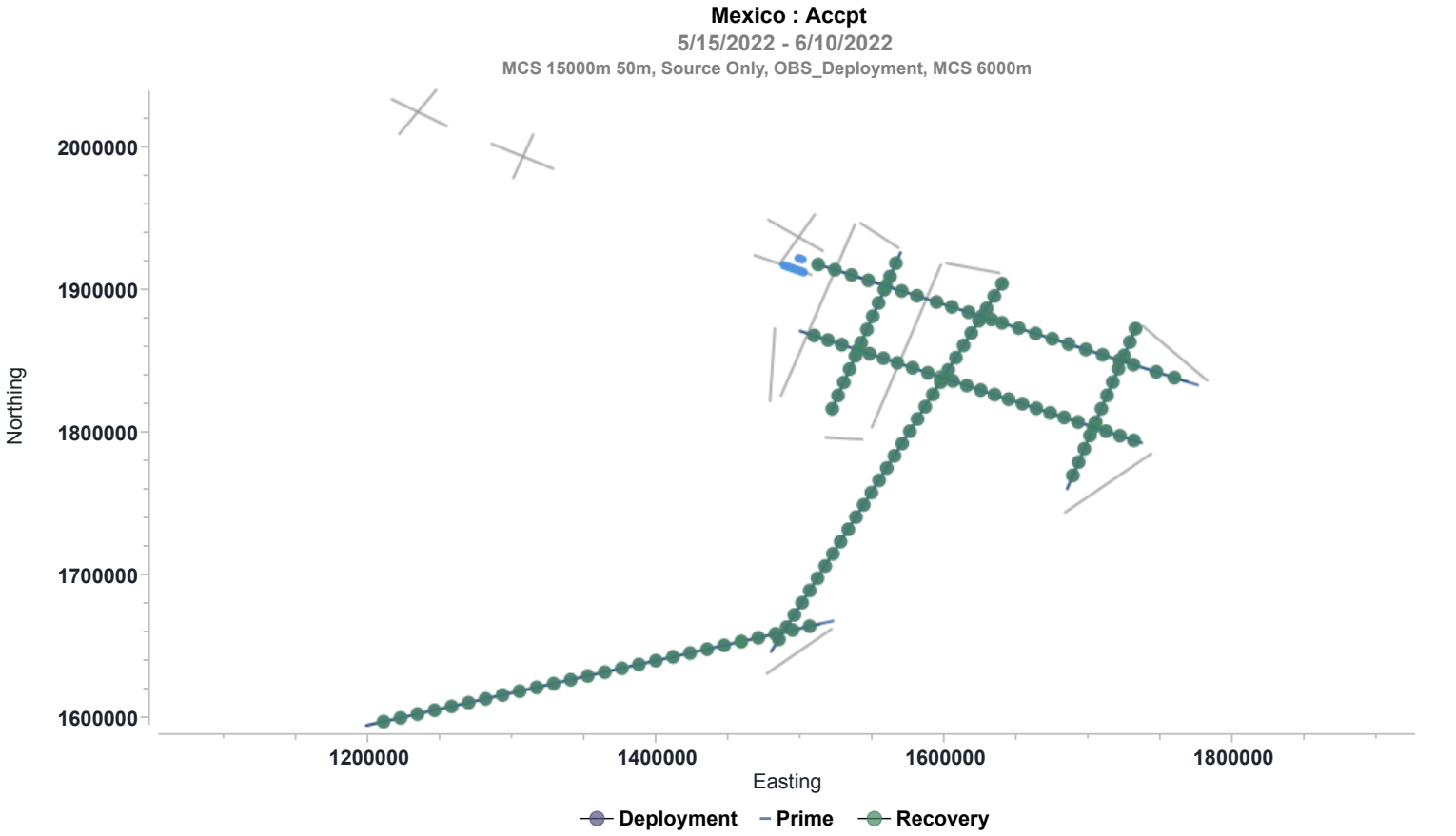
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
20	MCS04	107.8	747	803	Prime	22.80	21.991	Complete	Complete
21	MGL2204021T01 - Test Line	109.2	21110	21399	Prime	116.00	36.361	Complete	Complete
Total						**138.80**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	138.80	404.40	721.60	1992.80
Combined	**138.80**	**404.40**	**721.60**	**1992.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 10 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Fri 10 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Fri 10. Jun 16:00	Fri 10. Jun 17:00
HSE - Departmental Meeting. Review and approve the Vessel Strike Avoidance procedure.			
Chiefs Meeting	Mtgs_Chfs	Fri 10. Jun 17:35	Fri 10. Jun 18:35
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 11 Jun

We were shooting on Line MGL2204020M04 all day. There were seven shut-down's and power-down's for turtles today. The streamer had a power fault that was traced to the slip ring on streamer reel #3. We are assuming that this is the root problem for the Seal problem's that we saw yesterday. We did not circle for any of these holes in the coverage and will develop a re-shoot plan as we progress in the survey. The weather has been favourable for turtles.

We recorded the ramp-up shotpoints, but consider these holes as re-shoots.

The work boat was deployed to take some underwater videos of the guns, lead-ins and umbilicals. We captured some good videos of the towed gear but haven't had a chance to edit them into smaller, more useful segments yet. It appears that we will be able to shorten the depth rope from the streamer head float to the lead-in and raise the front end of the streamer to a shallower depth. Moving the gun strings back during the last deployment and adding some weight to the lead-in ahead of the arrays has helped give us the clearance between the lead-in and the source arrays that we were looking for. The work boat performed well and the davit operation was good. There was a lengthy toolbox meeting on the bridge before the deployment to discuss the roles and risk assessments.

The streamer HV fault has been fixed by bypassing the slip ring on reel #3. We have secured the hydraulics to the reel so that it doesn't get turned inadvertently. Klay has already installed a new replacement slip ring on reel #3. The streamer will have to be powered down at the EOL to finish connecting the slip ring.

Gun 2-4 has been giving us some delta errors and will be recovered during the next line change for repair. The source array GPS pods have been working well. We have all eight of them working for the entire line. The tail-buoy has been working most of the time. It dropped out during the heavy rain squalls. Acoustics have been so so. The ranges between gun-strings have been pretty steady, but the ranges to the head of the streamer are intermittent.

The port compressor failed. There is an air-leak internal and its suspected that its the 4th or 5th stage cooler. We'll get a better update from the engineers in a while. The stbd compressor is running.

We are online shooting with full gun volume. The streamer is towing well.

Daily Comment Summaries - Plan for Tomorrow

Sat 11 Jun

We will finish shooting Line MCS04 and then transit to Line MCS03. Recover gunstring #3. Connect slip ring.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sat 11. Jun 00:00	Sat 11. Jun 00:06	0.100
Seq: 21 Line: MGL2204021T01 - Test Line Nominal Prime line change.				
Production Prime	AC_PP	Sat 11. Jun 00:06	Sat 11. Jun 16:54	16.800
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:804 FCSP:3761 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:3343 LCSP:3343 Incomplete				
Streamers	DT_ST	Sat 11. Jun 16:54	Sat 11. Jun 17:23	0.483

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Category	Code	Start	End	Duration
NTBP Seq 22 MCS04 Block:Mexico FSP:3344 LSP:3399 Power Fault; Slipring Reel#3				
Production Prime	AC_PP	Sat 11. Jun 17:23	Sat 11. Jun 18:40	1.283
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:3400 FCSP:3400 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:3607 LCSP:3607 Incomplete				
Cetacean	DT_CT	Sat 11. Jun 18:40	Sat 11. Jun 19:18	0.633
NTBP Seq 22 MCS04 Block:Mexico FSP:3608 LSP:3680 Turtle Sighting				
Production Prime	AC_PP	Sat 11. Jun 19:18	Sat 11. Jun 19:36	0.300
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:3681 FCSP:3681 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:3726 LCSP:3726 Incomplete				
Cetacean	DT_CT	Sat 11. Jun 19:36	Sat 11. Jun 19:51	0.250
NTBP Seq 22 MCS04 Block:Mexico FSP:3727 LSP:3760 Turtle Sighting				
Production Prime	AC_PP	Sat 11. Jun 19:51	Sat 11. Jun 20:12	0.350
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:3761 FCSP:3761 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:3806 LCSP:3806 Incomplete				
Cetacean	DT_CT	Sat 11. Jun 20:12	Sat 11. Jun 20:43	0.517
NTBP Seq 22 MCS04 Block:Mexico FSP:3807 LSP:3873 Turtle Sighting				
Production Prime	AC_PP	Sat 11. Jun 20:43	Sat 11. Jun 21:38	0.917
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:3874 FCSP:3874 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:4037 LCSP:4037 Incomplete				
High Pressure	DT_HP	Sat 11. Jun 21:38	Sat 11. Jun 21:44	0.100
NTBP Seq 22 MCS04 Block:Mexico FSP:4038 LSP:4052 Compressor Failure				
Production Prime	AC_PP	Sat 11. Jun 21:44	Sat 11. Jun 22:05	0.350
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:4053 FCSP:4424 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:4116 LCSP:4116 Incomplete				
Cetacean	DT_CT	Sat 11. Jun 22:05	Sat 11. Jun 22:21	0.267
NTBP Seq 22 MCS04 Block:Mexico FSP:4117 LSP:4154 Turtle Sighting				
Production Prime	AC_PP	Sat 11. Jun 22:21	Sat 11. Jun 22:24	0.050
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:4155 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:4162 Incomplete				
Cetacean	DT_CT	Sat 11. Jun 22:24	Sat 11. Jun 23:04	0.667
NTBP Seq 22 MCS04 Block:Mexico FSP:4163 LSP:4255 Turtle Sighting				
Production Prime	AC_PP	Sat 11. Jun 23:04	Sat 11. Jun 24:00	0.933
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:4256 FCSP:4256 Hdg:107.8° Prime MSP Seq 22 Line:MCS04 Block:Mexico LGSP:4424 LCSP:4424 Midnight				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

11-Jun	Hours	% Percent
Acquisition	**21.083**	**87.847**
Prime Line Change	0.100	0.417
Production Prime	20.983	87.431
DownTime	**2.917**	**12.153**
Cetacean	2.333	9.722
High Pressure	0.100	0.417
Recording	0.000	0.000
Streamers	0.483	2.014
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**17.000**	**2.530**
Cetacean	2.900	0.432
High Pressure	0.100	0.015
Recording	12.617	1.877
Source	0.900	0.134
Streamers	0.483	0.072
Chargeable Standby	**98.833**	**14.707**
Cetacean	9.883	1.471
Field Operations	16.633	2.475
Planned Operations	26.800	3.988
Source Deployment	14.150	2.106
Source Recovery	12.650	1.882
Port Call	9.183	1.367
Transit	36.333	5.407
Acquisition	**539.733**	**80.317**
Prime Extended L/C	18.550	2.760
Prime Line Change	4.500	0.670
Production Prime	178.600	26.577
Swath Move	338.083	50.310
Deploy	100.750	14.993
Recover	237.333	35.317
Mobilisation	**16.433**	**2.445**
Deployment	16.433	2.445
Total	672.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

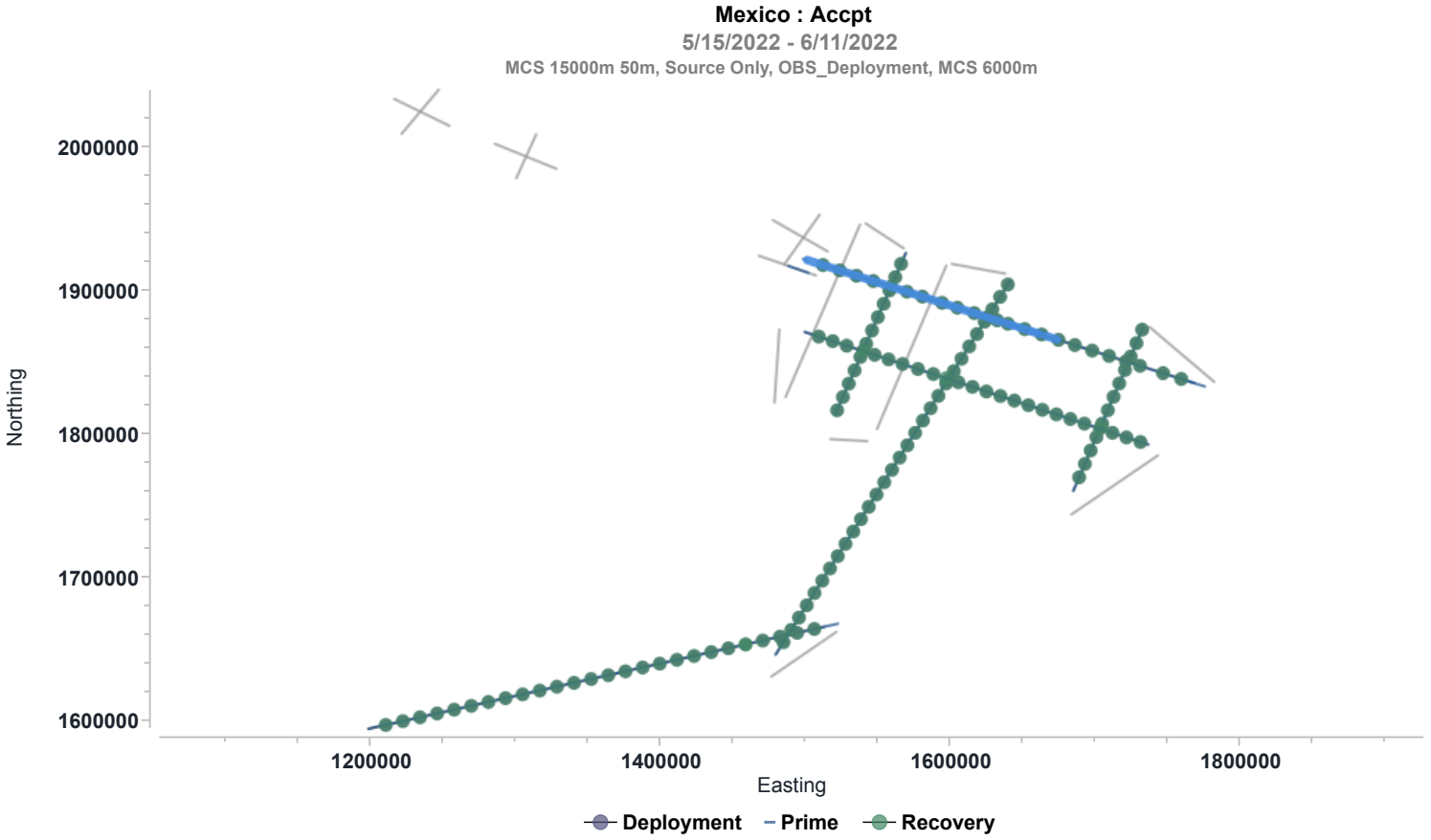
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
22	MCS04	107.8	804	4424	Prime	1298.00	33.319	Midnight	Part
NTBP: 3344 - 3399 (not chgd), NTBP: 3608 - 3680 (not chgd), NTBP: 3727 - 3760 (not chgd), NTBP: 3807 - 3873 (not chgd), NTBP: 4038 - 4052 (not chgd), NTBP: 4117 - 4154 (not chgd), NTBP: 4163 - 4255 (not chgd)									
Total						**1298.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1298.00	1702.40	2019.60	3290.80
Combined	**1298.00**	**1702.40**	**2019.60**	**3290.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 11 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

Gun 2-4 is drifting. Delta errors.

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Sat 11 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth

Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth

Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 11. Jun 18:30	Sat 11. Jun 19:30
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2
6/11/2022		
Toolbox Meeting for workboat operation Toolbox Meeting for davit ops.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 12 Jun

Line MGL2204020M04 was completed at 11:52 UTC. We picked up gunstring #2 for repairs. Gun 2-4 was changed out due to delta errors. The gunstring was picked back up shortly after it was deployed because gun 2-4 was auto-firing. The culprit was a cracked shuttle on that 180CI gun. We started the line with 3 gunstring and 4050 CI and were back to full gun volume shortly after the line started.

Connected the replacement slip-ring on Reel #3 during a line change. The streamer powered right up, but it tripped again when we moved the reel to modify the soft-tow on lead-in. Again, the streamer powered right back up. We still have some fragility with the power.

We rigged up a brand new XBT Flume from an empty PVC pipe that we stored the PMI Rods in. We used a 3 leg lifting harness. It is super light-weight and user friendly.

Rebuilt the 180 CI guns that we changed out on gunstring #2 for ready spares. Removed aft roller from Smithberger turning blocks to prep and paint cheek plates.

We had a lot of turtle downtime today. We decided to circle on the beginning of Line MCS03 and reshoot the turtle coverage that we missed. This gives us a night-time window to shoot the high priority strike line and intersections. We are seeing some ship traffic. The Bridge Crew are doing a terrific job keep people informed.

Omni antenna is powered on and working. Both the directional antenna and the omni are working. We have great communication with the tail-buoy.

We have full gun volume, eight working GPS pods and the streamer is towing well. The weather is decent. We expect some crummy weather in a couple of days and are discussing some contingency plans.

Daily Comment Summaries - Plan for Tomorrow

Sun 12 Jun

We will finish shooting Line MCS03 and pick up the gunstrings to change the head float depth rope at the head of the streamer during the next turn line.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 12. Jun 00:00	Sun 12. Jun 11:52	11.867
Seq: 22 SOL Seq 22 Line:MCS04 Block:Mexico FGSP:4425 FCSP:4425 Hdg:107.8° Prime EOL Seq 22 Line:MCS04 Block:Mexico LGSP:6427 LCSP:6427 Complete				
Prime Line Change	AC_PLC	Sun 12. Jun 11:52	Sun 12. Jun 13:15	1.383
Seq: 22 Line: MCS04 Nominal Prime line change.				
Production Prime	AC_PP	Sun 12. Jun 13:15	Sun 12. Jun 13:50	0.583
Seq: 23 SOL Seq 23 Line:MT07 Block:Mexico FGSP:1063 FCSP:1063 Hdg:310.6° Prime EOL Seq 23 Line:MT07 Block:Mexico LGSP:1158 LCSP:1158 Incomplete				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Cetacean	DT_CT	Sun 12. Jun 13:50	Sun 12. Jun 14:38	0.800
NTBP Seq 23 MT07 Block:Mexico FSP:1157 LSP:1293 Turtles				
Production Prime	AC_PP	Sun 12. Jun 14:38	Sun 12. Jun 15:19	0.683
Seq: 23 SOL Seq 23 Line:MT07 Block:Mexico FGSP:1292 FCSP:1292 Hdg:310.6° Prime EOL Seq 23 Line:MT07 Block:Mexico LGSP:1411 LCSP:1411 Incomplete				
Cetacean	DT_CT	Sun 12. Jun 15:19	Sun 12. Jun 16:36	1.283
NTBP Seq 23 MT07 Block:Mexico FSP:1410 LSP:1639 Turtles				
Production Prime	AC_PP	Sun 12. Jun 16:36	Sun 12. Jun 16:56	0.333
Seq: 23 SOL Seq 23 Line:MT07 Block:Mexico FGSP:1638 FCSP:1638 Hdg:310.6° Prime EOL Seq 23 Line:MT07 Block:Mexico LGSP:1699 LCSP:1699 Incomplete				
Cetacean	DT_CT	Sun 12. Jun 16:56	Sun 12. Jun 17:33	0.617
NTBP Seq 23 MT07 Block:Mexico FSP:1698 LSP:1813 Turtles				
Production Prime	AC_PP	Sun 12. Jun 17:33	Sun 12. Jun 18:34	1.017
Seq: 23 SOL Seq 23 Line:MT07 Block:Mexico FGSP:1812 FCSP:1812 Hdg:310.6° Prime EOL Seq 23 Line:MT07 Block:Mexico LGSP:1994 LCSP:1994 Complete				
Prime Line Change	AC_PLC	Sun 12. Jun 18:34	Sun 12. Jun 20:05	1.517
Seq: 23 Line: MT07 Nominal Prime line change.				
Production Prime	AC_PP	Sun 12. Jun 20:05	Sun 12. Jun 20:22	0.283
Seq: 24 SOL Seq 24 Line:MCS03 Block:Mexico FGSP:3371 FCSP:3371 Hdg:202.9° Prime EOL Seq 24 Line:MCS03 Block:Mexico LGSP:3315 LCSP:3315 Incomplete				
Cetacean	DT_CT	Sun 12. Jun 20:22	Sun 12. Jun 21:13	0.850
NTBP Seq 24 MCS03 Block:Mexico FSP:3314 LSP:3210 Turtles				
Production Prime	AC_PP	Sun 12. Jun 21:13	Sun 12. Jun 21:41	0.467
Seq: 24 SOL Seq 24 Line:MCS03 Block:Mexico FGSP:3209 Hdg:202.9° Prime EOL Seq 24 Line:MCS03 Block:Mexico LGSP:3150 Complete				
Cetacean	DT_CT	Sun 12. Jun 21:41	Sun 12. Jun 23:04	1.383
Circle for turtles. Night time re-shoot.				
Production Prime	AC_PP	Sun 12. Jun 23:04	Sun 12. Jun 24:00	0.933
Seq: 25 SOL Seq 25 Line:MCS03 Block:Mexico FGSP:3424 Hdg:202.9° Prime MSP Seq 25 Line:MCS03 Block:Mexico LGSP:3290 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

