Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Tue 02 Dec

The anchor was dropped at approximately 12:00 UTC. It was a very busy port call to start the trip, and everything moved quickly. Shortly after we set the hook, the agent arrived alongside with the authorities to clear the vessel. There was a brief delay getting the onsigners processed through immigration in port, but once they were cleared the water taxis were on their way.
The pinger pole traducer head was installed.
A quick vessel tour was held to show the Sci party the muster area and the steps of what to do in case of an emergency were covered.

As soon as the new team arrived onboard, the ship received clearance to proceed. By the end of the day everyone was getting their PPE on to haul in the anchor and begin MGL 2514.

Daily Comment Summaries - Plan for Tomorrow

Tue 02 Dec

Sail for the work area.
Perform Casius Calibration.

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
12:00	24:00	At Anchor	MB_AA	12.000
Mobilising, vessel at anchor				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

2-Dec	Hours	% Percent
Mobilisation	**12.000**	**50.000**
At Anchor	12.000	50.000
Day's Total	**12.000**	**50.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Hi-Rez)

Category	Hours	% Percent
Mobilisation	**12.000**	**100.000**
At Anchor	12.000	100.000
Total	12.000	

Basic Project Details

Hi-Rez

General Details

Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Daily Science Report

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

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

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

Hi-Rez

Seq	Line	FCSP	LCSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

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

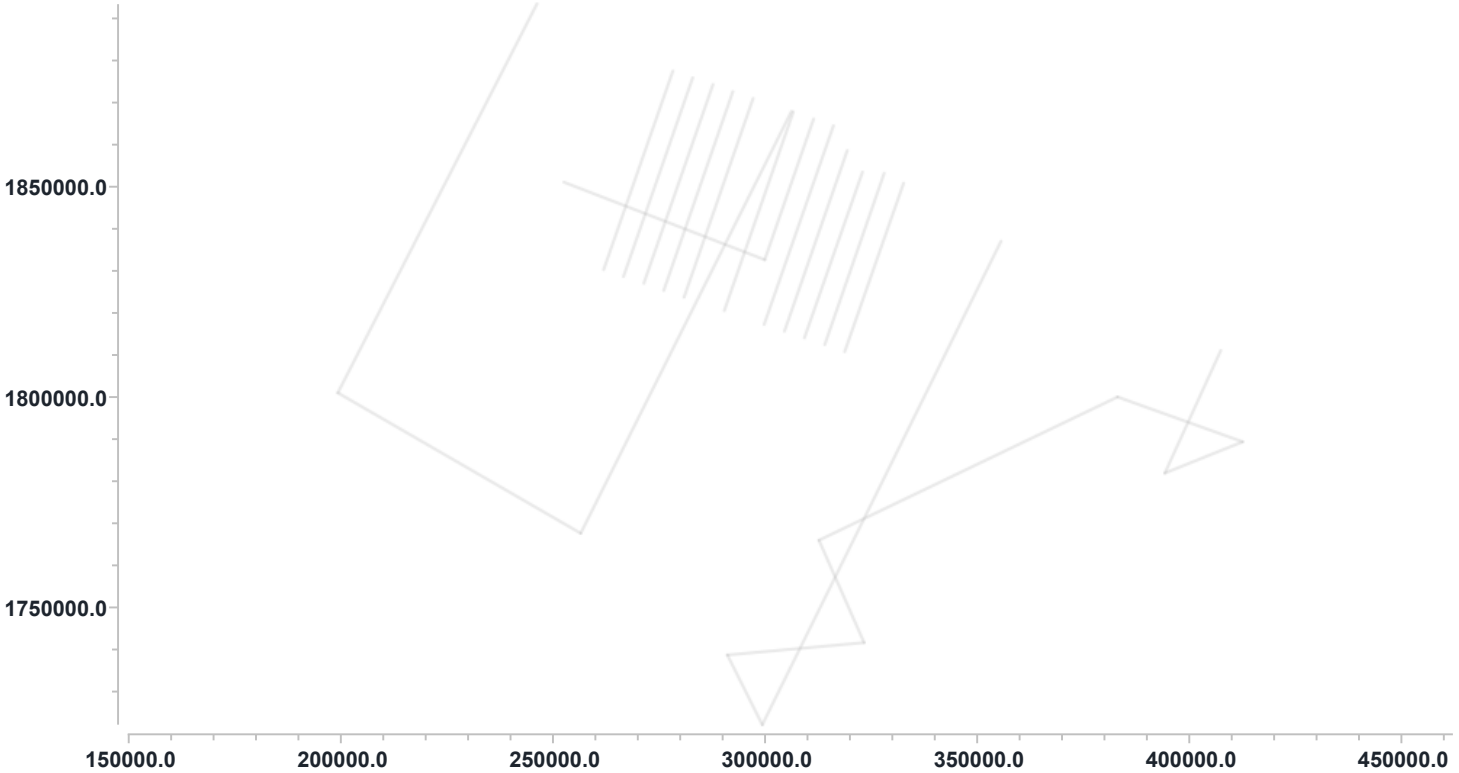
Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

Offshore Mexico - Pacific: Accpt

12/2/2025 - 12/2/2025

Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 02 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Tue 02 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth
Yessica Vicencio - RPS Lead PSO
Veronica Balderas - RPS PSO
Lilia Perez - RPS PSO
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Glenn Spinelli - Chief Scientist - New Mexico Tech
Lindsay Worthington – Scientist - University of New Mexico
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Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code
23:00	23:30	Start-up Meeting	Mtgs_StUp
HSE - Start-up Meeting			

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Meetings	Mtgs	1	1	1	1	0.500	
Start-up Meeting	StUp	1	1	1	1	0.500	

Daily Science Report

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Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Wed 03 Dec

At the start of day the vessel was transiting to the Casius Calibration Location.
The pinger pole was lowered.
The acoustic buoy deployed.
The calibration performed and then everything was recovered.
There were a few lessons learned but all in all it went well.

The SCI team had the full vessel orientation in the morning.
The entire vessel had a fire drill and abandon ship drill just after lunch.

At end of day the vessel was just finishing up the Calibration and getting ready to transit to the streamer deployment area.

Daily Comment Summaries - Plan for Tomorrow

Wed 03 Dec

Deploy the Streamer

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	00:30	At Anchor	MB_AA	0.500
Mobilising, vessel at anchor				
00:30	15:50	Transit to Prospect	MB_TT	15.333
In transit to prospect, for mobilizing deployment.				
15:50	24:00	Calibrations	SB_CA	8.167
Casius Calibration				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

3-Dec	Hours	% Percent
Chargeable Standby	**8.167**	**34.028**
Calibrations	8.167	34.028
Mobilisation	**15.833**	**65.972**
At Anchor	0.500	2.083
Transit to Prospect	15.333	63.889
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Hi-Rez)

Category	Hours	% Percent
Mobilisation	**27.833**	**77.315**
At Anchor	12.500	34.722
Transit to Prospect	15.333	42.593

Daily Science Report

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Category	Hours	% Percent
Chargeable Standby	**8.167**	**22.685**
Calibrations	8.167	22.685
Total	36.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