12-Jun	Hours	% Percent
Acquisition	**19.067**	**79.444**
Prime Line Change	2.900	12.083
Production Prime	16.167	67.361
DownTime	**4.933**	**20.556**
Cetacean	4.933	20.556
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
DownTime	**21.933**	**3.151**
Cetacean	7.833	1.125
High Pressure	0.100	0.014
Recording	12.617	1.813
Source	0.900	0.129
Streamers	0.483	0.069
Chargeable Standby	**98.833**	**14.200**
Cetacean	9.883	1.420
Field Operations	16.633	2.390
Planned Operations	26.800	3.851
Source Deployment	14.150	2.033
Source Recovery	12.650	1.818
Port Call	9.183	1.319
Transit	36.333	5.220
Acquisition	**558.800**	**80.287**
Prime Extended L/C	18.550	2.665
Prime Line Change	7.400	1.063
Production Prime	194.767	27.984
Swath Move	338.083	48.575
Deploy	100.750	14.476
Recover	237.333	34.100
Mobilisation	**16.433**	**2.361**
Deployment	16.433	2.361
Total	696.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		

MCS 15000m 50m					
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:	0 m		

Basic Project Details

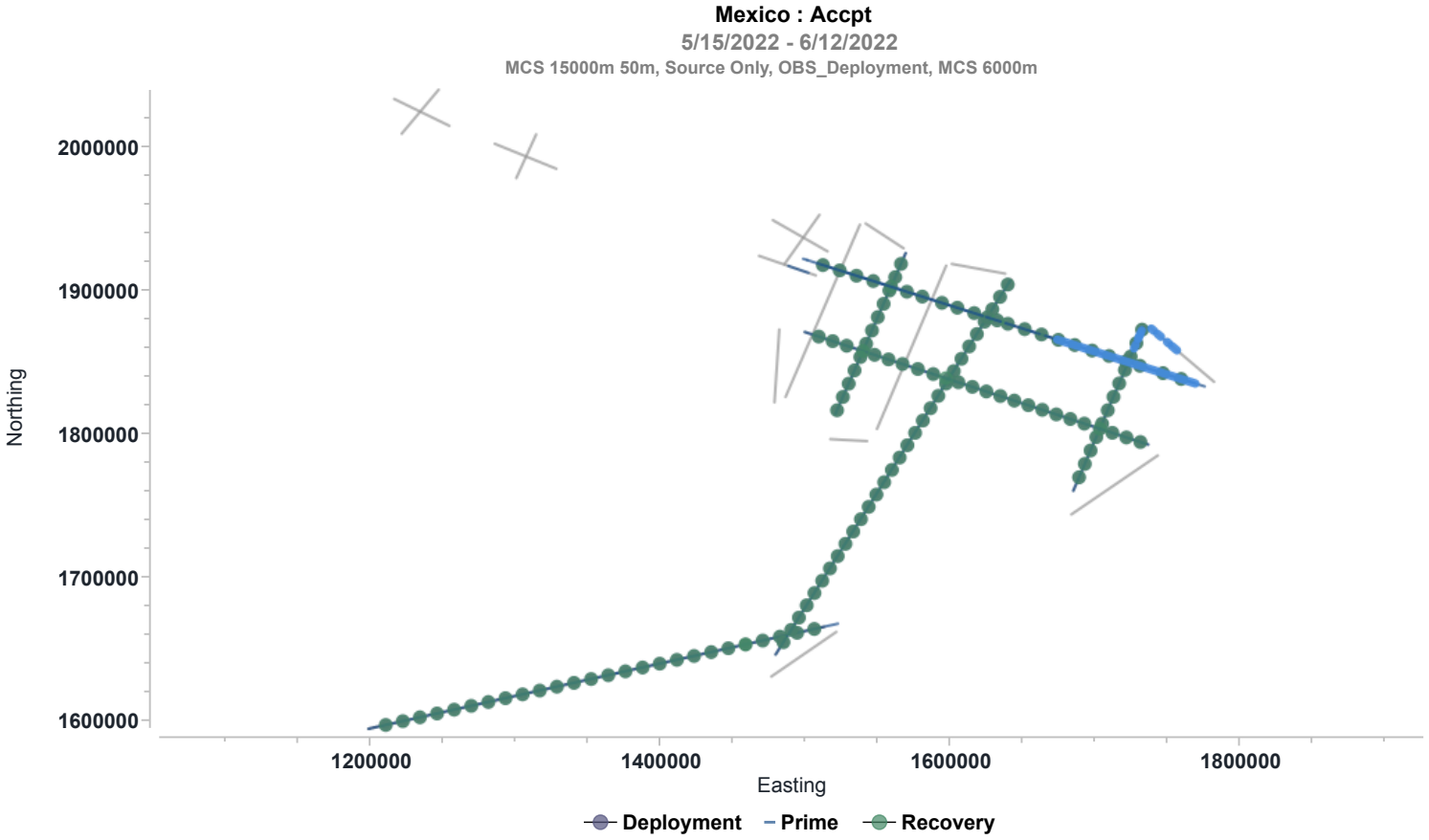
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
22	MCS04	107.8	4425	6427	Prime	801.20	34.452	Complete	Complete
23	MT07	310.6	1063	1994	Prime	184.40	37.721	Complete	Complete
NTBP: 1157 - 1293 (not chgd), NTBP: 1410 - 1639 (not chgd), NTBP: 1698 - 1813 (not chgd)									
24	MCS03	202.9	3371	3150	Prime	46.80	33.117	Complete	Complete
NTBP: 3314 - 3210 (not chgd)									
25	MCS03	202.9	3424	3290	Prime	54.00	31.009	Midnight	Part
Total						**1086.40**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1086.40	2788.80	3106.00	4377.20
Combined	**1086.40**	**2788.80**	**3106.00**	**4377.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 12 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

Gun 2-4 is drifting. Delta errors.

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Sun 12 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth

Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth

Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sun 12. Jun 17:30	Sun 12. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather and TURTLES. Possible circle for night time reshoot			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 13 Jun

We completed MGL2204027MT04 (MCS03) and started to acquire the turn line.

Continued working on the Smithberger turning blocks. The forward one was removed today and both of them are being completely refurbished. Primed, painted and greased. Cleaned the bearings.

Worked on the 180CI gun again to fix the fire seal.

We decided to hold off on changing the depth rope on the head-float for a better weather window. There was some concern about getting the streamer on the surface while picking the lead-in float up. We'll change this rope out at the next decent opportunity.

The aft GPS pod on gun-string #2 has quit working. The other seven are working. We have full gun volume. The TB is pretty solid, but has dropped out occasionally during the turn.

We have discussed the weather at great length today. We will re-evaluate our plan around noon tomorrow and decide on our contingency plan.

Daily Comment Summaries - Plan for Tomorrow

Mon 13 Jun

We will shoot the turn line and start shooting MCS05. We will evaluate the weather around noon and make a decision about continuing down the line or turning north onto a different line to keep some space between us and the storm.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 13. Jun 00:00	Mon 13. Jun 00:44	0.733
Seq: 25 SOL Seq 25 Line:MCS03 Block:Mexico FGSP:3289 Hdg:202.9° Prime EOL Seq 25 Line:MCS03 Block:Mexico LGSP:3178 Complete				
Prime Line Change	AC_PLC	Mon 13. Jun 00:44	Mon 13. Jun 02:09	1.417
Seq: 0 NTBP Seq 25 MCS03 Block:Mexico FSP:3177 LSP:3113				
Production Prime	AC_PP	Mon 13. Jun 02:09	Mon 13. Jun 17:25	15.267
Seq: 26 SOL Seq 26 Line:MCS03 Block:Mexico FGSP:996 FCSP:996 Hdg:22.9° Prime EOL Seq 26 Line:MCS03 Block:Mexico LGSP:3605 LCSP:3605 Complete				
Prime Line Change	AC_PLC	Mon 13. Jun 17:25	Mon 13. Jun 18:59	1.567
Seq: 26 Line: MCS03 Nominal Prime line change.				
Production Prime	AC_PP	Mon 13. Jun 18:59	Mon 13. Jun 24:00	5.017
Seq: 27 SOL Seq 27 Line:MT06 Block:Mexico FGSP:1001 FCSP:1001 Hdg:235.4° Prime MSP Seq 27 Line:MT06 Block:Mexico LGSP:1773 LCSP:1773 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

13-Jun	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime Line Change	2.983	12.431
Production Prime	21.017	87.569
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**21.933**	**3.046**
Cetacean	7.833	1.088
High Pressure	0.100	0.014
Recording	12.617	1.752
Source	0.900	0.125
Streamers	0.483	0.067
Chargeable Standby	**98.833**	**13.727**
Cetacean	9.883	1.373
Field Operations	16.633	2.310
Planned Operations	26.800	3.722
Source Deployment	14.150	1.965
Source Recovery	12.650	1.757
Port Call	9.183	1.275
Transit	36.333	5.046
Acquisition	**582.800**	**80.944**
Prime Extended L/C	18.550	2.576
Prime Line Change	10.383	1.442
Production Prime	215.783	29.970
Swath Move	338.083	46.956
Deploy	100.750	13.993
Recover	237.333	32.963
Mobilisation	**16.433**	**2.282**
Deployment	16.433	2.282
Total	720.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				

MCS 15000m 50m					
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

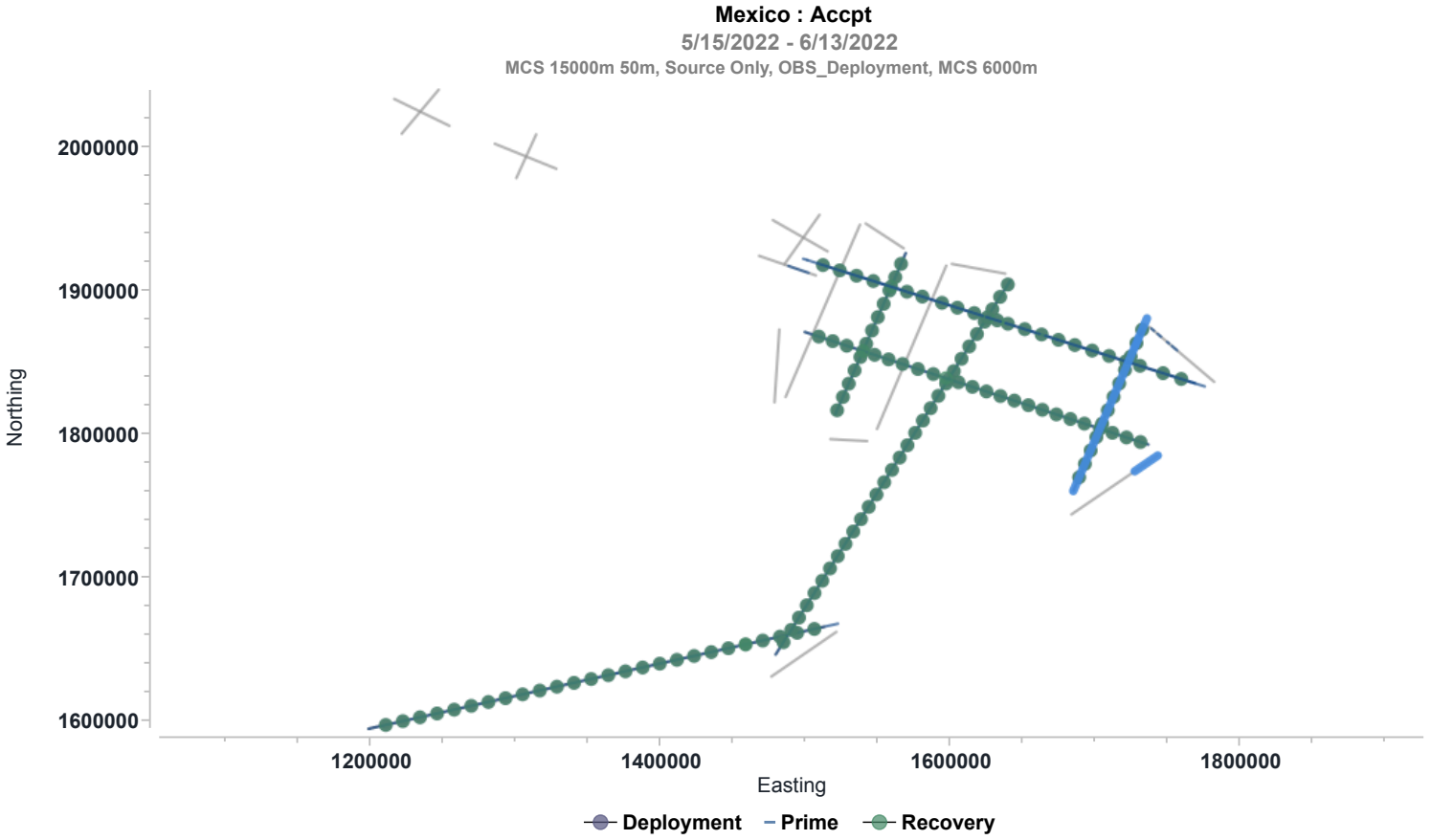
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
25	MCS03	202.9	3289	3178	Prime	44.80	31.879	Complete	Complete
NTBP: 3177 - 3113 (not chgd)									
26	MCS03	22.9	996	3605	Prime	1044.00	36.910	Complete	Complete
27	MT06	235.4	1001	1773	Prime	309.20	33.237	Midnight	Part
Total						**1398.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1398.00	1398.00	4504.00	5775.20
Combined	**1398.00**	**1398.00**	**4504.00**	**5775.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 13 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Mon 13 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

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Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth

Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 13. Jun 17:20	Mon 13. Jun 18:20
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather and contingency plans for the storm.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 14 Jun

We completed the turn line and started Line MGL2204028M05 (MCS05) at 06:03. We ended the line at 21:08 UTC in order to circle back and re-shoot some deficiencies in the coverage due to turtle sightings. We used this time to recover gunstring #4 and repair an airleak on gun 4-8. We were heading back to the beginning of the reshoot line at the end of the day.

The weather has been choppy throughout the day. We have managed to stay in production and have travelled at a reduced speed to avoid the getting too close to the storm and to pamper the towed gear in the choppy seas. It looks like we have timed our position well and will avoid most of the rougher weather that is in front of us. We should finish this line around 10PM local.

We have dropped the #3 NFH on gunstring #1. There is one DI out on this gunstring, as well. The aft GPS pod on gunstring #2 is not working.

Gun 4-8 has been repaired and we now have full gun volume. The streamer is towing well.

We had two turtle sightings today.

Daily Comment Summaries - Plan for Tomorrow

Tue 14 Jun

We will be shooting MCS05.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Tue 14. Jun 00:00	Tue 14. Jun 04:28	4.467
Seq: 27 SOL Seq 27 Line:MT06 Block:Mexico FGSP:1774 FCSP:1774 Hdg:235.4° Prime EOL Seq 27 Line:MT06 Block:Mexico LGSP:3890 LCSP:3890 Complete				
Prime Line Change	AC_PLC	Tue 14. Jun 04:28	Tue 14. Jun 06:03	1.583
Seq: 27 Line: MT06 Nominal Prime line change.				
Production Prime	AC_PP	Tue 14. Jun 06:03	Tue 14. Jun 19:03	13.000
Seq: 28 SOL Seq 28 Line:MCS05 Block:Mexico FGSP:830 FCSP:830 Hdg:288.3° Prime EOL Seq 28 Line:MCS05 Block:Mexico LGSP:3001 LCSP:3001 Incomplete				
Cetacean	DT_CT	Tue 14. Jun 19:03	Tue 14. Jun 19:42	0.650
NTBP Seq 28 MCS05 Block:Mexico FSP:3002 LSP:3093 Turtle Sighting				
Production Prime	AC_PP	Tue 14. Jun 19:42	Tue 14. Jun 20:54	1.200
Seq: 28 SOL Seq 28 Line:MCS05 Block:Mexico FGSP:3094 FCSP:3094 Hdg:288.3° Prime EOL Seq 28 Line:MCS05 Block:Mexico LGSP:3094 LCSP:3094 Complete				
Cetacean	DT_CT	Tue 14. Jun 20:54	Tue 14. Jun 24:00	3.100

Category	Code	Start	End	Duration
Circle back to re-shoot two holes in the coverage dt turtle sightings.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

14-Jun	Hours	% Percent
Acquisition	**20.250**	**84.375**
Prime Line Change	1.583	6.597
Production Prime	18.667	77.778
DownTime	**3.750**	**15.625**
Cetacean	3.750	15.625
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**25.683**	**3.452**
Cetacean	11.583	1.557
High Pressure	0.100	0.013
Recording	12.617	1.696
Source	0.900	0.121
Streamers	0.483	0.065
Chargeable Standby	**98.833**	**13.284**
Cetacean	9.883	1.328
Field Operations	16.633	2.236
Planned Operations	26.800	3.602
Source Deployment	14.150	1.902
Source Recovery	12.650	1.700
Port Call	9.183	1.234
Transit	36.333	4.884
Acquisition	**603.050**	**81.055**
Prime Extended L/C	18.550	2.493
Prime Line Change	11.967	1.608
Production Prime	234.450	31.512
Swath Move	338.083	45.441
Deploy	100.750	13.542
Recover	237.333	31.900
Mobilisation	**16.433**	**2.209**
Deployment	16.433	2.209
Total	744.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

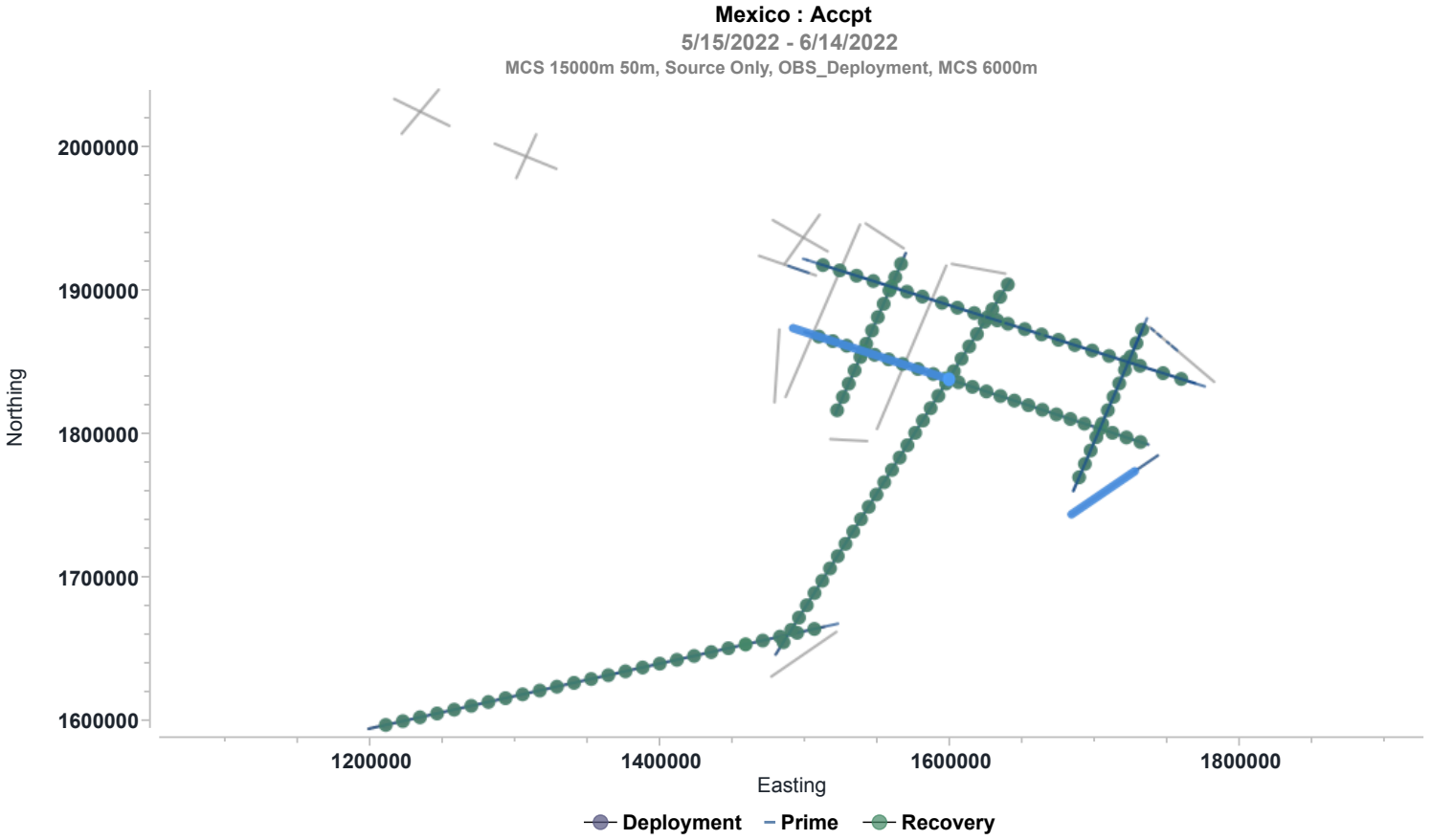
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
27	MT06	235.4	1774	3890	Prime	846.80	65.797	Complete	Complete
28	MCS05	288.3	830	3094	Prime	869.20	33.021	Complete	Complete
NTBP: 3002 - 3093 (not chgd)									
Total						**1716.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1716.00	3114.00	6220.00	7491.20
Combined	**1716.00**	**3114.00**	**6220.00**	**7491.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 14 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Tue 14 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 14. Jun 17:30	Tue 14. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather and contingency plans for the storm.			
Weekly Telecon	Mtgs_WTel	Tue 14. Jun 18:00	Tue 14. Jun 19:00
HSE - Weekly Tech Zoom Call.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 15 Jun

We continued shooting MCS05. We circled to pick-up gun-strings 3,4 to make repairs on gun 4-4. This gun started to sporadically auto-fire. It turned out to be a broken shuttle and has been rebuilt.

The weather has been rough all day due to Hurricane Blas, but we continue to make safe and steady progress.

The #3 NFH on gunstring #1 failed on the GL display, but this is actually working, it now appears to be a problem with the board. The aft GPS pod on gunstring #2 is not working. The GPS pod on gunstring #2 is still dead. Tail-buoy is working well.

The NFH signal is now being recorded to the SEAL SegD record.

We had two turtle sightings today.

We changed the grease fittings in the Smithberger turning blocks and pedestals. We fabricated new depth ropes for 10m, 9.5m, 9.1m. Cleaned up the machine shop and stowed spare parts in proper location. Adjusted the counterbalance valves on the A-frame.

Updated and closed out THC cards. Very good reporting.

Daily Comment Summaries - Plan for Tomorrow

Wed 15 Jun

We finish shooting MCS05 and start the next turn line towards MCS01

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Cetacean	DT_CT	Wed 15. Jun 00:00	Wed 15. Jun 01:17	1.283
Circle back to re-shoot two holes in the coverage dt turtle sightings.				
Production Prime	AC_PP	Wed 15. Jun 01:17	Wed 15. Jun 05:12	3.917
Seq: 29 SOL Seq 29 Line:MT05 Block:Mexico FGSP:1001 FCSP:1001 Hdg:107.4° Prime EOL Seq 29 Line:MT05 Block:Mexico LGSP:1718 LCSP:1718 Complete				
Prime Line Change	AC_PLC	Wed 15. Jun 05:12	Wed 15. Jun 07:17	2.083
Seq: 29 Line: MT05 Nominal Prime line change.				
Production Prime	AC_PP	Wed 15. Jun 07:17	Wed 15. Jun 15:03	7.767
Seq: 31 SOL Seq 31 Line:MCS05 Block:Mexico FGSP:3662 FCSP:3662 Hdg:108.3° Prime EOL Seq 31 Line:MCS05 Block:Mexico LGSP:3088 LCSP:3088 Complete				
Source	DT_SC	Wed 15. Jun 15:03	Wed 15. Jun 15:20	0.283
NTBP Seq 31 MCS05 Block:Mexico FSP:3087 LSP:3056 Troubleshooting autofire on Gun 4-4				
Source	DT_SC	Wed 15. Jun 15:20	Wed 15. Jun 20:41	5.350

Category	Code	Start	End	Duration
Downtime due to source. Circle back to reshoot for gun 4-4 autofire.				
Production Prime	AC_PP	Wed 15. Jun 20:41	Wed 15. Jun 24:00	3.317
Seq: 32 SOL Seq 32 Line:MCS05 Block:Mexico FGSP:3419 FCSP:3419 Hdg:108.3° Prime MSP Seq 32 Line:MCS05 Block:Mexico LGSP:3118 LCSP:3118 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

15-Jun	Hours	% Percent
Acquisition	**17.083**	**71.181**
Prime Line Change	2.083	8.681
Production Prime	15.000	62.500
DownTime	**6.917**	**28.819**
Cetacean	1.283	5.347
Source	5.633	23.472
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**32.600**	**4.245**
Cetacean	12.867	1.675
High Pressure	0.100	0.013
Recording	12.617	1.643
Source	6.533	0.851
Streamers	0.483	0.063
Chargeable Standby	**98.833**	**12.869**
Cetacean	9.883	1.287
Field Operations	16.633	2.166
Planned Operations	26.800	3.490
Source Deployment	14.150	1.842
Source Recovery	12.650	1.647
Port Call	9.183	1.196
Transit	36.333	4.731
Acquisition	**620.133**	**80.747**
Prime Extended L/C	18.550	2.415
Prime Line Change	14.050	1.829
Production Prime	249.450	32.480
Swath Move	338.083	44.021
Deploy	100.750	13.118
Recover	237.333	30.903
Mobilisation	**16.433**	**2.140**
Deployment	16.433	2.140
Total	768.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 m
Source Details					

Source Only					
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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

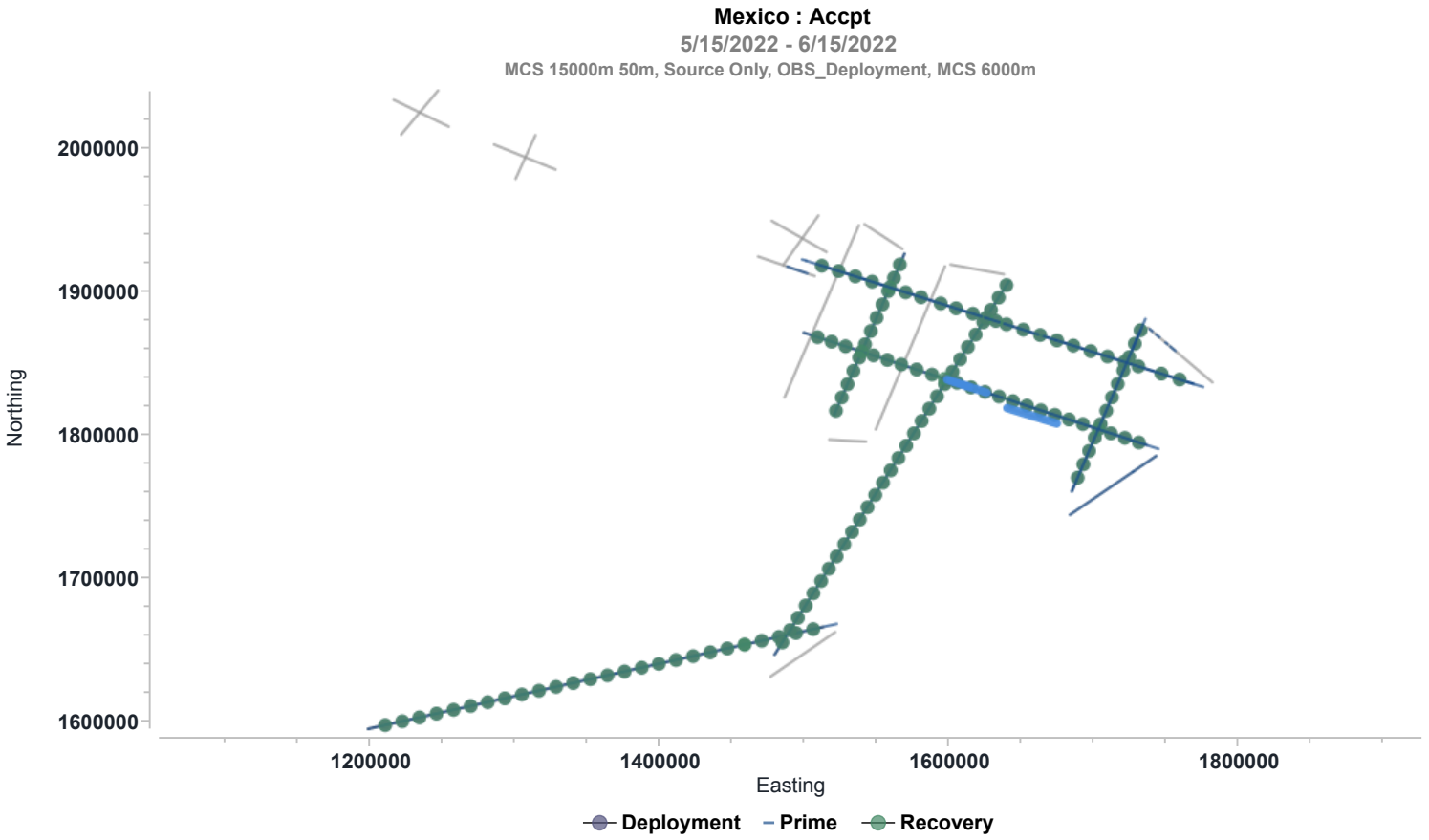
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
30	NTBP	0.0	N/A	N/A	Prime	0.00	N/A	NTBP	NTBP
29	MT05	107.4	1001	1718	Prime	287.20	39.539	Complete	Complete
31	MCS05	108.3	3662	3088	Prime	230.00	15.962	Complete	Complete
NTBP: 3087 - 3056 (not chgd)									
32	MCS05	108.3	3419	3118	Prime	120.80	19.601	Midnight	Part
Total						**638.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	638.00	3832.00	6938.00	8209.20
Combined	**638.00**	**3832.00**	**6938.00**	**8209.20**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 15 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Wed 15 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic

Cody Bahlau L-DEO OMO Marine Science Technician - Nav
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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Wed 15. Jun 17:25	Wed 15. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather and contingency plans for the storm.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	3
6/15/2022		
Toolbox meeting to discuss gun array recovery in rough seas Toolbox meeting to discuss the circle in rough seas with the Bridge crew Toolbox meeting to discuss gun array re-deployment		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 16 Jun

We completed shooting MCS05 and the turn line (MT06). We then started Line MCS01. We will finish this line around 11AM local time. There is a shallow water (+100 m) turn line at the end of Line MCS01.

The weather was quite choppy for much of the day but the seas are finally laying down. The rough weather caused three birds to come loose from their collars. Birds 10,12,21 all show a heading error after the storm. The streamer is riding well and there are no control issues. Full gun volume.

The source acoustics have dropped out for much of the day. The GPS pods on gunstring #2 are both down. The other six are still working.

The PAM cable got tangled with gunstring #4 briefly because of being side seas on Line MT06. It freed itself when we turned. There was no damage.

We had two turtle sightings today.

Josh fabricated parts on the lathe for the port compressor.

Daily Comment Summaries - Plan for Tomorrow

Thu 16 Jun

We finish shooting Line MCS01 and the shallow water turn line afterwards.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 16. Jun 00:00	Thu 16. Jun 11:56	11.933
Seq: 32 SOL Seq 32 Line:MCS05 Block:Mexico FGSP:3117 FCSP:3117 Hdg:108.3° Prime EOL Seq 32 Line:MCS05 Block:Mexico LGSP:925 LCSP:925 Complete				
Prime Line Change	AC_PLC	Thu 16. Jun 11:56	Thu 16. Jun 13:26	1.500
Seq: 32 Line: MCS05 Nominal Prime line change.				
Production Prime	AC_PP	Thu 16. Jun 13:26	Thu 16. Jun 14:41	1.250
Seq: 33 SOL Seq 33 Line:MT06 Block:Mexico FGSP:1185 FCSP:1185 Hdg:196.2° Prime EOL Seq 33 Line:MT06 Block:Mexico LGSP:1366 LCSP:1366 Incomplete				
Cetacean	DT_CT	Thu 16. Jun 14:41	Thu 16. Jun 15:17	0.600
NTBP Seq 33 MT06 Block:Mexico FSP:1367 LSP:1456 Turtle sighting				
Production Prime	AC_PP	Thu 16. Jun 15:17	Thu 16. Jun 18:07	2.833
Seq: 33 SOL Seq 33 Line:MT06 Block:Mexico FGSP:1457 FCSP:1457 Hdg:196.2° Prime EOL Seq 33 Line:MT06 Block:Mexico LGSP:1907 LCSP:1907 Incomplete				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Cetacean	DT_CT	Thu 16. Jun 18:07	Thu 16. Jun 18:44	0.617
NTBP Seq 33 MT06 Block:Mexico FSP:1908 LSP:1999 Turtle sighting				
Production Prime	AC_PP	Thu 16. Jun 18:44	Thu 16. Jun 20:17	1.550
Seq: 33 SOL Seq 33 Line:MT06 Block:Mexico FGSP:2000 FCSP:2000 Hdg:196.2° Prime EOL Seq 33 Line:MT06 Block:Mexico LGSP:2250 LCSP:2250 Complete				
Prime Line Change	AC_PLC	Thu 16. Jun 20:17	Thu 16. Jun 21:33	1.267
Seq: 33 Line: MT06 Nominal Prime line change.				
Production Prime	AC_PP	Thu 16. Jun 21:33	Thu 16. Jun 24:00	2.450
Seq: 34 SOL Seq 34 Line:MCS01 Block:Mexico FGSP:700 FCSP:700 Hdg:23.2° Prime MSP Seq 34 Line:MCS01 Block:Mexico LGSP:1040 LCSP:1040 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

16-Jun	Hours	% Percent
Acquisition	**22.783**	**94.931**
Prime Line Change	2.767	11.528
Production Prime	20.017	83.403
DownTime	**1.217**	**5.069**
Cetacean	1.217	5.069
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**33.817**	**4.270**
Cetacean	14.083	1.778
High Pressure	0.100	0.013
Recording	12.617	1.593
Source	6.533	0.825
Streamers	0.483	0.061
Chargeable Standby	**98.833**	**12.479**
Cetacean	9.883	1.248
Field Operations	16.633	2.100
Planned Operations	26.800	3.384
Source Deployment	14.150	1.787
Source Recovery	12.650	1.597
Port Call	9.183	1.160
Transit	36.333	4.588
Acquisition	**642.917**	**81.176**
Prime Extended L/C	18.550	2.342
Prime Line Change	16.817	2.123
Production Prime	269.467	34.024
Swath Move	338.083	42.687
Deploy	100.750	12.721
Recover	237.333	29.966
Mobilisation	**16.433**	**2.075**

Category	Hours	% Percent
Deployment	16.433	2.075
Total	792.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Daily Science Report

Lamont-Doherty Earth Observatory
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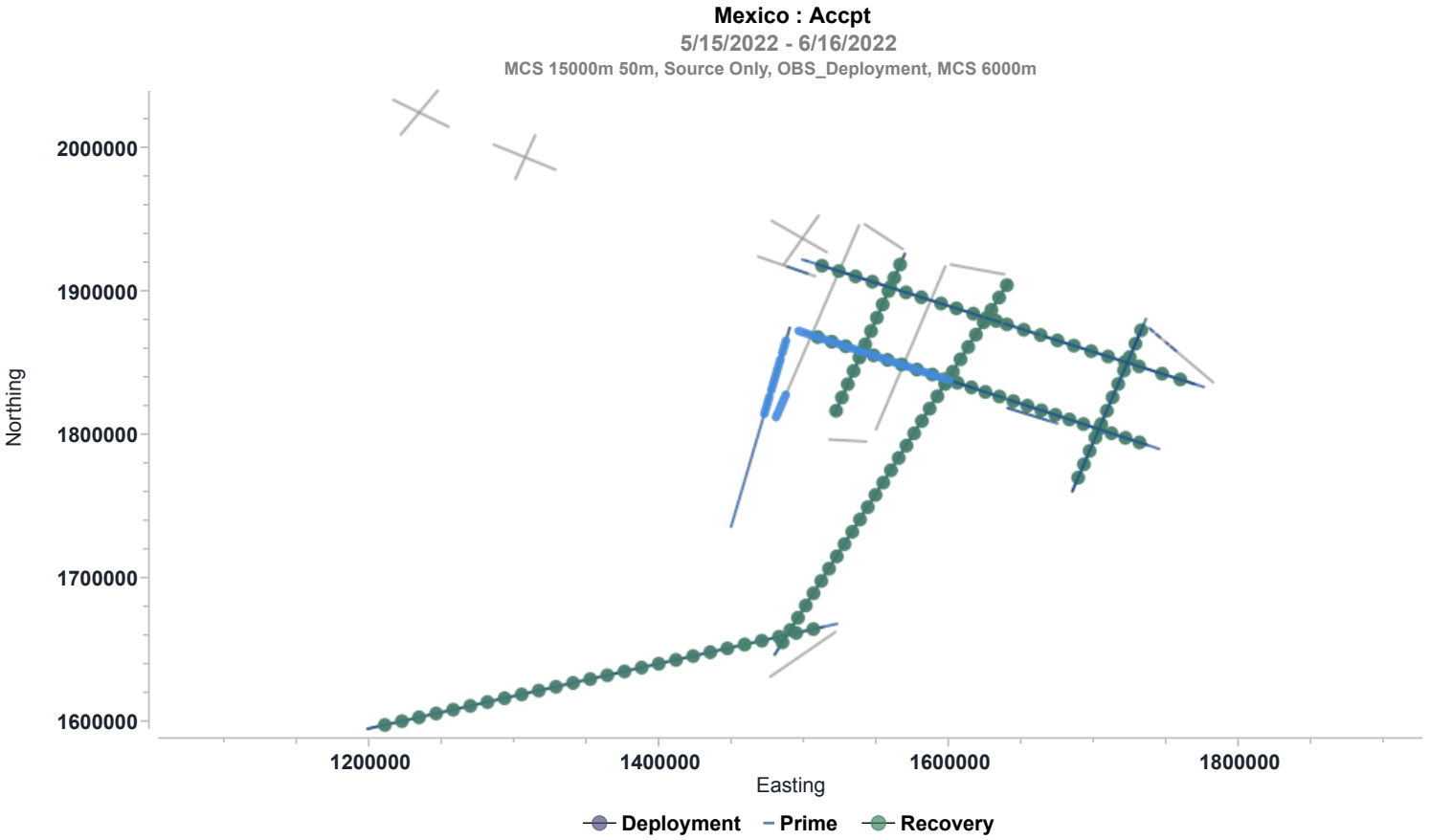
Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
32	MCS05	108.3	3117	925	Prime	877.20	34.429	Complete	Complete
33	MT06	196.2	1185	2250	Prime	353.60	33.778	Complete	Complete
NTBP: 1367 - 1456 (not chgd), NTBP: 1908 - 1999 (not chgd)									
34	MCS01	23.2	700	1040	Prime	136.40	29.973	Midnight	Part
Total						**1367.20**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1367.20	5130.80	8236.80	9508.00
Combined	**1367.20**	**5130.80**	**8236.80**	**9508.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 16 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Thu 16 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Thu 16. Jun 17:30	Thu 16. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	7

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 17 Jun

We completed Line MCS01 at 15:43UTC. We recovered gun strings 3,4 in order to pull the lead-in and head-float in so that we could shorten the depth rope at the head of the streamer, We removed the 2.8m extension that was added during QCF to keep the lead-in out of the source array. With the extra lead-in weights added and the gunstring moved back 10 meters during the last deployment, we are able to shorten this depth rope. We'll watch this closely over the next few line changes. We plan to deploy the workboat and take some more video's of the towed equipment under the water to confirm this.

The streamer is towing very well. The front end looks good.

We missed the first portion of the turn line MT07 due to the gear being adjusted. We began the line with two gun strings while re-deploying gunstring 3,4.

There were several turtle sightings on the turn line MT07, but had zero sightings for the rest of the day.

GPS pods on gunstring 2 are not working and the pod on the tail of gunstring 3 also dropped out. The other five are working well.

The acoustics have been working again. We re-deployed the Maggie now that the weather has improved.

Wired two Octo-blocks for GI guns and started troubleshooting the wiring for this. Serviced and lubricated the lathe.

Daily Comment Summaries - Plan for Tomorrow

Fri 17 Jun

We finish shooting Line MCS06 and the next turn line. Possible workboat run for a lead-in inspection and videos.