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

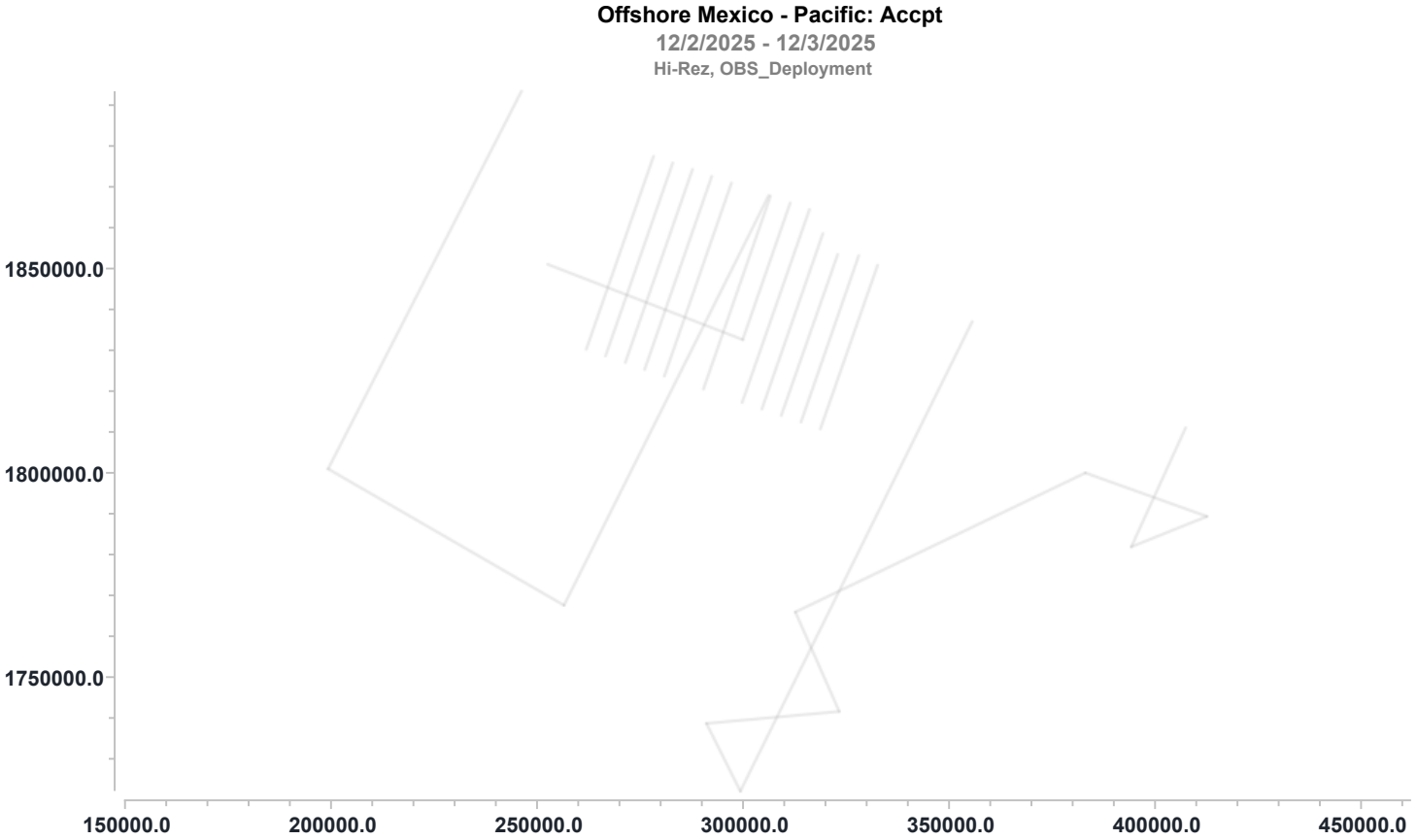
Hi-Rez

Seq	Line	FCSP	LCSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

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

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 03 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Wed 03 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
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HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code
14:15	15:15	Safety Induction Tours	Trng_SIT
HSE - Safety Induction Tour			
18:00	18:15	Fire Drill	Drls_Fi
HSE - Fire Drill			
18:15	18:30	Abandon Ship Drill	Drls_AS
HSE - Abandon Ship Drill			

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	2	2	2	2	0.500	
Abandon Ship Drill	AS	1	1	1	1	0.250	
Fire Drill	Fi	1	1	1	1	0.250	
Training	Trng	1	1	1	1	1.000	
Safety Induction Tours	SIT	1	1	1	1	1.000	
Meetings	Mtgs	0	1	1	1	0.500	
Start-up Meeting	StUp	0	1	1	1	0.500	

Daily Science Report

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Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Thu 04 Dec

The day began with the vessel completing the casius calibration. Once finished, we transited for roughly four hours before slowing to deploy the streamer. Deployment moved at a measured pace due to several reconfigurations, including adjustments to collar positions and ballasting. The front float position and the soft tow point on the forward end of the lead-in also needed to be installed, since this is a new lead-in.

The source array was deployed, but it became clear we were not receiving a return gun-fire indicator from the blast hydrophone on gun 1. The guns were recovered to address the issue. After the repair, the array was redeployed, tested cleanly, and the vessel proceeded to the start of line.

Shortly after beginning the line, it was noted that the Seal recording system was not receiving the ORCA headers. Troubleshooting took some time. During this period a turtle was sighted, and the guns were shut down in accordance with mitigation procedures.

At 23:08 the vessel recorded its first good shot point and continued down line acquiring data.

Daily Comment Summaries - Plan for Tomorrow

Thu 04 Dec

Continue to acquire seismic data.

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	00:30	Calibrations	SB_CA	0.500
Casius Calibration				
00:30	05:05	Transit to Prospect	MB_TT	4.583
In transit to prospect, for mobilizing deployment.				
05:05	21:17	Deployment	MB_DP	16.200
Streamer Deployment and transit to SOL				
21:17	23:08	Prime	AC_PP	1.850
Seq: 0 Problems during the line with Orca headers going to Seal FSP:1002 LSP:1490				
23:08	24:00	Prime	AC_PP	0.867
Seq: 1 Line: W01 SOL Seq 1 Line:W01 FGSP:1491 MSP Seq 1 Line:W01 LGSP:1750				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

4-Dec	Hours	% Percent
Acquisition	**2.717**	**11.319**
Prime	2.717	11.319

4-Dec	Hours	% Percent
Chargeable Standby	**0.500**	**2.083**
Calibrations	0.500	2.083
Mobilisation	**20.783**	**86.597**
Deployment	16.200	67.500
Transit to Prospect	4.583	19.097
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Hi-Rez)

Category	Hours	% Percent
Mobilisation	**48.617**	**81.028**
At Anchor	12.500	20.833
Deployment	16.200	27.000
Transit to Prospect	19.917	33.194
Chargeable Standby	**8.667**	**14.444**
Calibrations	8.667	14.444
Acquisition	**2.717**	**4.528**
Prime	2.717	4.528
Total	60.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