Timing Diary (Marcus G Langseth, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 17. Jun 00:00	Fri 17. Jun 15:43	15.717
Seq: 34 SOL Seq 34 Line:MCS01 Block:Mexico FGSP:1041 FCSP:1041 Hdg:23.2° Prime EOL Seq 34 Line:MCS01 Block:Mexico LGSP:3576 LCSP:3576 Complete				
Prime Line Change	AC_PLC	Fri 17. Jun 15:43	Fri 17. Jun 16:43	1.000
Seq: 34 Line: MT07 Nominal Prime line change.				
Streamers	DT_ST	Fri 17. Jun 16:43	Fri 17. Jun 18:43	2.000
Recover gunstrings 3,4 and head-float to shorten the depth rope				
Production Prime	AC_PP	Fri 17. Jun 18:43	Fri 17. Jun 19:02	0.317
Seq: 35 SOL Seq 35 Line:MT07 Block:Mexico FGSP:1373 FCSP:1373 Hdg:135.9° Prime EOL Seq 35 Line:MT07 Block:Mexico LGSP:1405 LCSP:1405 Incomplete				

Daily Science Report

Lamont-Doherty Earth Observatory
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Category	Code	Start	End	Duration
Cetacean	DT_CT	Fri 17. Jun 19:02	Fri 17. Jun 20:50	1.800
NTBP Seq 35 MT07 Block:Mexico FSP:1406 LSP:1624				
Production Prime	AC_PP	Fri 17. Jun 20:50	Fri 17. Jun 21:08	0.300
Seq: 35 SOL Seq 35 Line:MT07 Block:Mexico FGSP:1625 FCSP:1625 Hdg:135.9° Prime EOL Seq 35 Line:MT07 Block:Mexico LGSP:1662 LCSP:1662 Incomplete				
Cetacean	DT_CT	Fri 17. Jun 21:08	Fri 17. Jun 21:27	0.317
NTBP Seq 35 MT07 Block:Mexico FSP:1663 LSP:1703				
Production Prime	AC_PP	Fri 17. Jun 21:27	Fri 17. Jun 21:49	0.367
Seq: 35 SOL Seq 35 Line:MT07 Block:Mexico FGSP:1704 FCSP:1704 Hdg:135.9° Prime EOL Seq 35 Line:MT07 Block:Mexico LGSP:1748 LCSP:1748 Complete				
Prime Line Change	AC_PLC	Fri 17. Jun 21:49	Fri 17. Jun 21:59	0.167
Seq: 35 Line: MT07 Nominal Prime line change.				
Production Prime	AC_PP	Fri 17. Jun 21:59	Fri 17. Jun 24:00	2.017
Seq: 36 SOL Seq 36 Line:MCS06 Block:Mexico FGSP:3432 FCSP:3432 Hdg:203.4° Prime MSP Seq 36 Line:MCS06 Block:Mexico LGSP:3120 LCSP:3120 Midnight				

Timing Day By Day (Marcus G Langseth, Source Only)

17-Jun	Hours	% Percent
Acquisition	**19.883**	**82.847**
Prime Line Change	1.167	4.861
Production Prime	18.717	77.986
DownTime	**4.117**	**17.153**
Cetacean	2.117	8.819
Streamers	2.000	8.333
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**37.933**	**4.649**
Cetacean	16.200	1.985
High Pressure	0.100	0.012
Recording	12.617	1.546
Source	6.533	0.801
Streamers	2.483	0.304
Chargeable Standby	**98.833**	**12.112**
Cetacean	9.883	1.211
Field Operations	16.633	2.038
Planned Operations	26.800	3.284
Source Deployment	14.150	1.734
Source Recovery	12.650	1.550
Port Call	9.183	1.125
Transit	36.333	4.453
Acquisition	**662.800**	**81.225**
Prime Extended L/C	18.550	2.273
Prime Line Change	17.983	2.204

Category	Hours	% Percent
Production Prime	288.183	35.317
Swath Move	338.083	41.432
Deploy	100.750	12.347
Recover	237.333	29.085
Mobilisation	**16.433**	**2.014**
Deployment	16.433	2.014
Total	816.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		

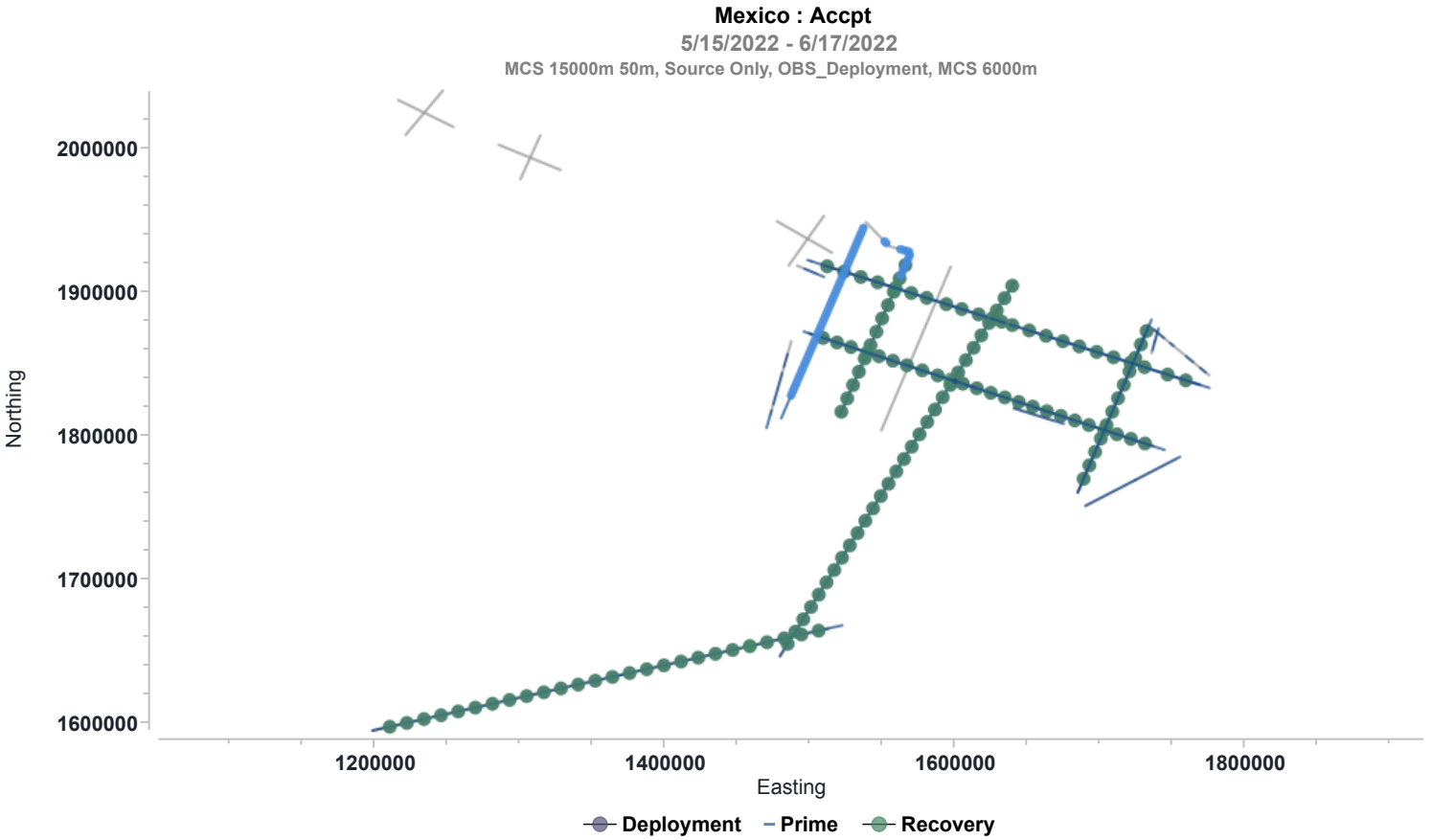
MCS 6000m					
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
34	MCS01	23.2	1041	3576	Prime	1014.40	34.193	Complete	Complete
35	MT07	135.9	1373	1748	Prime	46.40	24.820	Complete	Complete
NTBP: 1406 - 1624 (not chgd), NTBP: 1663 - 1703 (not chgd)									
36	MCS06	203.4	3432	3120	Prime	125.20	33.415	Midnight	Part
Total						**1186.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1186.00	5774.40	8880.40	10151.60
Combined	**1186.00**	**5774.40**	**8880.40**	**10151.60**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 17 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:

Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Fri 17 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Fri 17. Jun 17:30	Fri 17. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	3
6/17/2022		
Toolbox to discuss gunstring retrieval Toolbox to discuss head-float and lead-in retrieval Toolbox to discuss shiftchange and equipment deployment		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 18 Jun

We completed Line MCS06 at 14:05 UTC and recovered gun strings 1,2 for maintenance and repairs during the turn line. We acquired part of the turn line (MT08) with 3300in3 of source volume. We finished the line with full gun volume.

We were shooting line MCS07 at the end of the day. The weather has been terrific and the streamer has been towing well.

There are 6 working GPS pods and the tailbuoy is working well, too.

We replaced the plug in the depth transducer to make an extra spare and installed this on array 1 DT2. It is working well. Rewired the Octoblock for GI guns. Installed the .322 turning block on the forward pedestal. Used the meggar on the jumper removed from array 2 to confirm that it is a good spare.

At the end of Line MC07 we will shoot a turn line directly to Line 4. We will reshoot the turtle hole deficiencies on Line 4 and delay our travel to the south ~18hrs to avoid the rough weather associated with tropical storm Celia.

There was one turtle sighting.

Daily Comment Summaries - Plan for Tomorrow

Sat 18 Jun

We finish shooting Line MCS07 and the next turn line to MCS04 to reshoot turtle holes. We will start MCS02 after that.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sat 18. Jun 00:00	Sat 18. Jun 14:04	14.067
Seq: 36 SOL Seq 36 Line:MCS06 Block:Mexico FGSP:3119 FCSP:3119 Hdg:203.4° Prime EOL Seq 36 Line:MCS06 Block:Mexico LGSP:3557 LCSP:3557 Complete				
Prime Line Change	AC_PLC	Sat 18. Jun 14:04	Sat 18. Jun 15:18	1.233
Seq: 36 Line: MCS06 Nominal Prime line change.				
Production Prime	AC_PP	Sat 18. Jun 15:18	Sat 18. Jun 15:50	0.533
Seq: 37 SOL Seq 37 Line:1008 Block:Mexico FGSP:1001 FCSP:1001 Hdg:124.6° Prime EOL Seq 37 Line:1008 Block:Mexico LGSP:1077 LCSP:1077 Incomplete				
Cetacean	DT_CT	Sat 18. Jun 15:50	Sat 18. Jun 16:17	0.450
NTBP Seq 37 1008 Block:Mexico FSP:1078 LSP:1141 Turtle sighting				
Production Prime	AC_PP	Sat 18. Jun 16:17	Sat 18. Jun 18:22	2.083
Seq: 37 SOL Seq 37 Line:1008 Block:Mexico FGSP:1142 Hdg:124.6° Prime EOL Seq 37 Line:1008 Block:Mexico LGSP:1436 Complete				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Sat 18. Jun 18:22	Sat 18. Jun 19:07	0.750
Seq: 37 Line: 1008 Nominal Prime line change.				
Production Prime	AC_PP	Sat 18. Jun 19:07	Sat 18. Jun 24:00	4.883
Seq: 38 SOL Seq 38 Line:MCS07 Block:Mexico FGSP:738 FCSP:738 Hdg:22.8° Prime MSP Seq 38 Line:MCS07 Block:Mexico LGSP:1456 LCSP:1456 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

18-Jun	Hours	% Percent
Acquisition	**23.550**	**98.125**
Prime Line Change	1.983	8.264
Production Prime	21.567	89.861
DownTime	**0.450**	**1.875**
Cetacean	0.450	1.875
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**38.383**	**4.569**
Cetacean	16.650	1.982
High Pressure	0.100	0.012
Recording	12.617	1.502
Source	6.533	0.778
Streamers	2.483	0.296
Chargeable Standby	**98.833**	**11.766**
Cetacean	9.883	1.177
Field Operations	16.633	1.980
Planned Operations	26.800	3.190
Source Deployment	14.150	1.685
Source Recovery	12.650	1.506
Port Call	9.183	1.093
Transit	36.333	4.325
Acquisition	**686.350**	**81.708**
Prime Extended L/C	18.550	2.208
Prime Line Change	19.967	2.377
Production Prime	309.750	36.875
Swath Move	338.083	40.248
Deploy	100.750	11.994
Recover	237.333	28.254
Mobilisation	**16.433**	**1.956**
Deployment	16.433	1.956
Total	840.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 m

Source Only					
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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

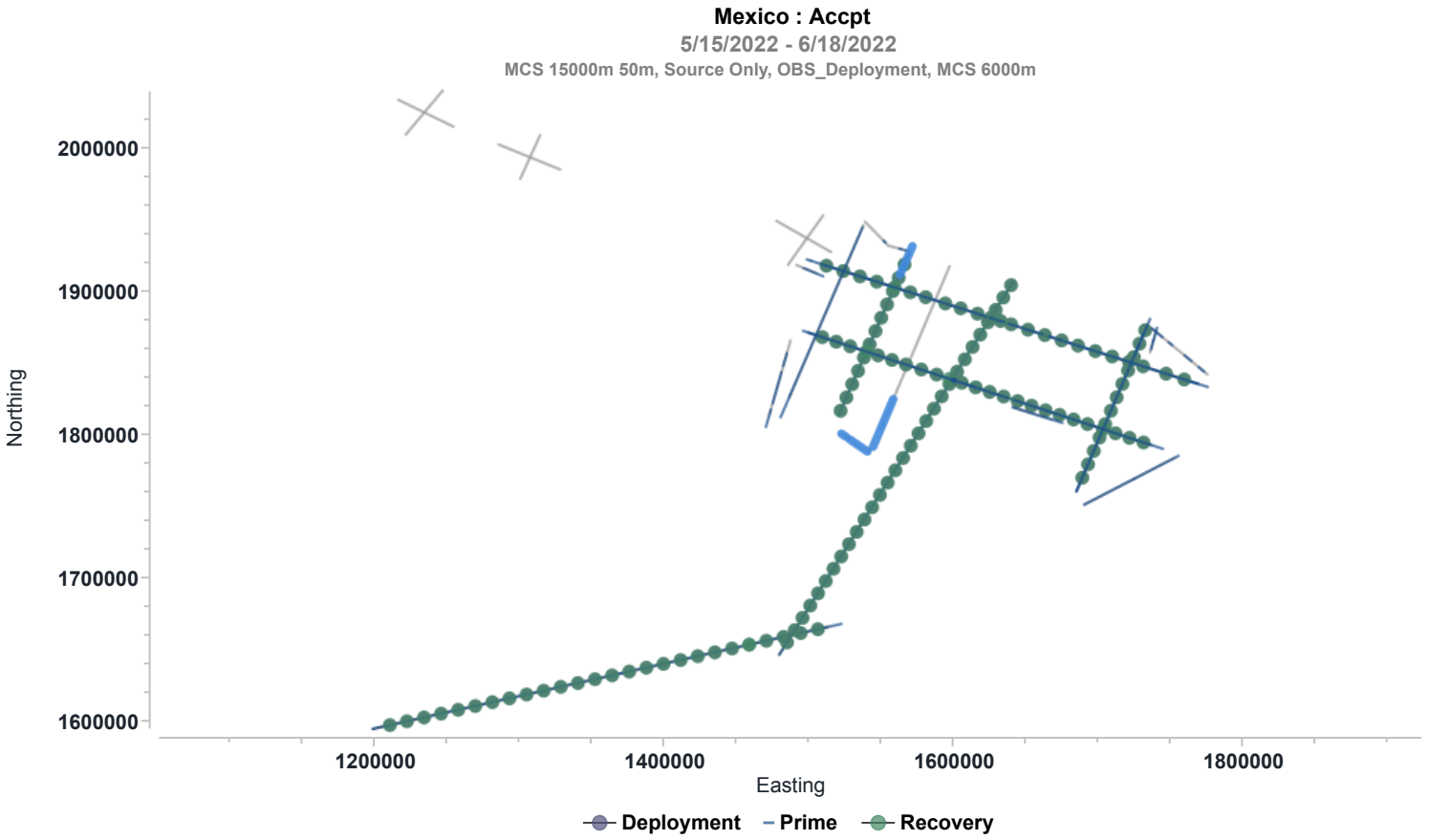
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
36	MCS06	203.4	3121	3557	Prime	174.80	1.679	Complete	Complete
37	1008	124.6	1001	1436	Prime	148.80	30.540	Complete	Complete
NTBP: 1078 - 1141 (not chgd)									
38	MCS07	22.8	738	1456	Prime	287.60	31.756	Midnight	Part
Total						**611.20**			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	611.20	6385.60	9491.60	10762.80
Combined	**611.20**	**6385.60**	**9491.60**	**10762.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 18 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Sat 18 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav

Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 18. Jun 17:35	Sat 18. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 19 Jun

Line MCS07 was completed at 11:32 UTC. We then acquired a turn line that connected to MCS04 in order to acquire some turtle coverage that we missed on a previous pass. This was also done to put us in a better position to avoid the next significant weather event, Tropical Storm Celia. She will turn into a hurricane later in the week.

We acquired the targeted holes on MCS04 and completed the next turn line to begin MCS02. The weather has been cooperating.

We ran the Dynacon control wires to the main lab and will run the CTD interface later today.

Alan re-terminated the Seapath secondary antenna on the PSO tower. Its working well again.

We reviewed the recovery plan for the 15K streamer at the end of the week and are making preparations for the IODP site survey program. We plan to use four of the RD sections along with the sections on streamer reel #3 for this.

Designed and installed new placards for the gun reels. Tightened the bearing on the forward Smithberger turning blocks and secured it facing outward, ready for the CTD wire. Inspected and prepped.

Daily Comment Summaries - Plan for Tomorrow

Sun 19 Jun

We finish shooting Line MCS02 all day. Move four sections from streamer reel #4 to the spares reel.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Sun 19. Jun 00:00	Sun 19. Jun 11:32	11.533
Seq: 38 SOL Seq 38 Line:MCS07 Block:Mexico FGSP:1457 FCSP:1457 Hdg:22.8° Prime EOL Seq 38 Line:MCS07 Block:Mexico LGSP:3432 LCSP:3432 Complete				
Prime Line Change	AC_PLC	Sun 19. Jun 11:32	Sun 19. Jun 13:39	2.117
Seq: 38 Line: MCS07 Nominal Prime line change.				
Production Prime	AC_PP	Sun 19. Jun 13:39	Sun 19. Jun 14:32	0.883
Seq: 39 SOL Seq 39 Line:MT09 Block:Mexico FGSP:1181 FCSP:1181 Hdg:184.2° Prime EOL Seq 39 Line:MT09 Block:Mexico LGSP:1312 LCSP:1312 Incomplete				
Cetacean	DT_CT	Sun 19. Jun 14:32	Sun 19. Jun 15:08	0.600
NTBP Seq 39 MT09 Block:Mexico FSP:1313 LSP:1410 Turtle Sightings				
Production Prime	AC_PP	Sun 19. Jun 15:08	Sun 19. Jun 15:31	0.383
Seq: 39				

Category	Code	Start	End	Duration
SOL Seq 39 Line:MT09 Block:Mexico FGSP:1411 FCSP:1411 Hdg:184.2° Prime EOL Seq 39 Line:MT09 Block:Mexico LGSP:1473 LCSP:1473 Complete				
Prime Line Change	AC_PLC	Sun 19. Jun 15:31	Sun 19. Jun 16:43	1.200
Seq: 39 Line: MT09 Nominal Prime line change.				
Production Prime	AC_PP	Sun 19. Jun 16:43	Sun 19. Jun 17:12	0.483
Seq: 40 SOL Seq 40 Line:MCS04 Block:Mexico FGSP:3141 FCSP:3141 Hdg:107.8° Prime EOL Seq 40 Line:MCS04 Block:Mexico LGSP:3227 LCSP:3227 Incomplete				
Cetacean	DT_CT	Sun 19. Jun 17:12	Sun 19. Jun 17:49	0.617
NTBP Seq 40 MCS04 Block:Mexico FSP:3228 LSP:3322 Turtle Sightings				
Production Prime	AC_PP	Sun 19. Jun 17:49	Sun 19. Jun 20:05	2.267
Seq: 40 SOL Seq 40 Line:MCS04 Block:Mexico FGSP:3323 FCSP:3323 Hdg:107.8° Prime EOL Seq 40 Line:MCS04 Block:Mexico LGSP:3747 LCSP:3747 Incomplete				
Cetacean	DT_CT	Sun 19. Jun 20:05	Sun 19. Jun 20:41	0.600
NTBP Seq 40 MCS04 Block:Mexico FSP:3748 LSP:3841 Turtle Sightings				
Production Prime	AC_PP	Sun 19. Jun 20:41	Sun 19. Jun 23:19	2.633
Seq: 40 SOL Seq 40 Line:MCS04 Block:Mexico FGSP:3842 FCSP:3842 Hdg:107.8° Prime EOL Seq 40 Line:MCS04 Block:Mexico LGSP:4316 LCSP:4316 Complete				
Prime Line Change	AC_PLC	Sun 19. Jun 23:19	Sun 19. Jun 24:00	0.683
Seq: 40 Line: MCS04 Nominal Prime line change.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

19-Jun	Hours	% Percent
Acquisition	**22.183**	**92.431**
Prime Line Change	4.000	16.667
Production Prime	18.183	75.764
DownTime	**1.817**	**7.569**
Cetacean	1.817	7.569
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**40.200**	**4.653**
Cetacean	18.467	2.137
High Pressure	0.100	0.012
Recording	12.617	1.460
Source	6.533	0.756
Streamers	2.483	0.287
Chargeable Standby	**98.833**	**11.439**
Cetacean	9.883	1.144
Field Operations	16.633	1.925
Planned Operations	26.800	3.102
Source Deployment	14.150	1.638

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Source Recovery	12.650	1.464
Port Call	9.183	1.063
Transit	36.333	4.205
Acquisition	**708.533**	**82.006**
Prime Extended L/C	18.550	2.147
Prime Line Change	23.967	2.774
Production Prime	327.933	37.955
Swath Move	338.083	39.130
Deploy	100.750	11.661
Recover	237.333	27.469
Mobilisation	**16.433**	**1.902**
Deployment	16.433	1.902
Total	864.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	252		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

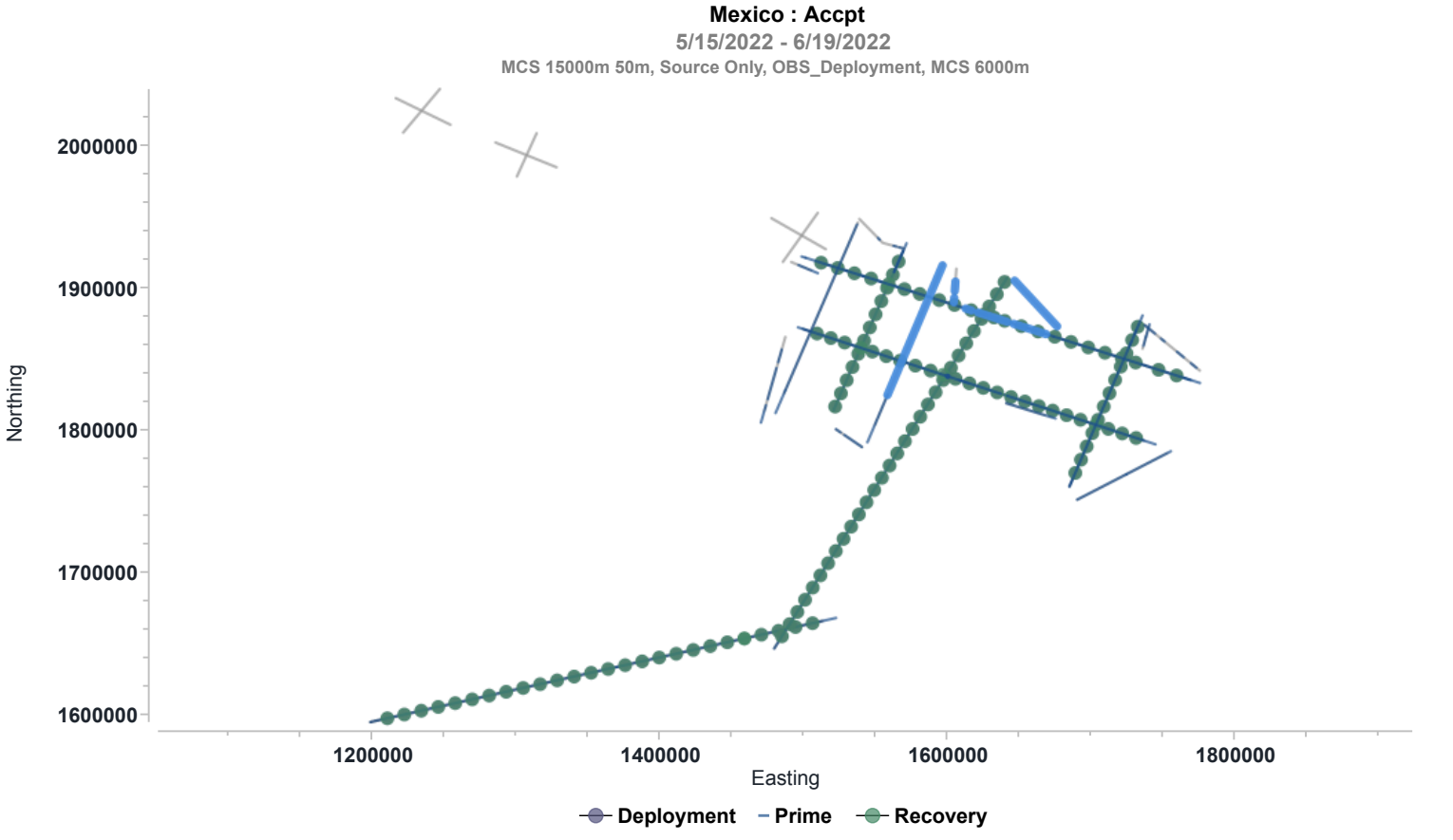
MCS 6000m					
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
38	MCS07	22.8	1457	3432	Prime	790.40	35.443	Complete	Complete
41	MT10	317.4	1013	1884	Prime	348.80	26.128	Complete	Complete
39	MT09	184.2	1181	1473	Prime	78.00	32.909	Complete	Complete
NTBP: 1313 - 1410 (not chgd)									
40	MCS04	107.8	3141	4316	Prime	394.80	39.479	Complete	Complete
NTBP: 3228 - 3322 (not chgd), NTBP: 3748 - 3841 (not chgd)									
Total						**1612.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1612.00	7997.60	11103.60	12374.80
Combined	**1612.00**	**7997.60**	**11103.60**	**12374.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 19 Jun

Navigation:

Retrminated SeaPath GPS antenna

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Sun 19 Jun

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Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sun 19. Jun 17:00	Sun 19. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 20 Jun

We completed the turn line MT10 and started Line MCS02. We acquired data on this line all day until 22:34 UTC. Gun 2-2 started to flag errors and it was decided to circle and pick this gunstring up to make repairs. The solenoid was damaged and had to be replaced.

Removed three sections from reel #4 and transferred them to the spares reel in preparations for end of job streamer recovery. We have been making preparations to deploy the RD sections on the front of the short streamer for the ODP program. Will confirm all parameters and configuration details with PI.

Staged the RD section weights. The CTD winch control wire has been run thru the transits to the Main Lab and is connected under the floor to a J-box. Checked that the remote box would connect to the central unit and work as it should. It is ok. Completed the Maggie fairlead pipe and bracket for the stern and primed it. Mounted new hooks to mount the streamer deck leads next to streamer reel #2. This will replace the old cable trays. These were also primed.

The Science Party has been performing a sound velocity experiment along MCS02 and launched extra XBT's across the trench.

We continue to monitor Celia as we approach the end of MCS02 and transition on the MCS01.

Daily Comment Summaries - Plan for Tomorrow

Mon 20 Jun

We will be shooting Line MCS02. There will be an ODP meeting to confirm parameter and configurations.

Timing Diary (Marcus G Langseth, Source Only)

Category	Code	Start	End	Duration
Prime Line Change	AC_PLC	Mon 20. Jun 00:00	Mon 20. Jun 00:19	0.317
Seq: 40 Line: MCS04 Nominal Prime line change.				
Production Prime	AC_PP	Mon 20. Jun 00:19	Mon 20. Jun 07:31	7.200
Seq: 41 SOL Seq 41 Line:MT10 Block:Mexico FGSP:1013 FCSP:1013 Hdg:317.4° Prime EOL Seq 41 Line:MT10 Block:Mexico LGSP:1884 LCSP:1884 Complete				
Prime Line Change	AC_PLC	Mon 20. Jun 07:31	Mon 20. Jun 09:04	1.550
Seq: 41 Line: MT10 Nominal Prime line change.				
Production Prime	AC_PP	Mon 20. Jun 09:04	Mon 20. Jun 22:34	13.500
Seq: 42 SOL Seq 42 Line:MCS02 Block:Mexico FGSP:1100 FCSP:1100 Hdg:31.9° Prime EOL Seq 42 Line:MCS02 Block:Mexico LGSP:3372 LCSP:3372 Complete				
Source	DT_SC	Mon 20. Jun 22:34	Mon 20. Jun 24:00	1.433
Downtime due to source. Circle to make repairs on Gun 2-2				

Timing Day By Day (Marcus G Langseth, Source Only)

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

20-Jun	Hours	% Percent
Acquisition	**22.567**	**94.028**
Prime Line Change	1.867	7.778
Production Prime	20.700	86.250
DownTime	**1.433**	**5.972**
Source	1.433	5.972
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**41.633**	**4.688**
Cetacean	18.467	2.080
High Pressure	0.100	0.011
Recording	12.617	1.421
Source	7.967	0.897
Streamers	2.483	0.280
Chargeable Standby	**98.833**	**11.130**
Cetacean	9.883	1.113
Field Operations	16.633	1.873
Planned Operations	26.800	3.018
Source Deployment	14.150	1.593
Source Recovery	12.650	1.425
Port Call	9.183	1.034
Transit	36.333	4.092
Acquisition	**731.100**	**82.331**
Prime Extended L/C	18.550	2.089
Prime Line Change	25.833	2.909
Production Prime	348.633	39.261
Swath Move	338.083	38.072
Deploy	100.750	11.346
Recover	237.333	26.727
Mobilisation	**16.433**	**1.851**
Deployment	16.433	1.851
Total	888.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	400 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	190 m	Fold Coverage:	0		

MCS 15000m 50m					
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

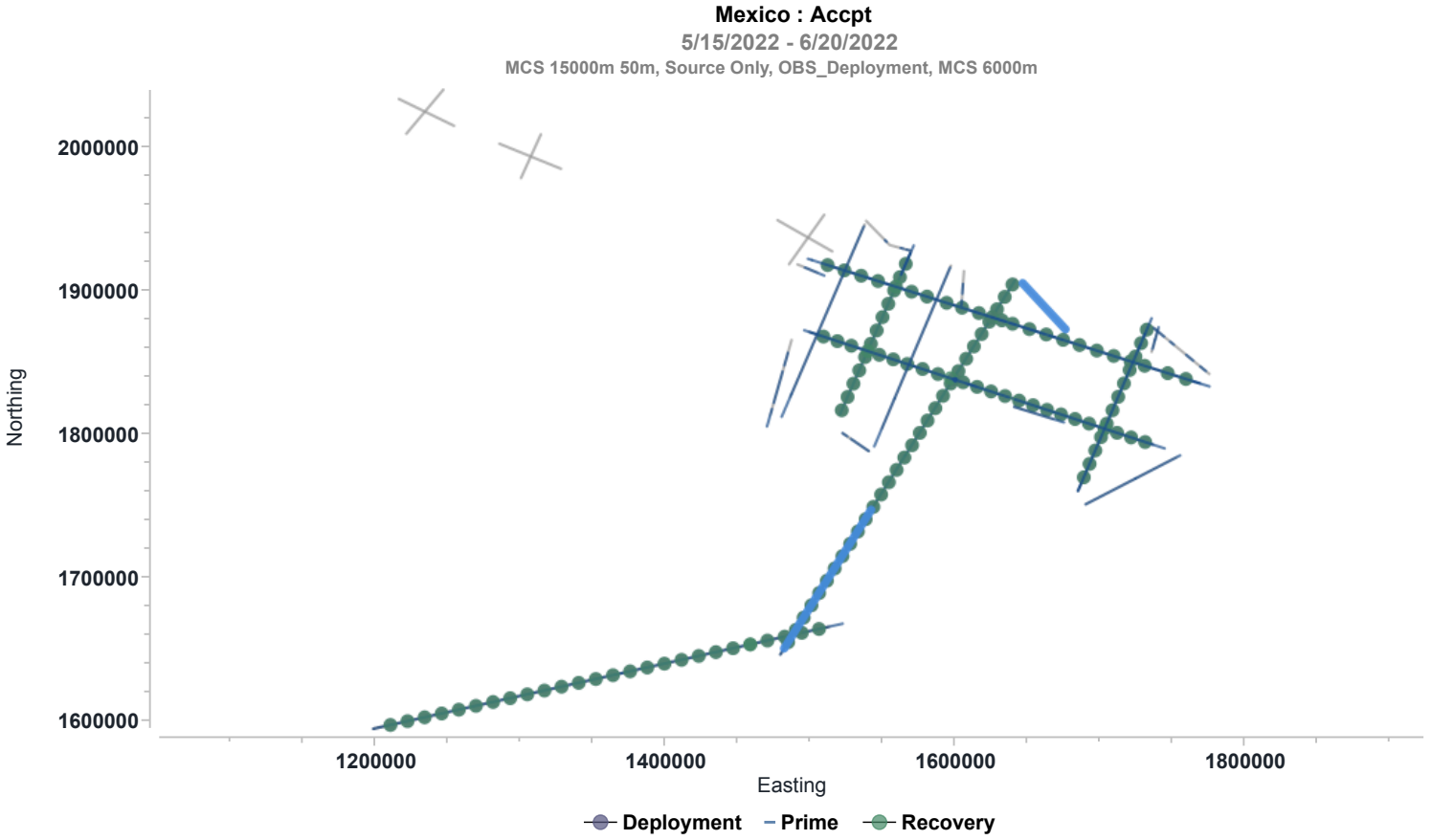
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km)

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
41	MT10	317.4	1013	1884	Prime	348.80	26.128	Complete	Complete
42	MCS02	31.9	1100	3372	Prime	909.20	36.349	Complete	Complete
Total						**1258.00**			

Production Totals (Accpt km)

Accepted km	Day	Week	Month	Project
Prime	1258.00	1258.00	12012.80	13284.00
Combined	**1258.00**	**1258.00**	**12012.80**	**13284.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 20 Jun

Navigation:

Retrminated SeaPath GPS antenna

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Mon 20 Jun

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HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 20. Jun 17:30	Mon 20. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	7

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 21 Jun

We continued shooting on Line MCS02 for most of the day. There was a compressor failure around 20:00 UTC and we circled back to reshoot this. We are currently running on the starboard compressor.

There was an ODP meeting today to discuss the parameters, configuration and priorities for the approaching project. We have a good recovery and re-deployment plan in place and will have to manage our end of survey time closely.

Picked up Maggie due to the rough seas and line changes. Fabricated a new rope to keep umbilical off the side of the slipway. Rigged up the smaller streamer transfer clamp for streamer recovery ops. Confirmed RD clamp size. Applied second coat of primer on new deck lead hooks and Maggie fairlead. Fabricated new head float steering ropes for gunstrings 1,2.

Weekly Tech Meeting on Zoom.

Daily Comment Summaries - Plan for Tomorrow

Tue 21 Jun

We will be finishing Line MCS02 and start the long turn line. Watching the weather closely.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, Source Only)

Category	Code	Start	End	Duration
Source	DT_SC	Tue 21. Jun 00:00	Tue 21. Jun 00:08	0.133
Downtime due to source.				
Production Prime	AC_PP	Tue 21. Jun 00:08	Tue 21. Jun 01:03	0.917
Seq: 43 SOL Seq 43 Line:1030 Block:Mexico FGSP:1040 FCSP:1040 Hdg:32.3° Prime EOL Seq 43 Line:1030 Block:Mexico LGSP:1191 LCSP:1191 Incomplete				
Cetacean	DT_CT	Tue 21. Jun 01:03	Tue 21. Jun 01:40	0.617
NTBP Seq 43 1030 Block:Mexico FSP:1192 LSP:1299 Turtle Sighting				
Production Prime	AC_PP	Tue 21. Jun 01:40	Tue 21. Jun 02:21	0.683
Seq: 43 SOL Seq 43 Line:1030 Block:Mexico FGSP:1300 FCSP:1300 Hdg:32.3° Prime EOL Seq 43 Line:1030 Block:Mexico LGSP:1395 LCSP:1395 Complete				
Prime Line Change	AC_PLC	Tue 21. Jun 02:21	Tue 21. Jun 03:32	1.183
Seq: 43 Line: 1030 Nominal Prime line change.				
Production Prime	AC_PP	Tue 21. Jun 03:32	Tue 21. Jun 19:47	16.250
Seq: 44 SOL Seq 44 Line:MCS02 Block:Mexico FGSP:2998 FCSP:2998 Hdg:211.9° Prime EOL Seq 44 Line:MCS02 Block:Mexico LGSP:5587 LCSP:5587 Complete				
High Pressure	DT_HP	Tue 21. Jun 19:47	Tue 21. Jun 24:00	4.217
Port compressor failed. Circle.				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, Source Only)

21-Jun	Hours	% Percent
Acquisition	**19.033**	**79.306**
Prime Line Change	1.183	4.931
Production Prime	17.850	74.375
DownTime	**4.967**	**20.694**
Cetacean	0.617	2.569
High Pressure	4.217	17.569
Source	0.133	0.556
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**46.600**	**5.110**
Cetacean	19.083	2.092
High Pressure	4.317	0.473
Recording	12.617	1.383
Source	8.100	0.888
Streamers	2.483	0.272
Chargeable Standby	**98.833**	**10.837**
Cetacean	9.883	1.084
Field Operations	16.633	1.824
Planned Operations	26.800	2.939
Source Deployment	14.150	1.552
Source Recovery	12.650	1.387
Port Call	9.183	1.007
Transit	36.333	3.984
Acquisition	**750.133**	**82.251**
Prime Extended L/C	18.550	2.034
Prime Line Change	27.017	2.962
Production Prime	366.483	40.185
Swath Move	338.083	37.071
Deploy	100.750	11.047
Recover	237.333	26.023
Mobilisation	**16.433**	**1.802**
Deployment	16.433	1.802
Total	912.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m
General Details

MCS 15000m 50m					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

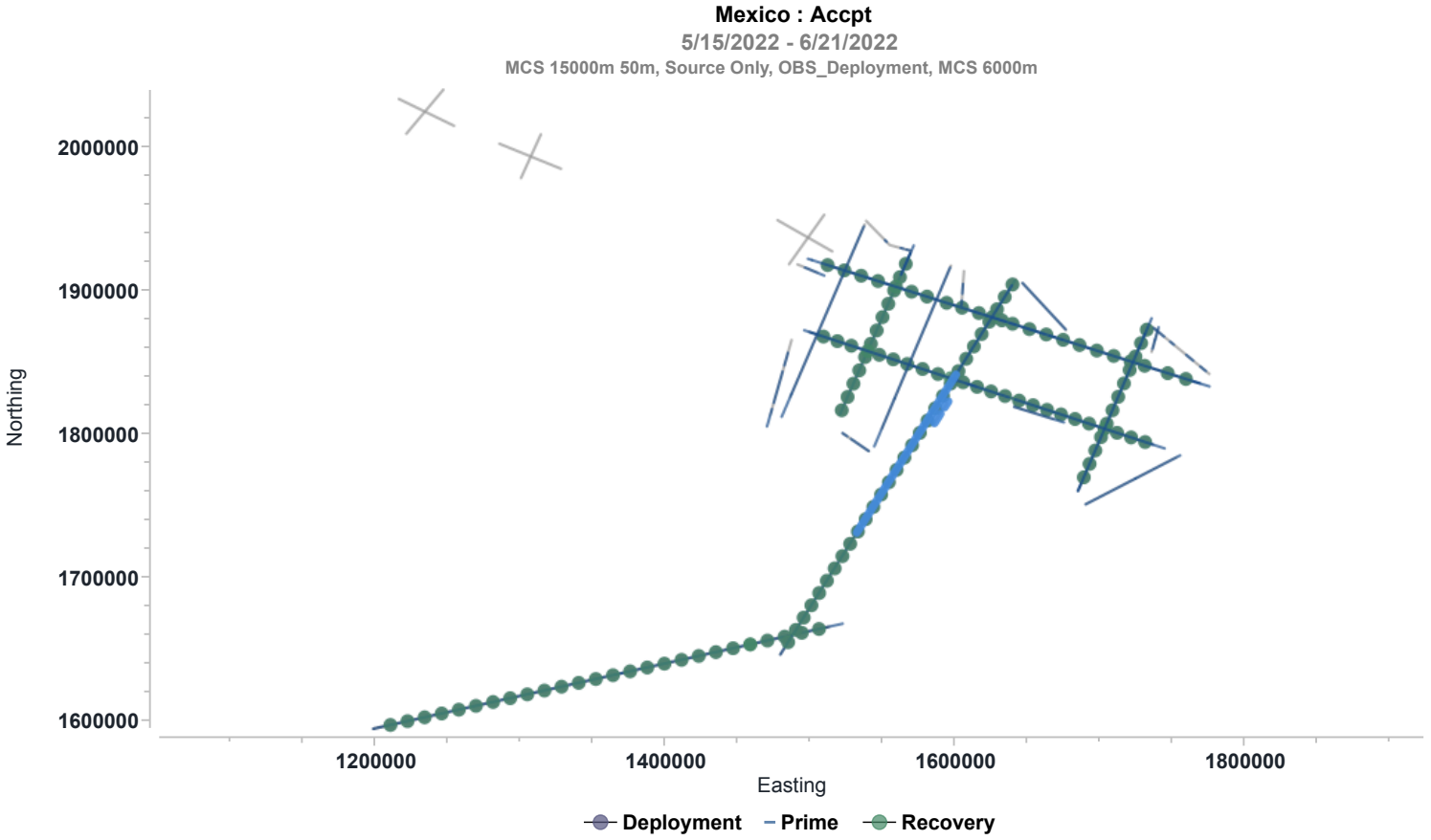
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by interval) - Prime: Full Fold, Infill: Sail Line

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
43	1030	32.3	1040	1395	Prime	12.35	4.151	Complete	Complete
NTBP: 1192 - 1299 (not chgd)									
44	MCS02	211.9	2998	5587	Prime	129.45	4.301	Complete	Complete
Total						**141.80**			

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

Accepted km	Day	Week	Month	Project
Prime	141.80	349.00	2056.60	3010.00
Combined	**141.80**	**349.00**	**2056.60**	**3010.00**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 21 Jun

Navigation:

Retrminated SeaPath GPS antenna

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Picked up Maggie due to weather.

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Daily Comment Summaries - Personnel Onboard

Tue 21 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

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Cassandra Frey - RPS PSO
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Heber Contreras - RPS PSO

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Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Departmental Meeting	Mtgs_Dept	Tue 21. Jun 16:00	Tue 21. Jun 16:45
Departmental Meeting to discuss ODP work and Streamer Recovery/Re-deployment plan			
Chiefs Meeting	Mtgs_Chfs	Tue 21. Jun 17:35	Tue 21. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			
Weekly Telecon	Mtgs_WTel	Tue 21. Jun 18:30	Tue 21. Jun 19:30
Weekly Tech Meeting			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Wed 22 Jun

We completed Line MCS02 and Line MT12. We are currently shooting the last MCS Line, MCS01A. The weather is choppy but we are able to continue down the line. We should be finished sometime on Saturday.