Production Listing (Accpt Main km by Shotpoint) - Full Fold

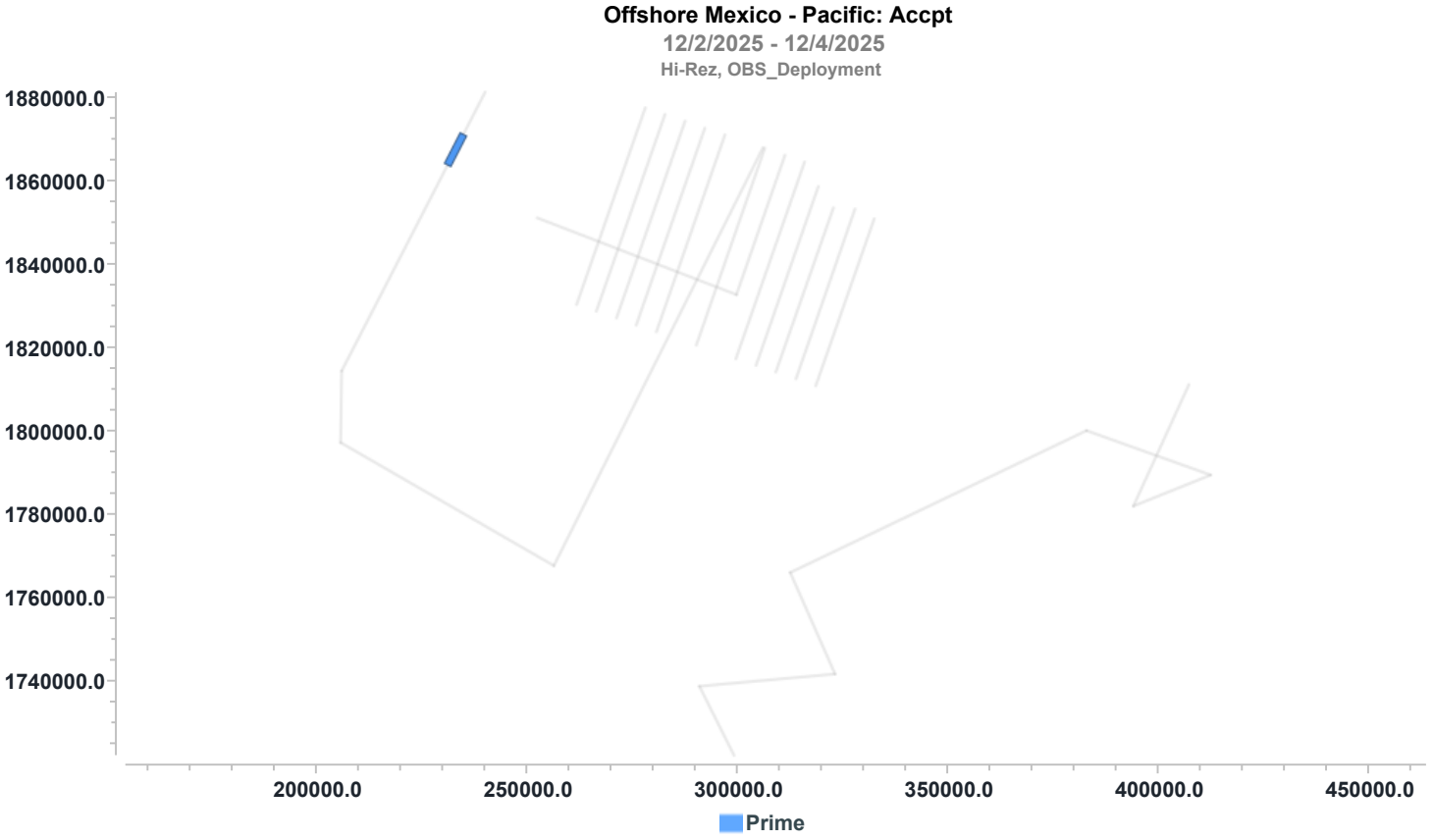
Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	W01	207.0	1491	1750	Prime	6.50	4.521	Midnight	Part
NTBP: 1002 - 1490 (not chgd)									
Total						**6.50**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	6.50	6.50	6.50	6.50
Combined	**6.50**	**6.50**	**6.50**	**6.50**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 04 Dec

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):
Gun 1 needed some trouble shooting. Still does not look 100%

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Thu 04 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
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Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	2	2	2	0.500	
Abandon Ship Drill	AS	0	1	1	1	0.250	
Fire Drill	Fi	0	1	1	1	0.250	
Training	Trng	0	1	1	1	1.000	
Safety Induction Tours	SIT	0	1	1	1	1.000	
Meetings	Mtgs	0	1	1	1	0.500	
Start-up Meeting	StUp	0	1	1	1	0.500	

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Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Fri 05 Dec

At the start of the day the vessel was on Seq 1.
It was a full day of shooting.
Good communications between main lab and the bridge.

GI air gun 1, appeared to have a lower amplitude, suspect an air leak.
The data was reviewed and it looks acceptable for our goals, the decisions was made to leave it in the water until completed with the Phase 1 (Western Red lines).

There were several protected species spotted throughout the day which resulted in 1 shutdown.

Daily Comment Summaries - Plan for Tomorrow

Fri 05 Dec

Continue with Phase 1 (Western Red lines).

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	06:38	Prime	AC_PP	6.633
Seq: 1 Line: W01 SOL Seq 1 Line:W01 FGSP:1751 Hdg:207° Prime EOL Seq 1 Line:W01 LGSP:4003 Complete				
06:38	06:40	Prime L/C	AC_PLC	0.033
Seq: 1 Line: W01 Nominal Prime line change.				
06:40	08:35	Prime	AC_PP	1.917
Seq: 2 Line: W02 SOL Seq 2 Line:W02 FGSP:5015 Hdg:180.8° Prime EOL Seq 2 Line:W02 LGSP:5680 Complete				
08:35	08:37	Prime L/C	AC_PLC	0.033
Seq: 2 Line: W02 Nominal Prime line change.				
08:37	15:23	Prime	AC_PP	6.767
Seq: 3 Line: W03 SOL Seq 3 Line:W03 FGSP:6025 Hdg:120.3° Prime EOL Seq 3 Line:W03 LGSP:8295 Complete Streamer communication errors from SP 7391 to SP 7406, 17 shots missed.				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Start	End	Category	Code	Duration (hrs)
15:23	15:32	Prime L/C	AC_PLC	0.150
Seq: 3 Line: W03 Nominal Prime line change.				
15:32	24:00	Prime	AC_PP	8.467
Seq: 4 Line: W04 SOL Seq 4 Line:W04 FGSP:9058 Hdg:26.3° Prime MSP Seq 4 Line:W04 LGSP:12103 Midnight				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

5-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime	23.783	99.097
Prime L/C	0.217	0.903
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Hi-Rez)

Category	Hours	% Percent
Mobilisation	**48.617**	**57.877**
At Anchor	12.500	14.881
Deployment	16.200	19.286
Transit to Prospect	19.917	23.710
Chargeable Standby	**8.667**	**10.317**
Calibrations	8.667	10.317
Acquisition	**26.717**	**31.806**
Prime	26.500	31.548
Prime L/C	0.217	0.258
Total	84.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
1	W01	207.0	1751	4003	Prime	56.33	4.521	Complete	Complete
2	W02	180.8	5015	5680	Prime	16.65	4.684	Complete	Complete
3	W03	120.3	6025	8295	Prime	56.78	4.528	Complete	Complete
4	W04	26.3	9058	12103	Prime	74.83	4.864	Midnight	Part
NTBP: 9858 - 9910 (not chgd)									
Total						**204.58**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