The weather looks like it will continue moving away from us and allow for decent conditions to recover the gear at the end of this line.

We reviewed all of the THC cards and updated the status of outstanding items.

Engraved power tools and batteries. Painted the wrenches for the gun department red. Worked with the Chief Mate on procedure for locking down the gun shop and machine shop. Completed the deck lead hooks and Maggie fairlead.

Reviewed the streamer recovery plan to adjust for a shorter ODP streamer deployment.

Daily Comment Summaries - Plan for Tomorrow

Wed 22 Jun

We will be acquiring Line MCS01A all day.

Timing Diary (Marcus G Langseth, MCS 15000m 50m)

Category	Code	Start	End	Duration
High Pressure	DT_HP	Wed 22. Jun 00:00	Wed 22. Jun 01:22	1.367
Port compressor failed. Circle.				
Production Prime	AC_PP	Wed 22. Jun 01:22	Wed 22. Jun 14:16	12.900
Seq: 45 SOL Seq 45 Line:MCS02 Block:Mexico FGSP:2913 FCSP:2913 Hdg:211.9° Prime EOL Seq 45 Line:MCS02 Block:Mexico LGSP:833 LCSP:833 Complete				
Prime Line Change	AC_PLC	Wed 22. Jun 14:16	Wed 22. Jun 16:06	1.833
Seq: 45 Line: MCS02 Nominal Prime line change.				
Production Prime	AC_PP	Wed 22. Jun 16:06	Wed 22. Jun 22:22	6.267
Seq: 46 SOL Seq 46 Line:1031 Block:Mexico FGSP:1098 FCSP:1098 Hdg:60.8° Prime EOL Seq 46 Line:1031 Block:Mexico LGSP:2222 LCSP:2222 Complete				
Prime Line Change	AC_PLC	Wed 22. Jun 22:22	Wed 22. Jun 23:01	0.650
Seq: 46 Line: 1031 Nominal Prime line change.				
Production Prime	AC_PP	Wed 22. Jun 23:01	Wed 22. Jun 24:00	0.983
Seq: 47 SOL Seq 47 Line:MCS01A Block:Mexico FGSP:686 FCSP:686 Hdg:257.3° Prime MSP Seq 47 Line:MCS01A Block:Mexico LGSP:831 LCSP:831 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m)

22-Jun	Hours	% Percent
Acquisition	**22.633**	**94.306**
Prime Line Change	2.483	10.347
Production Prime	20.150	83.958
DownTime	**1.367**	**5.694**
High Pressure	1.367	5.694
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**47.967**	**5.125**
Cetacean	19.083	2.039
High Pressure	5.683	0.607
Recording	12.617	1.348
Source	8.100	0.865
Streamers	2.483	0.265
Chargeable Standby	**98.833**	**10.559**
Cetacean	9.883	1.056
Field Operations	16.633	1.777
Planned Operations	26.800	2.863
Source Deployment	14.150	1.512
Source Recovery	12.650	1.351
Port Call	9.183	0.981
Transit	36.333	3.882
Acquisition	**772.767**	**82.561**
Prime Extended L/C	18.550	1.982
Prime Line Change	29.500	3.152
Production Prime	386.633	41.307
Swath Move	338.083	36.120
Deploy	100.750	10.764
Recover	237.333	25.356
Mobilisation	**16.433**	**1.756**
Deployment	16.433	1.756
Total	936.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		

MCS 15000m 50m					
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

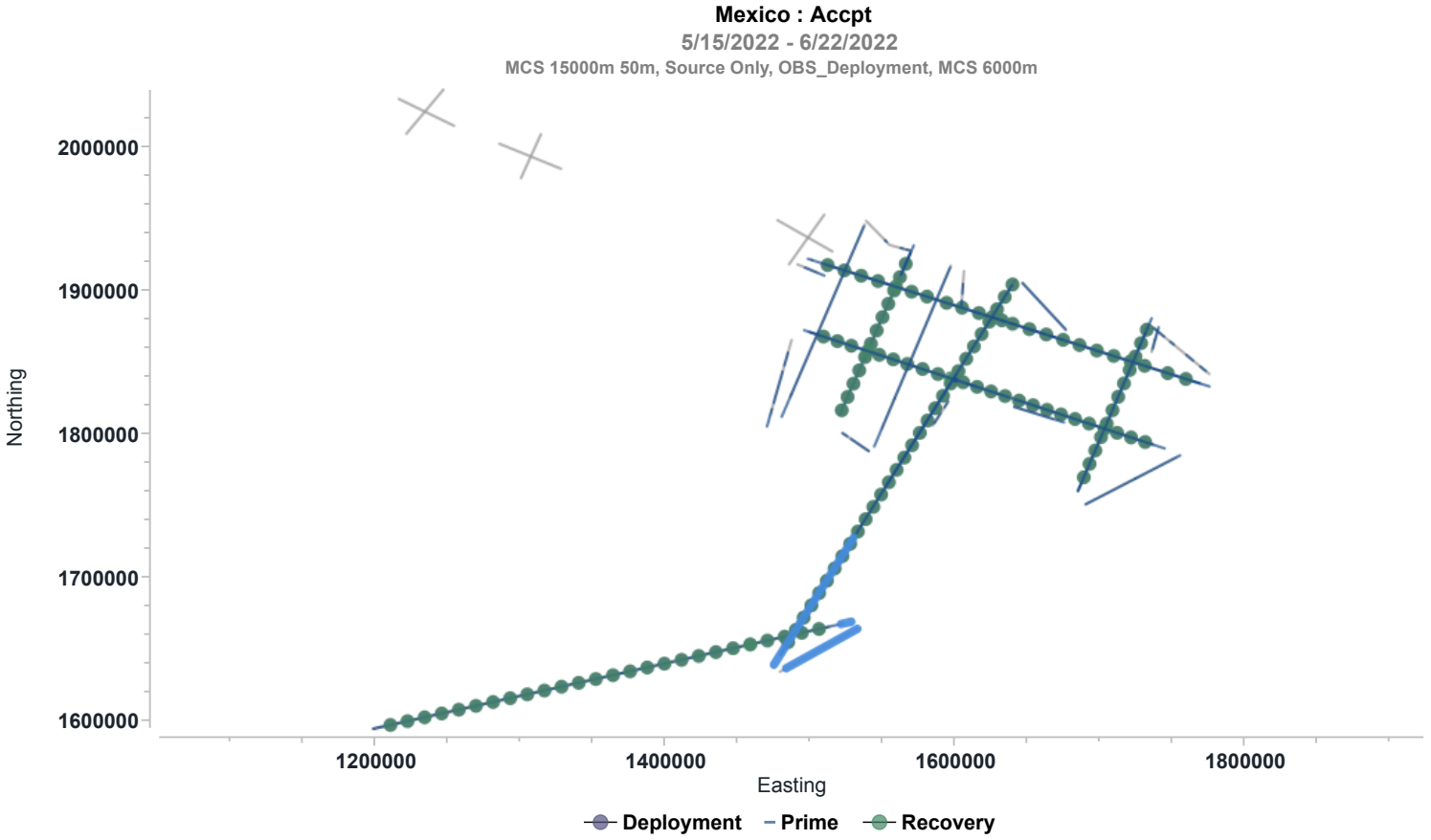
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by interval) - Prime: Full Fold, Infill: Sail Line

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
45	MCS02	211.9	2913	833	Prime	104.00	4.353	Complete	Complete
46	1031	60.8	1098	2222	Prime	56.20	4.842	Complete	Complete
47	M01a	257.3	686	831	Prime	7.25	3.981	Midnight	Part
Total						**167.45**			

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

Accepted km	Day	Week	Month	Project
Prime	167.45	516.50	2224.10	3177.50
Combined	**167.45**	**516.50**	**2224.10**	**3177.50**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 22 Jun

Navigation:

Retrminated SeaPath GPS antenna

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Picked up Maggie due to weather.

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Daily Comment Summaries - Personnel Onboard

Wed 22 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

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Cassandra Frey - RPS PSO
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Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Safety Committee Meeting	Mtgs_SC	Wed 22. Jun 15:30	Wed 22. Jun 16:45
HSE - Safety Committee Meeting. Reviewed all THC cards and updated the tracker.			
Chiefs Meeting	Mtgs_Chfs	Wed 22. Jun 17:40	Wed 22. Jun 18:40
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. Weather. Line changes.			

Daily Total Category	Code	Count
Task, Hazard, Control	Re_Con_THC	2

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Thu 23 Jun

We acquired data on Line MCS01A all day. The shooting speed was very slow for the first part of the day, but it has improved considerably as the day progressed. It looks like we have some barnacle growth on the streamer that is causing an increase in tension. We will be scraping the gear during the recovery to remove as much as we can.

We picked up gunstring #2 for a broken clamp on the sausage float at the aft depth rope position. It was riding a little deep in the rough weather, 15 meters. It was recovered, repaired and redeployed in ~40 minutes. We continued shooting with three gunstrings while making the repairs to this inside gunstring. We've been full gun volume since then.

The weather has been improving and it looks like we will have favourable conditions for the 15km streamer recovery.

We have reviewed the recovery and re-deployment plans and are making all of the preparations. We should begin recovery around ~6PM.

Daily Comment Summaries - Plan for Tomorrow

Thu 23 Jun

We will finish shooting Line MCS01A and begin recovery of all towed gear.

Timing Diary (Marcus G Langseth, MCS 15000m 50m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Thu 23. Jun 00:00	Thu 23. Jun 24:00	24.000
Seq: 47 SOL Seq 47 Line:M01a Block:Mexico FGSP:832 FCSP:832 Hdg:257.3° Prime MSP Seq 47 Line:M01a Block:Mexico LGSP:3843 LCSP:3843 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m)

23-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 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**47.967**	**4.997**
Cetacean	19.083	1.988
High Pressure	5.683	0.592
Recording	12.617	1.314
Source	8.100	0.844
Streamers	2.483	0.259
Chargeable Standby	**98.833**	**10.295**
Cetacean	9.883	1.030
Field Operations	16.633	1.733

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Planned Operations	26.800	2.792
Source Deployment	14.150	1.474
Source Recovery	12.650	1.318
Port Call	9.183	0.957
Transit	36.333	3.785
Acquisition	**796.767**	**82.997**
Prime Extended L/C	18.550	1.932
Prime Line Change	29.500	3.073
Production Prime	410.633	42.774
Swath Move	338.083	35.217
Deploy	100.750	10.495
Recover	237.333	24.722
Mobilisation	**16.433**	**1.712**
Deployment	16.433	1.712
Total	960.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

MCS 6000m

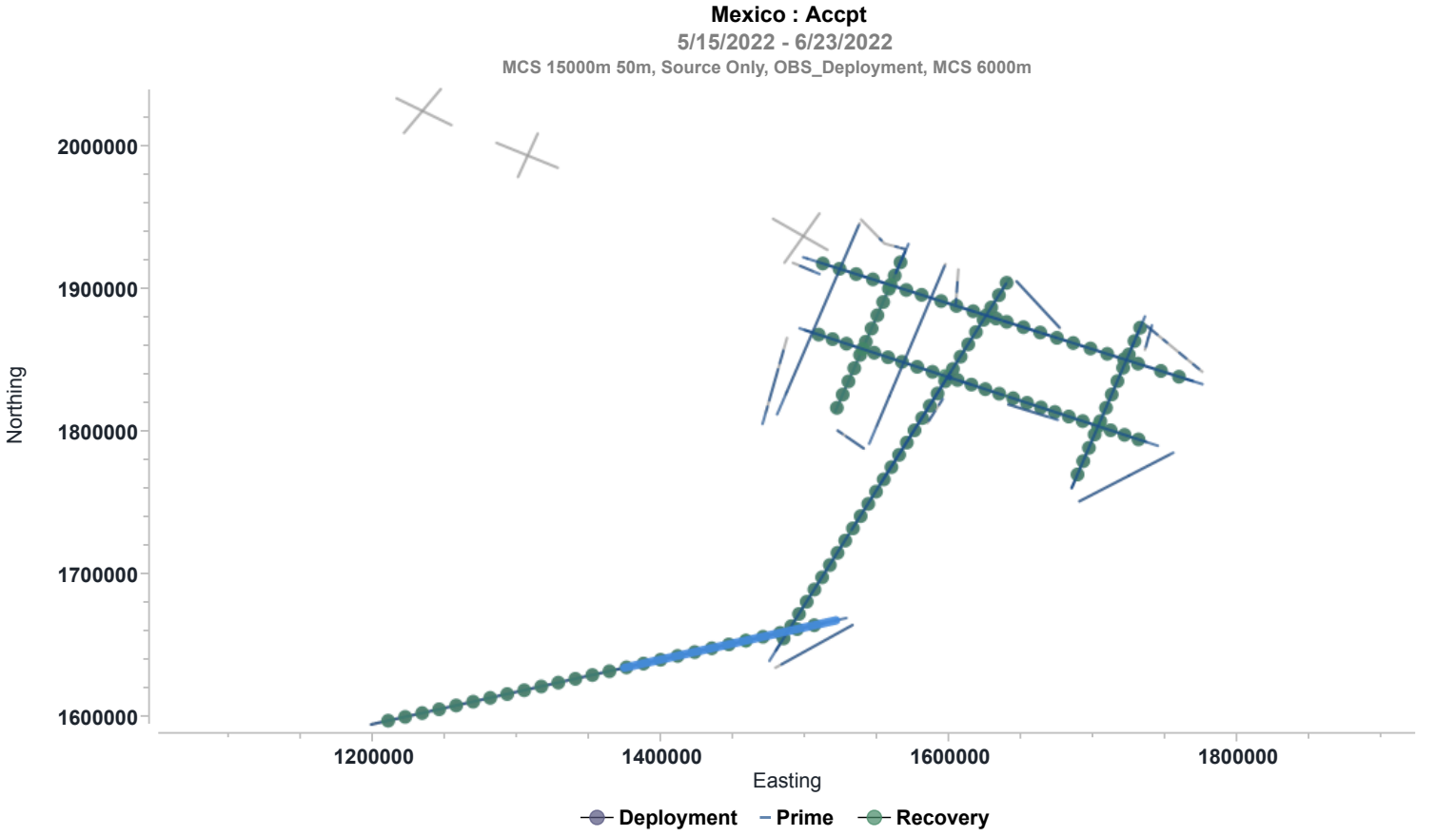
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by interval) - Prime: Full Fold, Infill: Sail Line

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
47	M01a	257.3	832	3843	Prime	150.60	3.412	Midnight	Part
Total						**150.60**			

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

Accepted km	Day	Week	Month	Project
Prime	150.60	667.10	2374.70	3328.10
Combined	**150.60**	**667.10**	**2374.70**	**3328.10**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 23 Jun

Navigation:

No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Picked up Maggie due to weather.

.

Daily Comment Summaries - Personnel Onboard

Thu 23 Jun

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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Thu 23. Jun 17:25	Thu 23. Jun 18:25
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. MCS recovery and reconfiguration.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Fri 24 Jun

The MCS portion of the job is complete.

We finished the last 15km MCS line at 22:42 UTC. We turned into the seas at the end of line and started recovering the guns . Guns were onboard at 07:40 PM local time. The 15km streamer was completely onboard at ~3AM Saturday morning. We installed the RVIM and tested the front end before recovering the last sections onto Reel #2. The new RD sections were deployed so that they could be tensioned on the reel. The weather was pretty crummy getting started but we finished in fair seas.

The barnacle growth was not as bad as anticipated. Some growth around the collars but not much on the streamer itself. The tailbuoy had a broken antenna, but was otherwise in good condition. The lifting harness had gotten tangled behind the GPS pod connection so we had to lift it out of the water with the stic cable to untangle the harness.

We saw a few birds with broken collars and there was one SRD missing. There were no missing birds.

We are currently in transit to the first ODP sight and making necessary repairs to the gear and changes to the configuration. It was a very safe and efficient recovery operation! We had several Toolbox Meetings and organizational discussions before getting started. A great job by all!

Daily Comment Summaries - Plan for Tomorrow

Fri 24 Jun

We will transit toward the ODP sight and prepare the new source configuration and fix the GPS pods. Prepare the tailbouy for re-deployment.

Timing Diary (Marcus G Langseth, MCS 15000m 50m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Fri 24. Jun 00:00	Fri 24. Jun 22:42	22.700
Seq: 47 SOL Seq 47 Line:M01a Block:Mexico FGSP:3844 FCSP:3844 Hdg:257.3° Prime EOL Seq 47 Line:M01a Block:Mexico LGSP:7537 LCSP:7537 Complete				
Prime Line Change	AC_PLC	Fri 24. Jun 22:42	Fri 24. Jun 23:22	0.667
Seq: 47 Line: M01a Line change. Turning into the seas and letting the streamer straighten out.				
Source Recovery	SB_PO_SOR	Fri 24. Jun 23:22	Fri 24. Jun 23:45	0.383
Recover gunstring #2				
Source Recovery	SB_PO_SOR	Fri 24. Jun 23:45	Fri 24. Jun 24:00	0.250
Recover gunstring #1				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m)

24-Jun	Hours	% Percent
Acquisition	**23.367**	**97.361**
Prime Line Change	0.667	2.778
Production Prime	22.700	94.583
Chargeable Standby	**0.633**	**2.639**

24-Jun	Hours	% Percent
Planned Operations	0.633	2.639
Source Recovery	0.633	2.639
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**47.967**	**4.875**
Cetacean	19.083	1.939
High Pressure	5.683	0.578
Recording	12.617	1.282
Source	8.100	0.823
Streamers	2.483	0.252
Chargeable Standby	**99.467**	**10.108**
Cetacean	9.883	1.004
Field Operations	16.633	1.690
Planned Operations	27.433	2.788
Source Deployment	14.150	1.438
Source Recovery	13.283	1.350
Port Call	9.183	0.933
Transit	36.333	3.692
Acquisition	**820.133**	**83.347**
Prime Extended L/C	18.550	1.885
Prime Line Change	30.167	3.066
Production Prime	433.333	44.038
Swath Move	338.083	34.358
Deploy	100.750	10.239
Recover	237.333	24.119
Mobilisation	**16.433**	**1.670**
Deployment	16.433	1.670
Total	984.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					

MCS 15000m 50m					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

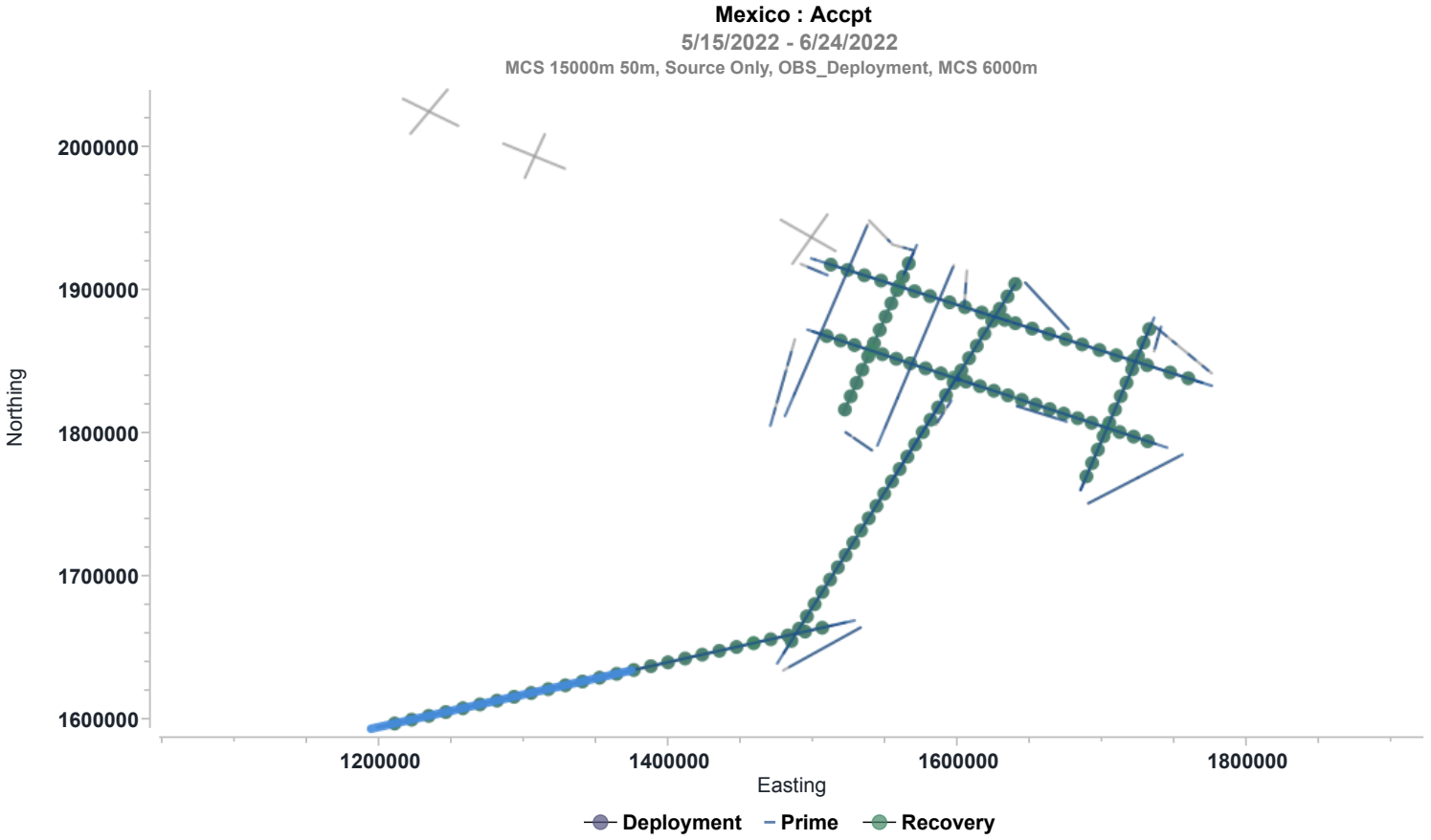
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by interval) - Prime: Full Fold, Infill: Sail Line

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
47	M01a	257.3	3844	7537	Prime	184.70	3.879	Complete	Complete
Total						**184.70**			

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

Accepted km	Day	Week	Month	Project
Prime	184.70	851.80	2559.40	3512.80
Combined	**184.70**	**851.80**	**2559.40**	**3512.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 24 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Bad Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #3 GPS: Good Bad DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #4 GPS: .Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
Picked up Maggie due to weather.

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Daily Comment Summaries - Personnel Onboard

Fri 24 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth

Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Fri 24. Jun 17:30	Fri 24. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed MCS operations. MCS recovery and reconfiguration.			
Departmental Meeting	Mtgs_Dept	Fri 24. Jun 17:30	Fri 24. Jun 18:00
HSE - Departmental Meeting with Techs and Mechs to discuss the streamer recovery operation.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	5
6/24/2022		
Toolbox to discuss source recovery Toolbox to discuss headfloat recover/transfer Toolbox meetings to discuss streamer transfer to reels (2) Toolbox to discuss tailbouy recovery		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sat 25 Jun

We transited to the first IODP site all day. A lot of work has been completed to reconfigure for the last phase of this job.

Replaced the long range GPS on the tailbouy and removed the broken antenna.

Troubleshoot some possible errors on the slip ring on reel #2. Opened the connection at the lead-in and cleaned it out.

Replaced the leaking mender on gunstring #2. This is the mender is the one under the aft GPS on gunstring 2.

Replaced the depth ropes on gunstrings 1,2 for six meter depths. All four GPS pods are working on gunstrings 1,2

Swapped the soft tow to the port side. Re-rigged the head float for 6 meter streamer depth.

We will be adding PMI armor on the #2 lead-in for the additional lead-in weights being added at 210 meters.

We are currently deploying the 6km streamer and approaching the first IODP site.

Daily Comment Summaries - Plan for Tomorrow

Sat 25 Jun

We will start shooting the first IODP sight around 7am.

Timing Diary (Marcus G Langseth, MCS 15000m 50m)

Category	Code	Start	End	Duration
Source Recovery	SB_PO_SOR	Sat 25. Jun 00:00	Sat 25. Jun 00:17	0.283
Recover gunstring #3				
Source Recovery	SB_PO_SOR	Sat 25. Jun 00:17	Sat 25. Jun 00:41	0.400
Recover gunstring #4				
Source Recovery	SB_PO_SOR	Sat 25. Jun 00:41	Sat 25. Jun 01:05	0.400
Recover PAM				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 01:05	Sat 25. Jun 01:37	0.533
Recover lead-in				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 01:37	Sat 25. Jun 01:45	0.133
Recover head float on starboard side				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 01:45	Sat 25. Jun 04:32	2.783
Recover streamer onto Reel #3				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 04:32	Sat 25. Jun 05:38	1.100
Recover streamer onto Reel #4				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 05:38	Sat 25. Jun 06:04	0.433
Transfer to Reel #2 and add RVIM.				
Streamer Recovery	SB_PO_STR	Sat 25. Jun 06:04	Sat 25. Jun 08:06	2.033

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Recover streamer onto Reel #2. We deployed RD sections to tenstion them. Tailbouy onboard.				
Transit	SB_TRT	Sat 25. Jun 08:06	Sat 25. Jun 24:00	15.900
Transit to first IODP site				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m)

25-Jun	Hours	% Percent
Chargeable Standby	**24.000**	**100.000**
Planned Operations	8.100	33.750
Source Recovery	1.083	4.514
Streamer Recovery	7.017	29.236
Transit	15.900	66.250
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment)

Category	Hours	% Percent
DownTime	**47.967**	**4.759**
Cetacean	19.083	1.893
High Pressure	5.683	0.564
Recording	12.617	1.252
Source	8.100	0.804
Streamers	2.483	0.246
Chargeable Standby	**123.467**	**12.249**
Cetacean	9.883	0.980
Field Operations	16.633	1.650
Planned Operations	35.533	3.525
Source Deployment	14.150	1.404
Source Recovery	14.367	1.425
Streamer Recovery	7.017	0.696
Port Call	9.183	0.911
Transit	52.233	5.182
Acquisition	**820.133**	**81.362**
Prime Extended L/C	18.550	1.840
Prime Line Change	30.167	2.993
Production Prime	433.333	42.989
Swath Move	338.083	33.540
Deploy	100.750	9.995
Recover	237.333	23.545
Mobilisation	**16.433**	**1.630**
Deployment	16.433	1.630
Total	1008.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 m
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4

Source Only					
String Separation:	6 m	String length:	16 m		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

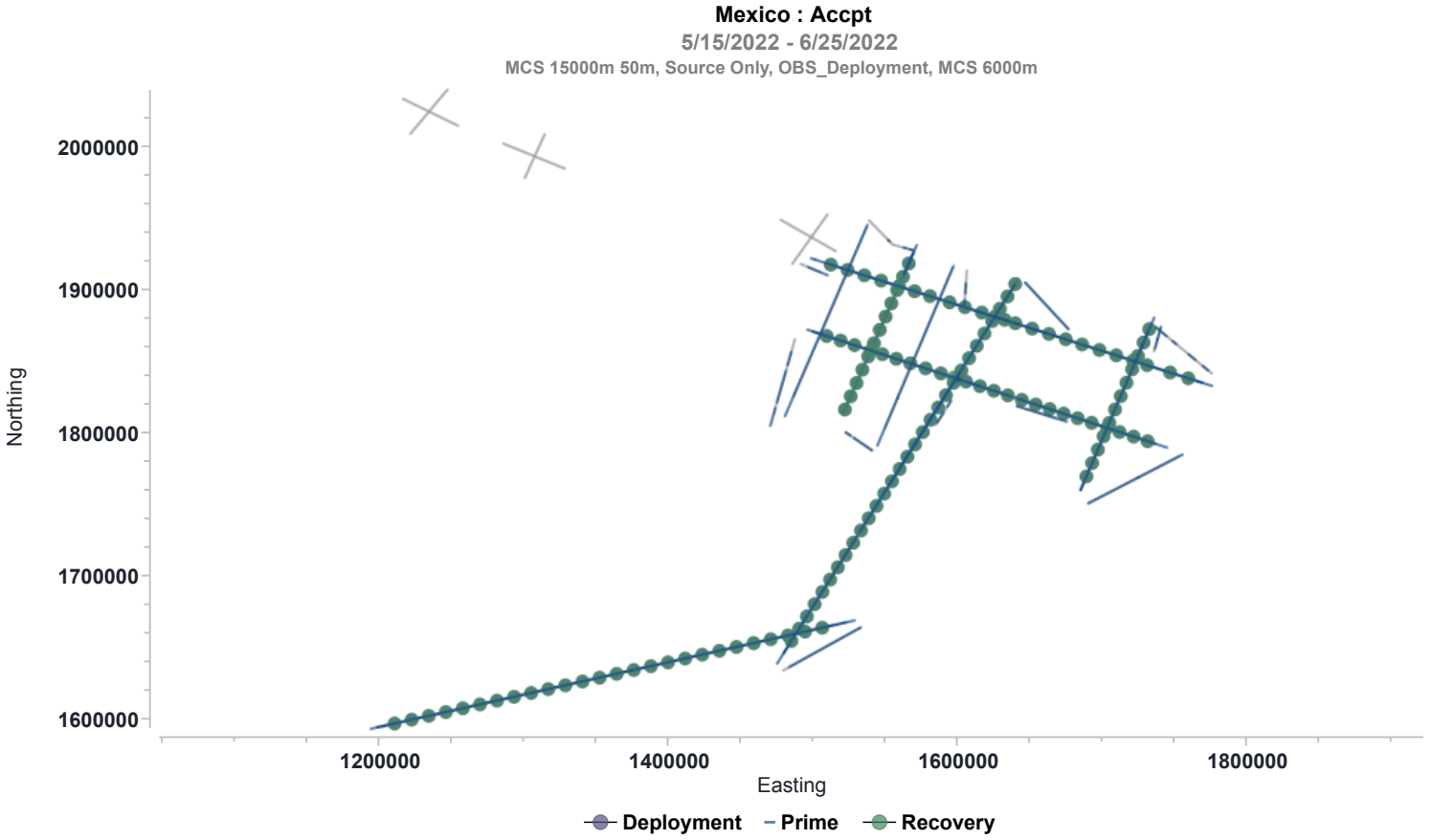
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

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

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

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

Accepted km	Day	Week	Month	Project
Prime	0.00	851.80	2559.40	3512.80
Combined	**0.00**	**851.80**	**2559.40**	**3512.80**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 25 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Sat 25 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
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Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Sat 25. Jun 17:30	Sat 25. Jun 18:30
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed IODP configurations, operations and expectations.			

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Sun 26 Jun

The tailbouy was deployed at midnight and the streamer was completely deployed by 4:40 AM. The first IODP Line was started at 7:01AM local time. The deployment went very quickly and smoothly. We added the PMI armour and weights to the lead-in and moved the towpoint to 315 meters from 360 meters. This shortened the COS to CNG to 162 meters. This was 45m reduction.

There were three turtle sightings on the turn line between the first two IODP lines.

The first bird on the active section at the head of the streamer has been running at ~8 meters depth.

Added a new recovery rope to the streamer head float . Stocked streamer deck with tape, tools and supplies. Checked air pressure in all floats. Performed hardware check on gunstrings. Washed guns out, dried, oiled and taped up ports on arrays 3 &4.

Removed all solenoids, cleaned and re-lubed for layup on arrays 3 & 4. Ran work boat for possible operation tomorrow. Straightened out streamer deck.

Changed out the card for the NFH and grounded it in the rack. This fixed an electrical hum on the data line.

The streamer is towing very well. The GPS pods are 100%.

We are making preparations for a possible workboat operation to video the towed gear. This is weather and sea-state dependent.

Daily Comment Summaries - Plan for Tomorrow

Sun 26 Jun

We will transit all day between IODP #1 and IODP #2

Timing Diary (Marcus G Langseth, MCS 15000m 50m, MCS 6000m)

Category	Code	Start	End	Duration
Transit	SB_TRT	Sun 26. Jun 00:00	Sun 26. Jun 05:08	5.133
Transit to first IODP site				
Streamer Deployment	SB_PO_STD	Sun 26. Jun 05:08	Sun 26. Jun 08:31	3.383
Deployed tailbouy and started 6km streamer deployment for IODP work				
Streamer Deployment	SB_PO_STD	Sun 26. Jun 08:31	Sun 26. Jun 08:50	0.317
Deploy head float				
Streamer Deployment	SB_PO_STD	Sun 26. Jun 08:50	Sun 26. Jun 09:40	0.833
Deploy lead-in and added PMI armor and weights. Measured lead-in. 315 meters to soft towpoint.				
Streamer Deployment	SB_PO_STD	Sun 26. Jun 09:40	Sun 26. Jun 10:10	0.500
Checked streamer for trim. Looks good.				
Source Deployment	SB_PO_SOD	Sun 26. Jun 10:10	Sun 26. Jun 10:32	0.367
Deploying gunstring #1				
Source Deployment	SB_PO_SOD	Sun 26. Jun 10:32	Sun 26. Jun 10:59	0.450
Deploying gunstring #2				
Source Deployment	SB_PO_SOD	Sun 26. Jun 10:59	Sun 26. Jun 11:06	0.117

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Deploy Maggie and PAM				
Source Deployment	SB_PO_SOD	Sun 26. Jun 11:06	Sun 26. Jun 11:38	0.533
Wait for PSO clearance to soft start				
Source Deployment	SB_PO_SOD	Sun 26. Jun 11:38	Sun 26. Jun 12:01	0.383
Soft start ramp up and reconfig Orca to SOL				
Production Prime	AC_PP	Sun 26. Jun 12:01	Sun 26. Jun 19:46	7.750
Seq: 48 SOL Seq 48 Line:S101 Block:Mexico FGSP:294 FCSP:294 Hdg:35.1° Prime EOL Seq 48 Line:S101 Block:Mexico LGSP:2835 LCSP:2835 Complete				
Prime Line Change	AC_PLC	Sun 26. Jun 19:46	Sun 26. Jun 20:22	0.600
Seq: 48 Line: S101 Nominal Prime line change.				
Cetacean	DT_CT	Sun 26. Jun 20:22	Sun 26. Jun 21:31	1.150
NTBP Seq 49 1034 Block:Mexico FSP:976 LSP:1329 Three power downs for turtles.				
Production Prime	AC_PP	Sun 26. Jun 21:31	Sun 26. Jun 24:00	2.483
Seq: 49 SOL Seq 49 Line:1034 Block:Mexico FGSP:1330 FCSP:1330 Hdg:163.6° Prime MSP Seq 49 Line:1034 Block:Mexico LGSP:2106 LCSP:2106 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, MCS 6000m)

26-Jun	Hours	% Percent
Acquisition	**10.833**	**45.139**
Prime Line Change	0.600	2.500
Production Prime	10.233	42.639
Chargeable Standby	**12.017**	**50.069**
Planned Operations	6.883	28.681
Source Deployment	1.850	7.708
Streamer Deployment	5.033	20.972
Transit	5.133	21.389
DownTime	**1.150**	**4.792**
Cetacean	1.150	4.792
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment, MCS 6000m)

Category	Hours	% Percent
DownTime	**49.117**	**4.759**
Cetacean	20.233	1.961
High Pressure	5.683	0.551
Recording	12.617	1.223
Source	8.100	0.785
Streamers	2.483	0.241
Chargeable Standby	**135.483**	**13.128**
Cetacean	9.883	0.958
Field Operations	16.633	1.612
Planned Operations	42.417	4.110
Source Deployment	16.000	1.550
Source Recovery	14.367	1.392

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Streamer Deployment	5.033	0.488
Streamer Recovery	7.017	0.680
Port Call	9.183	0.890
Transit	57.367	5.559
Acquisition	**830.967**	**80.520**
Prime Extended L/C	18.550	1.797
Prime Line Change	30.767	2.981
Production Prime	443.567	42.981
Swath Move	338.083	32.760
Deploy	100.750	9.763
Recover	237.333	22.997
Mobilisation	**16.433**	**1.592**
Deployment	16.433	1.592
Total	1032.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					

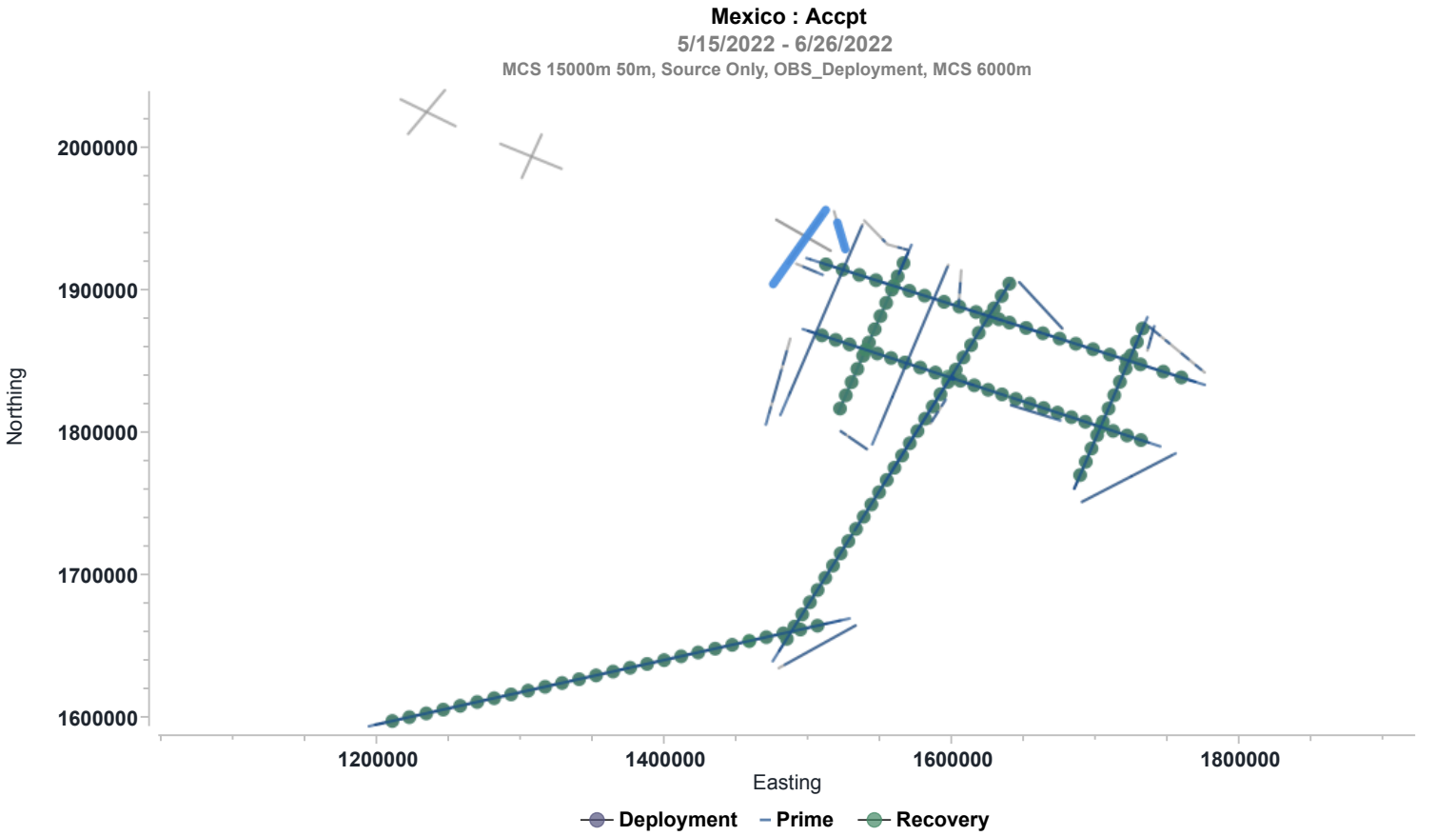
MCS 6000m					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
48	S101	35.1	294	2835	Prime	63.55	4.426	Complete	Complete
49	1034	163.6	1330	2106	Prime	19.43	4.218	Midnight	Part
NTBP: 976 - 1329 (not chgd)									
Total						**82.98**			

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

Accepted km	Day	Week	Month	Project
Prime	82.98	934.77	2642.38	3595.78
Combined	**82.98**	**934.77**	**2642.38**	**3595.78**



Daily Comment Summaries - Daily Comments On Status of Equipment

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Sun 26 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

General Purpose Science :
No Major Issues to Report

.

Daily Comment Summaries - Personnel Onboard

Sun 26 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
Cody Bahlau L-DEO OMO Marine Science Technician - Nav
Alan Thompson L-DEO OMO Marine Science Technician - Nav
Jacob Greenberg - Contract Source Mech
Randy Wiggins - Contract Source Mech
Ray Hatton - Contract Source Mech
Mark Walker - Contract Compressor Mech
Klayton Curtis - Contract Tech

PSO Staff On-board the Langseth
Amanda Dubuque - RPS Lead PSO
Cassandra Frey - RPS PSO
Yessika Murillo - RPS PSO
Felipe Moreno - RPS PSO
Heber Contreras - RPS PSO

Science Party On-board the Langseth
Anne Becel - PI LDEO
Victor Manuel Cruz-Atienza - Co-PI UNAM
Brian Boston - Co-PI LDEO
Jorge Arturo Real Perez - Scientist UNAM
Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Mon 27 Jun

We completed the IODP #1 site at 07:36 UTC and then transited for much of the day. During the transit we picked up gunstring #1 and shortened the head-float rope. This shorter rope worked well. The front end depth of the active streamer is at ~6.5 meters. The Maggie was snagged on the bell housing of the gunstring during the recovery, but it was not damaged. We are using it now and it is working well. We adjusted the steering rope on gunstring #1 while it was onboard.

Reviewed the CTD winch start up and operation procedures. Discovered that there is a drum fault that needs to be resolved. Will work on that today. Spliced new hook onto the starboard slip winch rope.

Klay removed the batteries from the birds that were removed from the 15km streamer.

The are continuing to use the starboard compressor and will run another test on the port compressor tomorrow.

There are a lot of crew-change preparations being made.