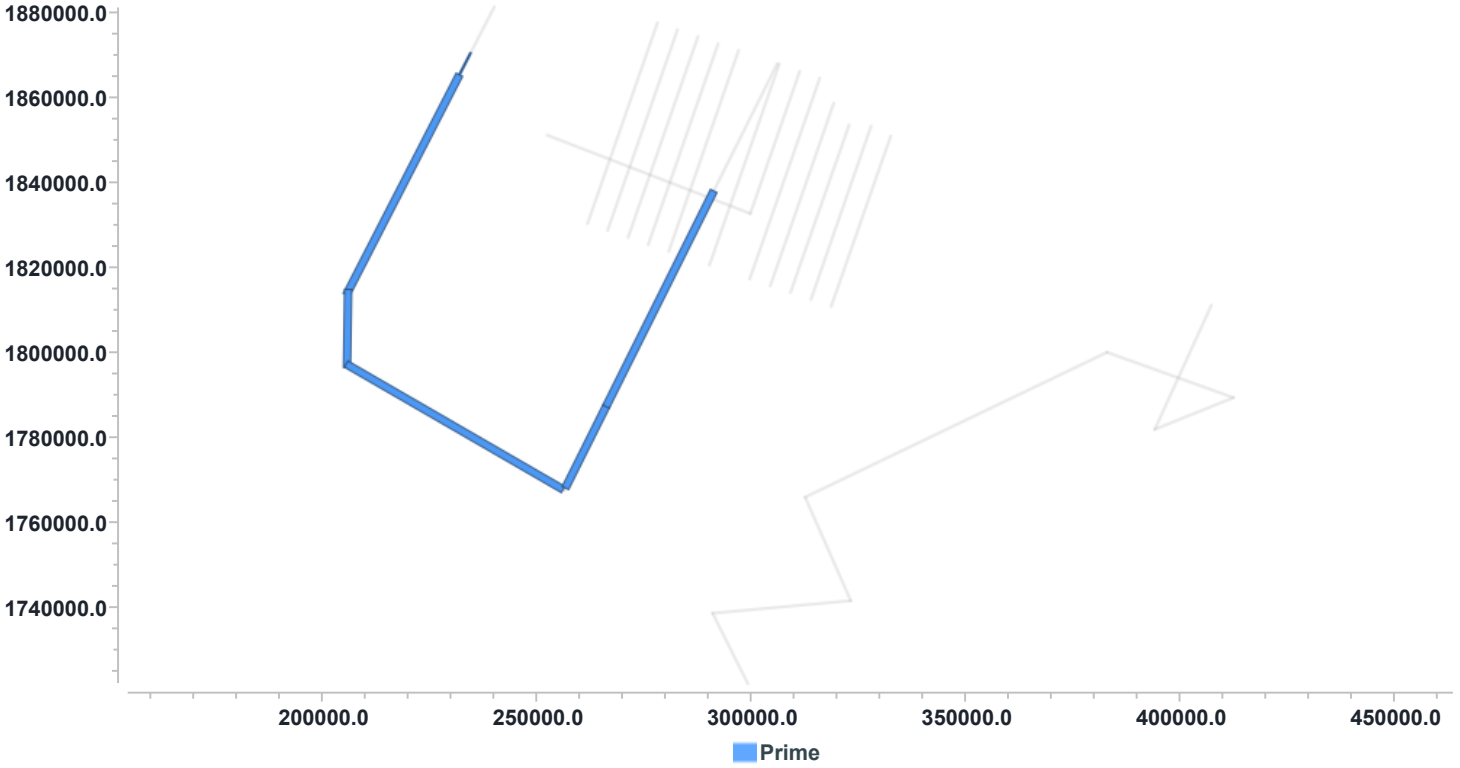
Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	204.58	211.08	211.08	211.08
Combined	**204.58**	**211.08**	**211.08**	**211.08**

Offshore Mexico - Pacific: Accpt

12/2/2025 - 12/5/2025

Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 05 Dec

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

General Purpose Science:

No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Fri 05 Dec

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Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	2	2	2	0.500	
Abandon Ship Drill	AS	0	1	1	1	0.250	
Fire Drill	Fi	0	1	1	1	0.250	
Training	Trng	0	1	1	1	1.000	
Safety Induction Tours	SIT	0	1	1	1	1.000	

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Meetings	Mtgs	2	3	3	3	0.500	
Start-up Meeting	StUp	0	1	1	1	0.500	
Toolbox Meetings	Tbox	2	2	2	2		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sat 06 Dec

The day started with the vessel acquiring data on W04.
An XBT was done today.
The teams are starting to process the earlier sequences and planning out the heat probe penetration points.
The data is looking pretty good!

Towards the end of day the guns and streamer were recovered.
And end of day the tailbuoy was recovered and the vessel had just started to transit towards the first heat probe location.

Daily Comment Summaries - Plan for Tomorrow

Sat 06 Dec

Start heat flow operations.

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	04:13	Prime	AC_PP	4.217
Seq: 4 Line: W04 SOL Seq 4 Line:W04 Block:Offshore Mexico - Pacific FGSP:12104 Hdg:26.3° Prime EOL Seq 4 Line:W04 Block:Offshore Mexico - Pacific LGSP:13634 Complete				
04:13	05:27	Prime L/C	AC_PLC	1.233
Seq: 4 Line: W04 Nominal Prime line change.				
05:27	10:22	Prime	AC_PP	4.917
Seq: 5 Line: W05 SOL Seq 5 Line:W05 Block:Offshore Mexico - Pacific FGSP:13971 Hdg:199° Prime EOL Seq 5 Line:W05 Block:Offshore Mexico - Pacific LGSP:15775 Complete				
10:22	12:07	Prime L/C	AC_PLC	1.750
Seq: 5 Line: W05 Nominal Prime line change.				
12:07	19:24	Prime	AC_PP	7.283
Seq: 6 Line: W06 SOL Seq 6 Line:W06 Block:Offshore Mexico - Pacific FGSP:16392 Hdg:291.3° Prime EOL Seq 6 Line:W06 Block:Offshore Mexico - Pacific LGSP:18611 Complete				
19:24	23:25	Source Recovery	SB_PO_SOR	4.017
Chargeable Standby related to Planned Operations due to Source Recovery				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Start	End	Category	Code	Duration (hrs)
23:25	24:00	Transit	SB_TRT	0.583
Transit to first heat probe location				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

6-Dec	Hours	% Percent
Acquisition	**19.400**	**80.833**
Prime	16.417	68.403
Prime L/C	2.983	12.431
Chargeable Standby	**4.600**	**19.167**
Planned Operations	4.017	16.736
Source Recovery	4.017	16.736
Transit	0.583	2.431
Day's Total	**24.000**	**100.000**

Timing Breakdown Summary - Project (Marcus G Langseth, Hi-Rez)

Category	Hours	% Percent
Mobilisation	**48.617**	**45.015**
At Anchor	12.500	11.574
Deployment	16.200	15.000
Transit to Prospect	19.917	18.441
Chargeable Standby	**13.267**	**12.284**
Calibrations	8.667	8.025
Planned Operations	4.017	3.719
Source Recovery	4.017	3.719
Transit	0.583	0.540
Acquisition	**46.117**	**42.701**
Prime	42.917	39.738
Prime L/C	3.200	2.963
Total	108.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Daily Science Report