Daily Comment Summaries - Plan for Tomorrow

Mon 27 Jun

We will acquire the lines on IODP #2 and start IODP #3

Timing Diary (Marcus G Langseth, MCS 6000m)

Category	Code	Start	End	Duration
Production Prime	AC_PP	Mon 27. Jun 00:00	Mon 27. Jun 00:11	0.183
Seq: 49 SOL Seq 49 Line:1034 Block:Mexico FGSP:2107 FCSP:2107 Hdg:163.6° Prime EOL Seq 49 Line:1034 Block:Mexico LGSP:2159 LCSP:2159 Complete				
Prime Line Change	AC_PLC	Mon 27. Jun 00:11	Mon 27. Jun 00:48	0.617
Seq: 49 Line: 1034 Nominal Prime line change.				
Production Prime	AC_PP	Mon 27. Jun 00:48	Mon 27. Jun 07:36	6.800
Seq: 50 SOL Seq 50 Line:S102 Block:Mexico FGSP:699 FCSP:699 Hdg:299.9° Prime EOL Seq 50 Line:S102 Block:Mexico LGSP:2887 LCSP:2887 Complete				
Prime Line Change	AC_PLC	Mon 27. Jun 07:36	Mon 27. Jun 08:36	1.000
Seq: 50 Line: S102 Nominal Prime line change.				
Transit	SB_TRT	Mon 27. Jun 08:36	Mon 27. Jun 24:00	15.400
Transit between IODP Site #1 to IODP Site #2. Reconfigured headfloat during transit.				

Timing Day By Day (Marcus G Langseth, MCS 6000m)

27-Jun	Hours	% Percent
Acquisition	**8.600**	**35.833**

27-Jun	Hours	% Percent
Prime Line Change	1.617	6.736
Production Prime	6.983	29.097
Chargeable Standby	**15.400**	**64.167**
Transit	15.400	64.167
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment, MCS 6000m)

Category	Hours	% Percent
DownTime	**49.117**	**4.651**
Cetacean	20.233	1.916
High Pressure	5.683	0.538
Recording	12.617	1.195
Source	8.100	0.767
Streamers	2.483	0.235
Chargeable Standby	**150.883**	**14.288**
Cetacean	9.883	0.936
Field Operations	16.633	1.575
Planned Operations	42.417	4.017
Source Deployment	16.000	1.515
Source Recovery	14.367	1.360
Streamer Deployment	5.033	0.477
Streamer Recovery	7.017	0.664
Port Call	9.183	0.870
Transit	72.767	6.891
Acquisition	**839.567**	**79.504**
Prime Extended L/C	18.550	1.757
Prime Line Change	32.383	3.067
Production Prime	450.550	42.666
Swath Move	338.083	32.015
Deploy	100.750	9.541
Recover	237.333	22.475
Mobilisation	**16.433**	**1.556**
Deployment	16.433	1.556
Total	1056.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m
General Details

MCS 15000m 50m					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 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:	0 m		

Basic Project Details

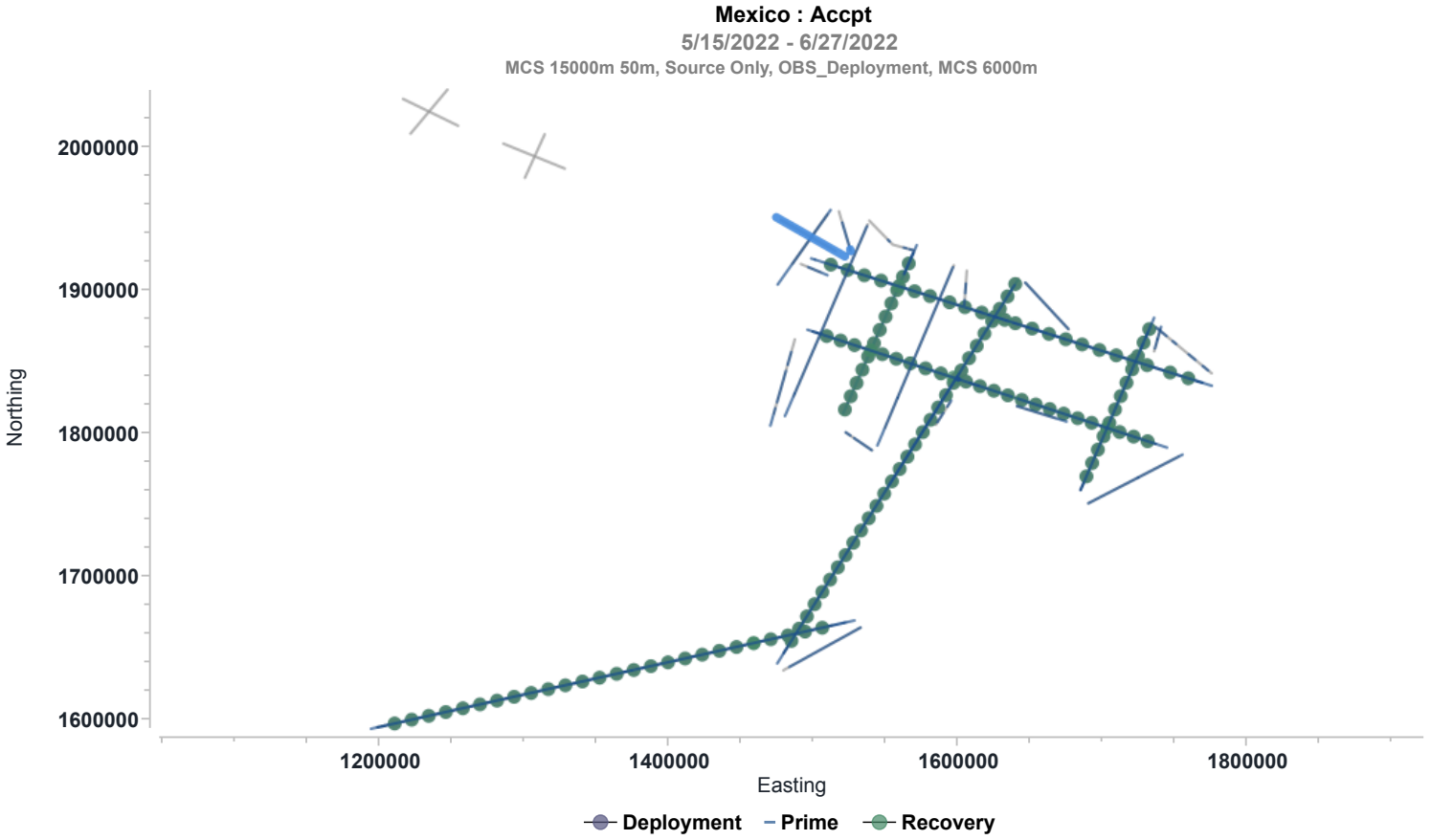
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
49	1034	163.6	2107	2159	Prime	1.33	4.196	Complete	Complete
50	S102	299.9	699	2887	Prime	54.73	4.343	Complete	Complete
Total						**56.05**			

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

Accepted km	Day	Week	Month	Project
Prime	56.05	56.05	2698.43	3651.83
Combined	**56.05**	**56.05**	**2698.43**	**3651.83**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 27 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

Tailbouy dropped out.

General Purpose Science :
No Major Issues to Report

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Daily Comment Summaries - Personnel Onboard

Mon 27 Jun

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Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Mon 27. Jun 17:25	Mon 27. Jun 18:25
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed IODP configurations, operations and expectations. Crew change and end of survey plans.			

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2
6/27/2022		
Toolbox to discuss source recovery and deployment. Toolbox to discuss changing the streamer headfloat depth rope.		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:		**Job No:**	MGL2204
Block:	Mexico	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Todd Jensvold
Job No:		**Client Reps:**	Anne Becel

Daily Comment Summaries - Daily Summary

Tue 28 Jun

We completed our transit to IODP site #2 and started acquiring the first line at 01:27 UTC. We circled for a turtle sighting at the transect of the two lines. We had another turtle sighting that we did not circle for. There was ~3 hours of downtime accounted for these sightings and associated line changes.

We are currently shooting Seq 55, Line S231, the parallel line on the last IODP site. The port compressor is running on this line.

Maggie was recovered briefly to re-orientate the weight and handle. It was re-deployed in less than an hour and is working fine again.

The Markey Desh-5 CTD winch controls were flagging errors during the inspection and procedure training today. This was discussed at the Tech Weekly Meeting and in separate email thread.

We have put together a plan for the final recovery of the towed gear. Preparations are in place to pick up so that we are able to access the RD sections on Reel #2 when we are finished.

There are a lot of crew change preparations being made. The end of job is approaching quickly.

The Weekly Tech Meeting was conducted today. We reviewed all of the pertinent THC cards and ongoing business.

Daily Comment Summaries - Plan for Tomorrow

Tue 28 Jun

We will acquire the lines on IODP #3 and prepare for recovering the gear.

Timing Diary (Marcus G Langseth, MCS 15000m 50m, MCS 6000m)

Category	Code	Start	End	Duration
Transit	SB_TRT	Tue 28. Jun 00:00	Tue 28. Jun 01:27	1.450
Transit between IODP Site #1 to IODP Site #2				
Production Prime	AC_PP	Tue 28. Jun 01:27	Tue 28. Jun 08:03	6.600
Seq: 51 SOL Seq 51 Line:S2Perp Block:Mexico FGSP:317 FCSP:317 Hdg:24.3° Prime EOL Seq 51 Line:S2Perp Block:Mexico LGSP:2479 LCSP:2479 Complete				
Prime Line Change	AC_PLC	Tue 28. Jun 08:03	Tue 28. Jun 08:53	0.833
Seq: 51 Line: S201 Nominal Prime line change.				
Production Prime	AC_PP	Tue 28. Jun 08:53	Tue 28. Jun 12:25	3.533
Seq: 52 SOL Seq 52 Line:1035 Block:Mexico FGSP:1036 FCSP:1036 Hdg:147.3° Prime EOL Seq 52 Line:1035 Block:Mexico LGSP:2202 LCSP:2202 Complete				
Prime Line Change	AC_PLC	Tue 28. Jun 12:25	Tue 28. Jun 13:30	1.083
Seq: 52				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Start	End	Duration
Line: 1035 Nominal Prime line change.				
Production Prime	AC_PP	Tue 28. Jun 13:30	Tue 28. Jun 16:11	2.683
Seq: 53 SOL Seq 53 Line:S2Para Block:Mexico FGSP:863 FCSP:863 Hdg:292.3° Prime EOL Seq 53 Line:S2Para Block:Mexico LGSP:1748 LCSP:1748 Incomplete				
Cetacean	DT_CT	Tue 28. Jun 16:11	Tue 28. Jun 16:48	0.617
NTBP Seq 53 S2Para Block:Mexico FSP:1749 LSP:1907 Turtle sighting				
Production Prime	AC_PP	Tue 28. Jun 16:48	Tue 28. Jun 17:32	0.733
Seq: 53 SOL Seq 53 Line:S2Para Block:Mexico FGSP:1908 FCSP:1908 Hdg:292.3° Prime EOL Seq 53 Line:S2Para Block:Mexico LGSP:2115 LCSP:2115 Complete				
Cetacean	DT_CT	Tue 28. Jun 17:32	Tue 28. Jun 18:22	0.833
Extra line change due to turtle				
Production Prime	AC_PP	Tue 28. Jun 18:22	Tue 28. Jun 20:18	1.933
Seq: 54 SOL Seq 54 Line:ST03 Block:Mexico FGSP:1017 FCSP:1017 Hdg:115.1° Prime EOL Seq 54 Line:ST03 Block:Mexico LGSP:1589 LCSP:1589 Incomplete				
Cetacean	DT_CT	Tue 28. Jun 20:18	Tue 28. Jun 20:45	0.450
NTBP Seq 54 ST03 Block:Mexico FSP:1590 LSP:1736 Turtle sighting				
Production Prime	AC_PP	Tue 28. Jun 20:45	Tue 28. Jun 21:19	0.567
Seq: 54 SOL Seq 54 Line:ST03 Block:Mexico FGSP:1737 FCSP:1737 Hdg:115.1° Prime EOL Seq 54 Line:ST03 Block:Mexico LGSP:1872 LCSP:1872 Complete				
Cetacean	DT_CT	Tue 28. Jun 21:19	Tue 28. Jun 22:05	0.767
Extra line change due to turtle				
Production Prime	AC_PP	Tue 28. Jun 22:05	Tue 28. Jun 24:00	1.917
Seq: 55 SOL Seq 55 Line:S231 Block:Mexico FGSP:1221 FCSP:1221 Hdg:292.3° Prime MSP Seq 55 Line:S231 Block:Mexico LGSP:1853 LCSP:1853 Midnight				

Timing Day By Day (Marcus G Langseth, MCS 15000m 50m, MCS 6000m)

28-Jun	Hours	% Percent
Acquisition	**19.883**	**82.847**
Prime Line Change	1.917	7.986
Production Prime	17.967	74.861
Chargeable Standby	**1.450**	**6.042**
Transit	1.450	6.042
DownTime	**2.667**	**11.111**
Cetacean	2.667	11.111
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, MCS 15000m 50m, Source Only, OBS_Deployment, MCS 6000m)

Category	Hours	% Percent
DownTime	**51.783**	**4.795**
Cetacean	22.900	2.120
High Pressure	5.683	0.526
Recording	12.617	1.168

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Source	8.100	0.750
Streamers	2.483	0.230
Chargeable Standby	**152.333**	**14.105**
Cetacean	9.883	0.915
Field Operations	16.633	1.540
Planned Operations	42.417	3.927
Source Deployment	16.000	1.481
Source Recovery	14.367	1.330
Streamer Deployment	5.033	0.466
Streamer Recovery	7.017	0.650
Port Call	9.183	0.850
Transit	74.217	6.872
Acquisition	**859.450**	**79.579**
Prime Extended L/C	18.550	1.718
Prime Line Change	34.300	3.176
Production Prime	468.517	43.381
Swath Move	338.083	31.304
Deploy	100.750	9.329
Recover	237.333	21.975
Mobilisation	**16.433**	**1.522**
Deployment	16.433	1.522
Total	1080.000	

Basic Project Details

Source Only					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	300 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		

Basic Project Details

MCS 15000m 50m					
General Details					
Record length:	20000 ms	Sample rate:	2 ms	Shotpoint interval:	50 m
CoS to CNG:	206 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	1200	Front Depth:	0 m	Tail Depth:	0 m
Length:	15000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	6600 cu ins	Depth:	12 m

MCS 15000m 50m					
Pressure:	1950 PSI	Volume:	6600	Strings per source:	4
String Separation:	6 m	String length:	0 m		

Basic Project Details

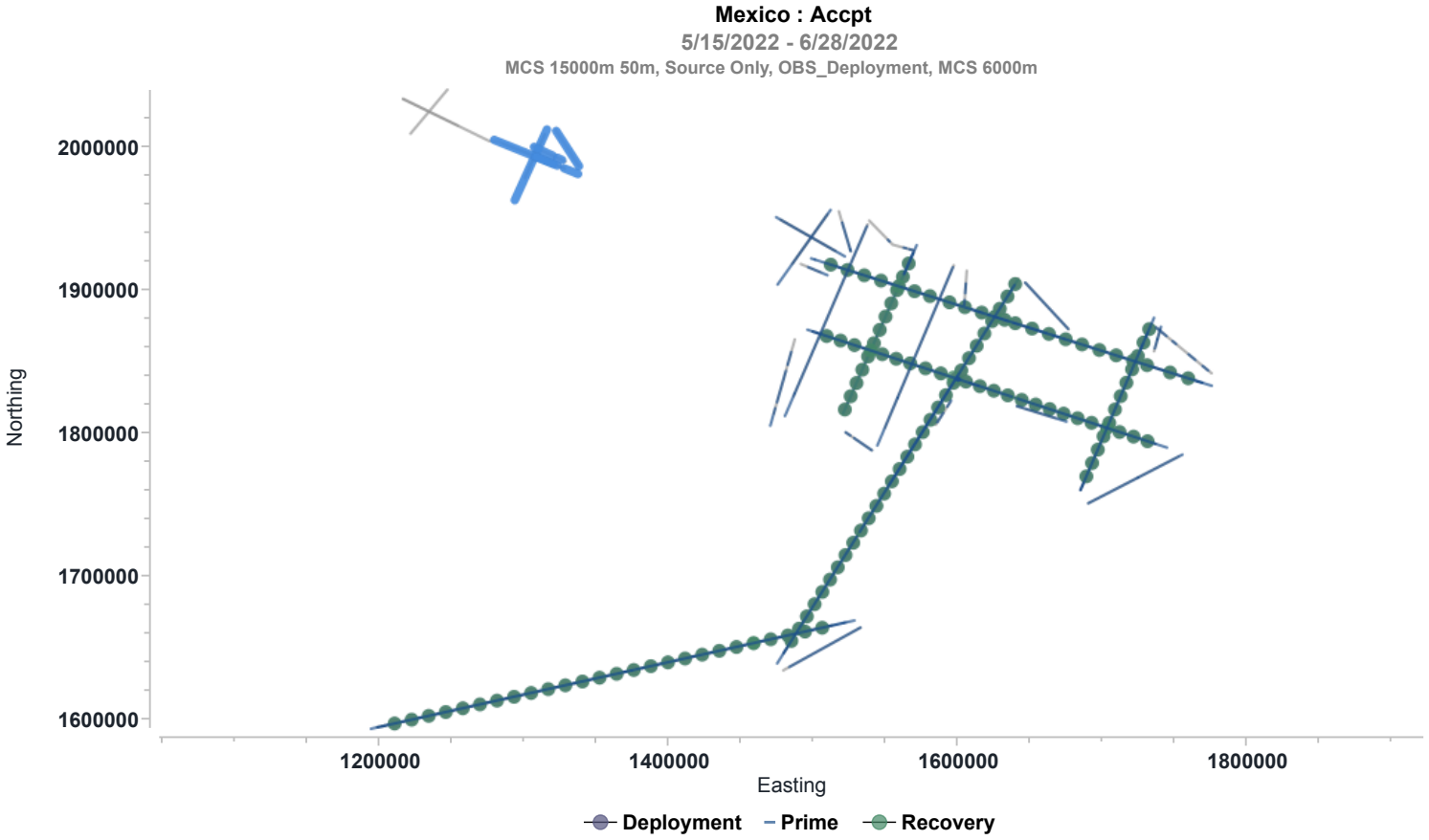
MCS 6000m					
General Details					
Record length:	0 ms	Sample rate:	0 ms	Shotpoint interval:	25 m
CoS to CNG:	0 m	Fold Coverage:	0		
Cable Details					
No of Cables:	3				
Cable 1					
Chans Per Cable:	480	Front Depth:	0 m	Tail Depth:	0 m
Length:	6000 m	Group interval:	12.5 m		
Cables 2 - 3					
Chans Per Cable:	0	Front Depth:	0 m	Tail Depth:	0 m
Length:	1 m	Group interval:	0 m		
Source Details					
No of Sources:	1	Total Volume:	3300 cu ins	Depth:	6 m
Pressure:	1950 PSI	Volume:	3300	Strings per source:	2
String Separation:	6 m	String length:	0 m		

Production Listing (Accpt km by Shotpoint) - Full Fold

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
51	S201	24.3	317	2479	Prime	54.08	4.422	Complete	Complete
52	1035	147.3	1036	2202	Prime	29.18	4.455	Complete	Complete
53	S2Para	292.3	863	2115	Prime	27.35	4.314	Complete	Complete
NTBP: 1749 - 1907 (not chgd)									
54	ST03	115.1	1017	1872	Prime	17.73	3.817	Complete	Complete
NTBP: 1590 - 1736 (not chgd)									
55	S231	292.3	1221	1853	Prime	15.83	4.451	Midnight	Part
Total						**144.15**			

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

Accepted km	Day	Week	Month	Project
Prime	144.15	200.20	2842.57	3795.98
Combined	**144.15**	**200.20**	**2842.57**	**3795.98**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 28 Jun

Navigation:
No Major Issues to Report

Information Technology (IT):
No Major Issues to Report

Acquisition (MCS):
No Major Issues to Report

Towing and Handling (Source):
Current status:
Gusntring #1 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good
Gunstring #2 GPS: Good Good DI/PI: Working Acoustic Pods status: Working NFH: 1,2,3 Good

Tailbouy dropped out.

General Purpose Science :
Gravimeter Weekly Tests

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Daily Comment Summaries - Personnel Onboard

Tue 28 Jun

Technical Staff On-board the Langseth
Todd Jensvold L-DEO OMO Chief Science Officer
Josh Kasinger L-DEO OMO Chief Source Mechanic
Brian Agee L-DEO OMO Source Mechanic
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Donna Shillington - Co-PI NAU
Brandon Shuck - Scientist LDEO
Josh Burstein - Scientist NAU

HSE Events Diary (Marcus G Langseth,)

Category	Code	Start	End
Chiefs Meeting	Mtgs_Chfs	Tue 28. Jun 17:30	Tue 28. Jun 18:00
HSE - Chiefs Meeting. Captain, PI, SO's. Reviewed timing and daily concerns. Discussed IODP configurations, operations and expectations. Crew change and end of survey plans.			
Weekly Telecon	Mtgs_WTel	Tue 28. Jun 18:00	Tue 28. Jun 19:00
HSE - Weekly Tech Zoom Meeting.			