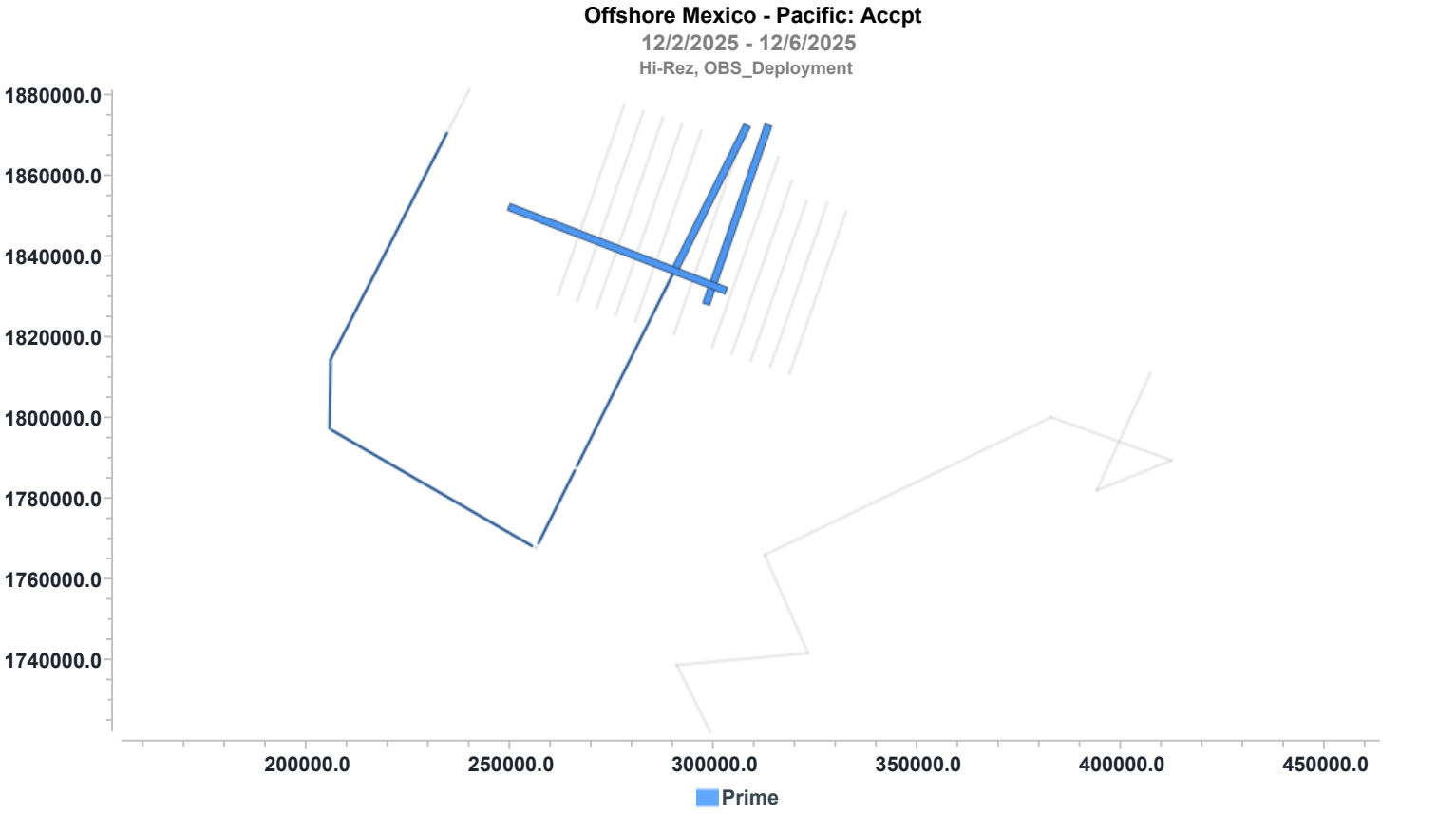
Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
4	W04	26.3	12104	13634	Prime	38.28	4.864	Complete	Complete
5	W05	199.0	13971	15775	Prime	45.13	4.953	Complete	Complete
6	W06	291.3	16392	18611	Prime	55.50	4.113	Complete	Complete
Total						**138.90**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	138.90	349.98	349.98	349.98
Combined	**138.90**	**349.98**	**349.98**	**349.98**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 06 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sat 06 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth
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Mandy Kiger – Scientist - Oregon State University
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Luis Angel Vega Ramírez - PostDoc
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Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	1

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	2	2	2	0.500	
Abandon Ship Drill	AS	0	1	1	1	0.250	
Fire Drill	Fi	0	1	1	1	0.250	
Training	Trng	0	1	1	1	1.000	
Safety Induction Tours	SIT	0	1	1	1	1.000	
Meetings	Mtgs	1	4	4	4	0.500	

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Start-up Meeting	StUp	0	1	1	1	0.500	
Toolbox Meetings	Tbox	1	3	3	3		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sun 07 Dec

Today's operations focused on continuing the heat flow survey along our planned line. Throughout the day, the team worked through a series of probe deployments and recoveries. After resolving the spooler issue that arose during the night, the heat flow probe was successfully brought back on deck and the team confirmed that it had recorded data.

With that verification, we proceeded with a "pogo" style sequence. Each deployment involved penetrating the seabed, recovering the probe partway, moving to the next waypoint, and repeating the process. Over the course of the day, we completed multiple penetrations (stations HF1-2 through HF1-7) and addressed minor equipment concerns as they came up. Any issues, such as a brief remote winch control glitch, were managed quickly.

By the end of the day, we had reached the next waypoint (HF1-8) and were preparing for the upcoming deployment. The crew's steady work kept us on schedule and the data collection moving forward as planned.

Daily Comment Summaries - Plan for Tomorrow

Sun 07 Dec

Continue with heat probe ops

Timing Diary (Marcus G Langseth, Hi-Rez, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	03:27	Transit	SB_TRT	3.450
Transit, deck config and deployment for heat probe.				
03:27	03:44	Deploy	AC_SM_De	0.283
Heat Probe Operation: HF1-1 Deployment				
03:44	08:12	Vessel	DT_VE	4.467
Downtime due winch spooling problems				
08:12	15:25	Equipment Handling	DT_EH	7.217
Downtime due to returning to surface to trouble shoot the heat probe.				
15:25	24:00	Deploy	AC_SM_De	8.583
Heat Probe Operation: HF1-2 Deployment Heat Probe Operation: HF1-3 Deployment Heat Probe Operation: HF1-4 Deployment Heat Probe Operation: HF1-5 Deployment Heat Probe Operation: HF1-6 Deployment Heat Probe Operation: HF1-7 Deployment				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

7-Dec	Hours	% Percent
Acquisition	8.867	36.944

7-Dec	Hours	% Percent
Swath Move	8.867	36.944
Deploy	8.867	36.944
Chargeable Standby	**3.450**	**14.375**
Transit	3.450	14.375
DownTime	**11.683**	**48.681**
Equipment Handling	7.217	30.069
Vessel	4.467	18.611
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**36.831**
At Anchor	12.500	9.470
Deployment	16.200	12.273
Transit to Prospect	19.917	15.088
Chargeable Standby	**16.717**	**12.664**
Calibrations	8.667	6.566
Planned Operations	4.017	3.043
Source Recovery	4.017	3.043
Transit	4.033	3.056
Acquisition	**54.983**	**41.654**
Prime	42.917	32.513
Prime L/C	3.200	2.424
Swath Move	8.867	6.717
Deploy	8.867	6.717
DownTime	**11.683**	**8.851**
Equipment Handling	7.217	5.467
Vessel	4.467	3.384
Total	132.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

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

Hi-Rez

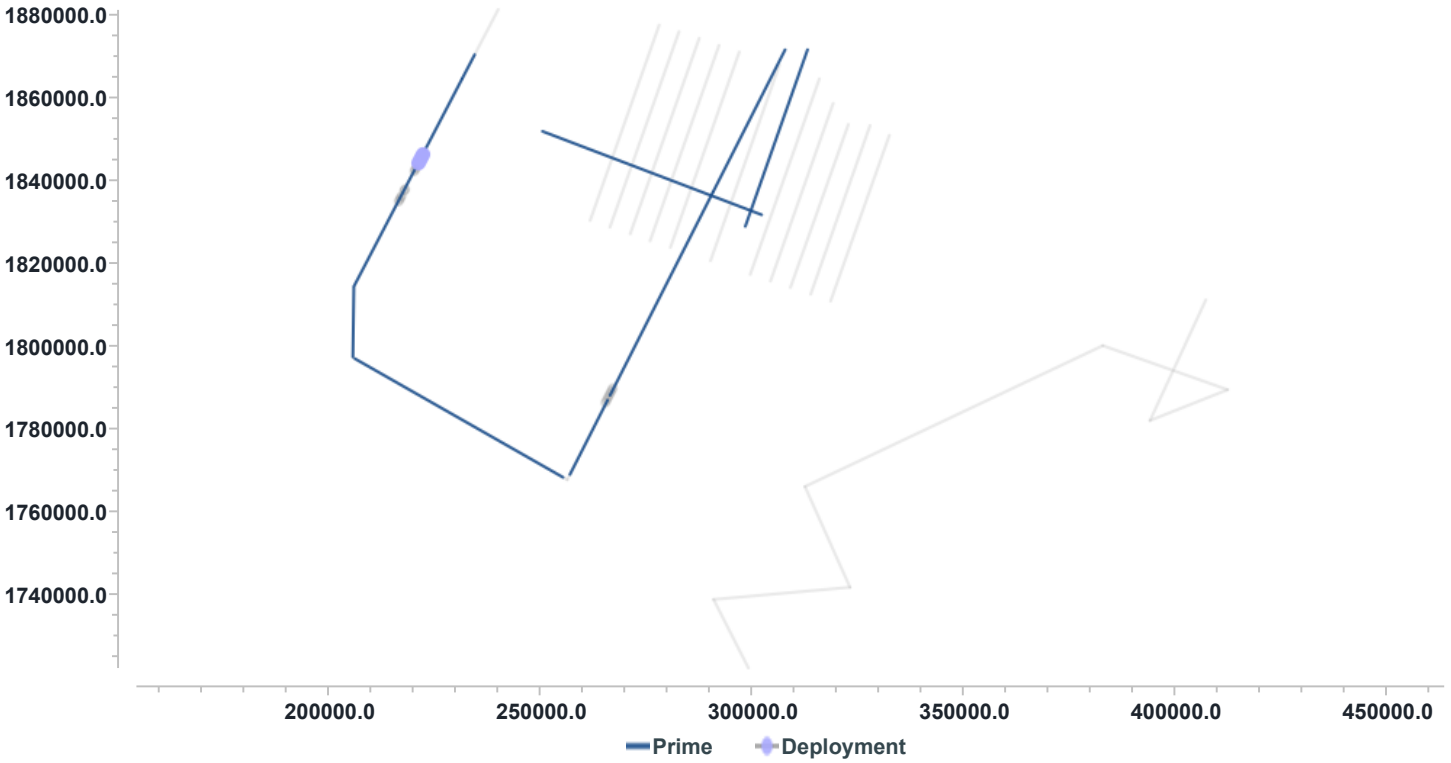
Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	349.98	349.98	349.98
Combined	**0**	**349.98**	**349.98**	**349.98**

Offshore Mexico - Pacific: Accpt
12/2/2025 - 12/7/2025
Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 07 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sun 07 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
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Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	2	2	2	0.500	
Abandon Ship Drill	AS	0	1	1	1	0.250	
Fire Drill	Fi	0	1	1	1	0.250	
Training	Trng	0	1	1	1	1.000	
Safety Induction Tours	SIT	0	1	1	1	1.000	
Meetings	Mtgs	2	6	6	6	0.500	
Start-up Meeting	StUp	0	1	1	1	0.500	
Toolbox Meetings	Tbox	2	5	5	5		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Mon 08 Dec

Operations continued through the early morning with a steady pace of heat flow deployments along the HF1 and HF2 lines. At HF1-8, HF1-9, HF1-10, and HF1-11 the probe penetrated cleanly and each station was completed without issue. Recovery of the probe was completed at 0510 (UTC), marking the end of the first line.

After a short transit the team began work on the HF2 line. HF2-1 through HF2-6 proceeded as planned, with consistent bottom conditions and predictable penetration depths. At HF2-7 we repositioned once to adjust for line slope before completing the measurement. HF2-8 was finished in the late afternoon and the probe was secured on deck at 1844 (UTC). The pinger was recovered shortly afterward.

Troubleshooting of the heat flow probe continues with support from the onshore team. The probe is collecting data, but the heat pulse remains sporadic and communication with the tilt meter and several other sensors is intermittent. Diagnostics are ongoing to determine the source of the instability and evaluate whether the remaining stations can be completed without further disruption.

With the HF2 line complete, EM122 and Knudsen mapping systems were brought back online during the transit toward the HF3 area. Mapping continued until the ship reached the next survey location just after 2310 (UTC). The pinger was deployed and preparations began for HF3-1. The probe entered the water at 2331 (UTC) and we arrived on station just before midnight.

Weather and sea conditions remained favourable throughout the day, allowing for efficient station-to-station movement and steady progress along the planned survey lines.

Daily Comment Summaries - Plan for Tomorrow

Mon 08 Dec

Continue with heat probe measurements. After line HF3 is complete, the vessel will transit for a few hours and the start to deploy the streamer.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	03:29	Deploy	AC_SM_De	3.483
Heat Probe Operation: HF1-8 Deployment Heat Probe Operation: HF1-9 Deployment Heat Probe Operation: HF1-10 Deployment Heat Probe Operation: HF1-11 Deployment				
03:29	07:23	Transit	SB_TRT	3.900
Transit between heat probe locations				
07:23	18:44	Deploy	AC_SM_De	11.350
Heat Probe Operation: HF2-1 Deployment Heat Probe Operation: HF2-2 Deployment Heat Probe Operation: HF2-3 Deployment Heat Probe Operation: HF2-4 Deployment Heat Probe Operation: HF2-5 Deployment Heat Probe Operation: HF2-6 Deployment Heat Probe Operation: HF2-7 Deployment Heat Probe Operation: HF2-8 Deployment				

Start	End	Category	Code	Duration (hrs)
18:44	24:00	Transit	SB_TRT	5.267
Transit between heat probe locations				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

8-Dec	Hours	% Percent
Acquisition	**14.833**	**61.806**
Swath Move	14.833	61.806
Deploy	14.833	61.806
Chargeable Standby	**9.167**	**38.194**
Transit	9.167	38.194
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**31.165**
At Anchor	12.500	8.013
Deployment	16.200	10.385
Transit to Prospect	19.917	12.767
Chargeable Standby	**25.883**	**16.592**
Calibrations	8.667	5.556
Planned Operations	4.017	2.575
Source Recovery	4.017	2.575
Transit	13.200	8.462
Acquisition	**69.817**	**44.754**
Prime	42.917	27.511
Prime L/C	3.200	2.051
Swath Move	23.700	15.192
Deploy	23.700	15.192
DownTime	**11.683**	**7.489**
Equipment Handling	7.217	4.626
Vessel	4.467	2.863
Total	156.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Charged km	Day	Week	Month	Project
Combined	**0**	**0**	**0**	**0**

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

Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

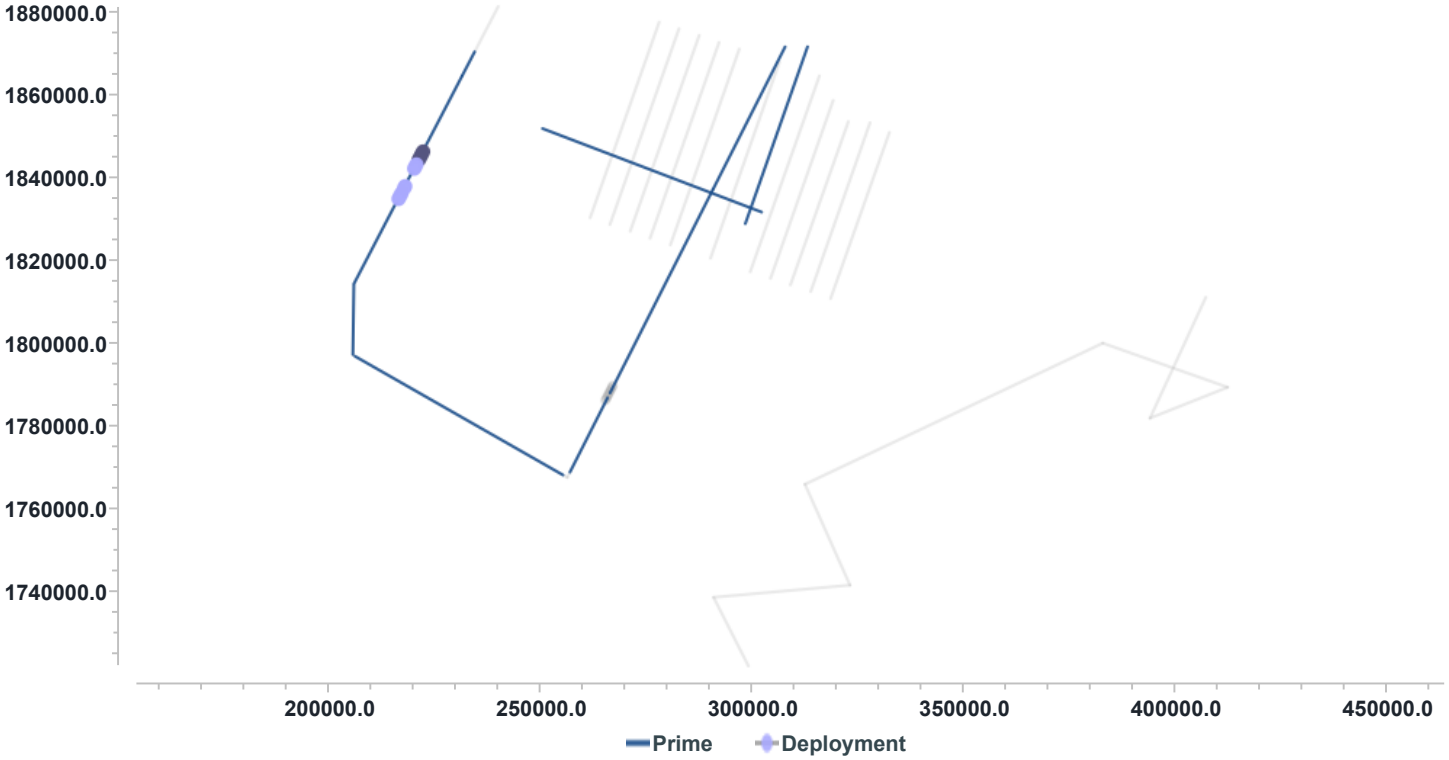
Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	349.98	349.98
Combined	**0**	**0**	**349.98**	**349.98**

Offshore Mexico - Pacific: Accpt

12/2/2025 - 12/8/2025

Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 08 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Mon 08 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
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Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	2	2	8	8	0.500	

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	2	2	7	7		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Tue 09 Dec

Operations continued along the HF3 line through the early morning. HF3-1 and HF3-2 were completed without issue, followed by an XBT cast during the short transit to HF3-3. Stations HF3-3 and HF3-4 also proceeded smoothly. The team then worked through HF3-5 to HF3-9 with consistent probe performance, clean penetrations, and efficient recoveries. After completing HF3-9, the heat probe and pinger pole were secured and the vessel began transiting to the streamer deployment area.

By mid-afternoon the vessel began preparing for seismic operations. All sonars were brought online, and deployment of the hydrophone streamer commenced. The tail buoy was launched first, followed by sequential deployment of Birds 16 through 01 along the length of the streamer. A head float was deployed to complete the tow configuration. PAM gear went in the water shortly afterward, and the team initiated pre-watch procedures.

Source array deployment began in the early evening. Array 1 was placed in position and a controlled test ramp-up was conducted. The guns performed as expected and remained secured until start of line. Later that night, the seismic line MGL2514007E01 began. An initial issue resulted in missed shots during part of the SP 19844 to SP 19870 interval due to a configuration error, which was corrected promptly. The Seal system recorded from SP 19870 onward, with a short run of missed shots during final adjustments.

The line continued after midnight with all systems online and functioning normally.

Daily Comment Summaries - Plan for Tomorrow

Tue 09 Dec

Continue acquiring the eastern (green) seismic lines

Timing Diary (Marcus G Langseth, Hi-Rez, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	11:41	Deploy	AC_SM_De	11.683
Heat Probe Operation: HF3-1 Deployment Heat Probe Operation: HF3-2 Deployment Heat Probe Operation: HF3-3 Deployment Heat Probe Operation: HF3-4 Deployment Heat Probe Operation: HF3-5 Deployment Heat Probe Operation: HF3-6 Deployment Heat Probe Operation: HF3-7 Deployment Heat Probe Operation: HF3-8 Deployment Heat Probe Operation: HF3-9 Deployment				
11:41	13:52	Field Operations	SB_FO	2.183
Recover of heat probe and pinger pole, secure on deck				
13:52	17:16	Transit	SB_TRT	3.400
Transit to streamer deployment area				
17:16	23:36	Streamer Deployment	SB_PO_STD	6.333
Streamer deployment, test source and run-in to line				
23:36	24:00	Prime	AC_PP	0.400
Seq: 7 Line: E01 SOL Seq 7 Line:E01 Block:Offshore Mexico - Pacific FGSP:19870 FCSP:N/A Hdg:206.1° Prime MSP Seq 7 Line:E01 Block:Offshore Mexico - Pacific LGSP:19983 LCSP:19983 Midnight				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

9-Dec	Hours	% Percent
Acquisition	**12.083**	**50.347**
Prime	0.400	1.667
Swath Move	11.683	48.681
Deploy	11.683	48.681
Chargeable Standby	**11.917**	**49.653**
Field Operations	2.183	9.097
Planned Operations	6.333	26.389
Streamer Deployment	6.333	26.389
Transit	3.400	14.167
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**27.009**
At Anchor	12.500	6.944
Deployment	16.200	9.000
Transit to Prospect	19.917	11.065
Chargeable Standby	**36.967**	**20.537**
Calibrations	8.667	4.815
Field Operations	2.183	1.213
Planned Operations	10.350	5.750
Source Recovery	4.017	2.231
Streamer Deployment	6.333	3.519
Transit	15.767	8.759
Acquisition	**82.733**	**45.963**
Prime	43.317	24.065
Prime L/C	3.200	1.778
Swath Move	36.217	20.120
Deploy	36.217	20.120
DownTime	**11.683**	**6.491**
Equipment Handling	7.217	4.009
Vessel	4.467	2.481
Total	180.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Totals (Chgd Main km by Shotpoint) - Full Fold

Hi-Rez

Charged km	Day	Week	Month	Project
Prime	0	0	0	0
Combined	**0**	**0**	**0**	**0**

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
7	E01	206.1	19870	19983	Prime	2.85	3.813	Midnight	Part
Total						**2.85**			

Daily Science Report

Lamont-Doherty Earth Observatory
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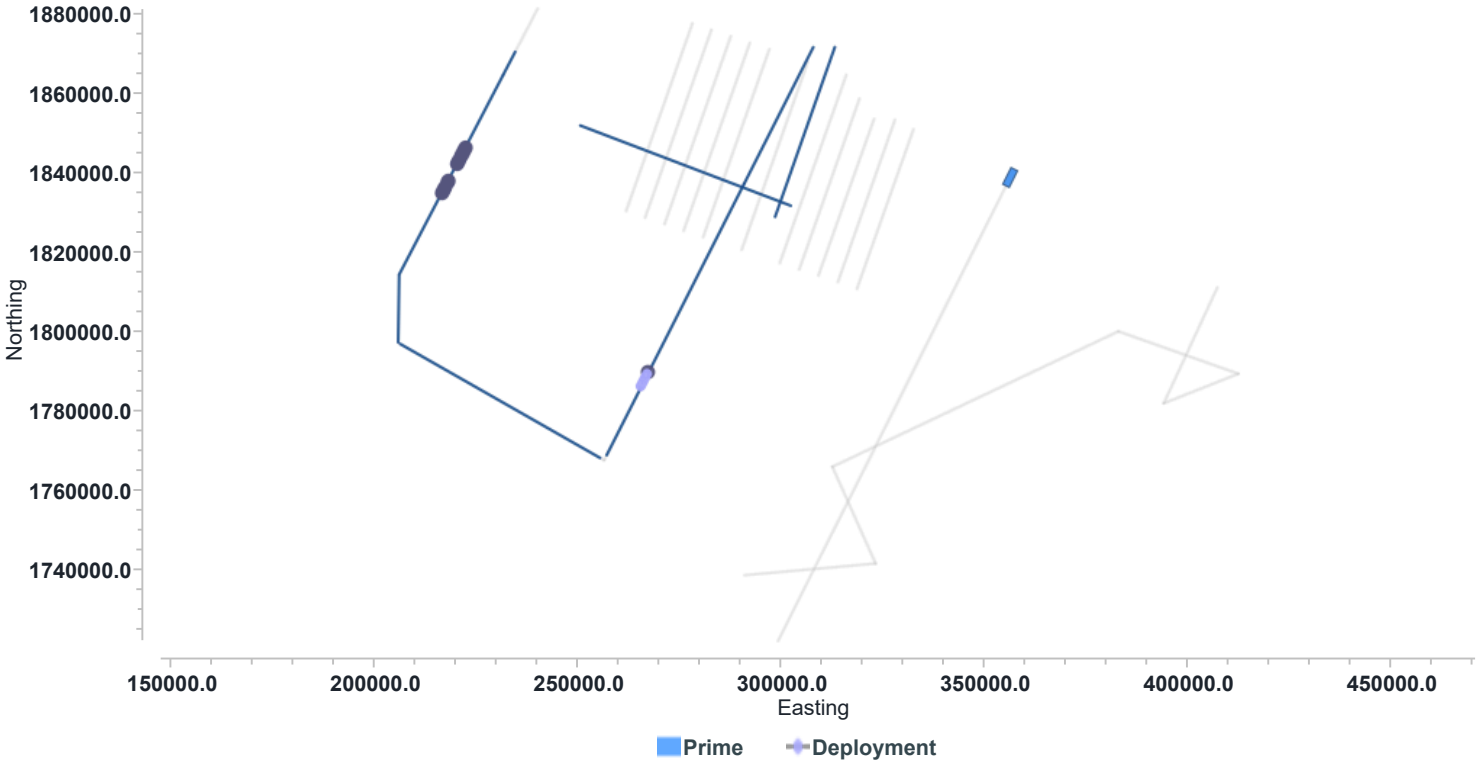
Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	2.85	2.85	352.83	352.83
Combined	**2.85**	**2.85**	**352.83**	**352.83**

Offshore Mexico - Pacific: Accpt
12/2/2025 - 12/9/2025
Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 09 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Tue 09 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth
Yessica Vicencio - RPS Lead PSO
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Maritza Martínez García - RPS PSO

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Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
Elizabeth Houghton - Grad Student - University of New Mexico
Harol Stiven Buitrago Segura - Grad Student - CICESE
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Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	2	8	8	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	2	7	7		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Wed 10 Dec

Operations continued throughout the day with a mix of magnetics, XBT work, and seismic acquisition. The magnetometer was deployed and brought online without issue. Two XBTs were released as part of Sequence 9, both T5 probes.

The team completed the remaining portion of Sequence 7, ending the line at LGSP 25276. Sequence 8 started at FGSP 25838. This line ran cleanly and ended at LGSP 26900, followed by shutting down the sources.

Ramp-up then commenced for the next sequence. Sequence 9 began at FGSP 26843 and progressed steadily, with the final shot of the day recorded at SP 27784.

Acquisition, equipment, and source performance remained stable, and operations proceeded smoothly.

Daily Comment Summaries - Plan for Tomorrow

Wed 10 Dec

Continue seismic work

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	15:06	Prime	AC_PP	15.100
Seq: 7 Line: E01 SOL Seq 7 Line:E01 FGSP:19984 EOL Seq 7 Line:E01 LGSP:25276 Complete				
15:06	16:47	Prime L/C	AC_PLC	1.683
Seq: 7 Line: E01 Nominal Prime line change.				
16:47	19:47	Prime	AC_PP	3.000
Seq: 8 Line: E02 SOL Seq 8 Line:E02 FGSP:25838 EOL Seq 8 Line:E02 LGSP:26900 Complete				
19:47	21:18	Prime L/C	AC_PLC	1.517
Seq: 8 Line: E02 Nominal Prime line change.				
21:18	24:00	Prime	AC_PP	2.700
Seq: 9 Line: E03 SOL Seq 9 Line:E03 FGSP:26843 MSP Seq 9 Line:E03 LGSP:27784 Midnight				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

10-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime	20.800	86.667

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

10-Dec	Hours	% Percent
Prime L/C	3.200	13.333
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**23.832**
At Anchor	12.500	6.127
Deployment	16.200	7.941
Transit to Prospect	19.917	9.763
Chargeable Standby	**36.967**	**18.121**
Calibrations	8.667	4.248
Field Operations	2.183	1.070
Planned Operations	10.350	5.074
Source Recovery	4.017	1.969
Streamer Deployment	6.333	3.105
Transit	15.767	7.729
Acquisition	**106.733**	**52.320**
Prime	64.117	31.430
Prime L/C	6.400	3.137
Swath Move	36.217	17.753
Deploy	36.217	17.753
DownTime	**11.683**	**5.727**
Equipment Handling	7.217	3.538
Vessel	4.467	2.190
Total	204.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

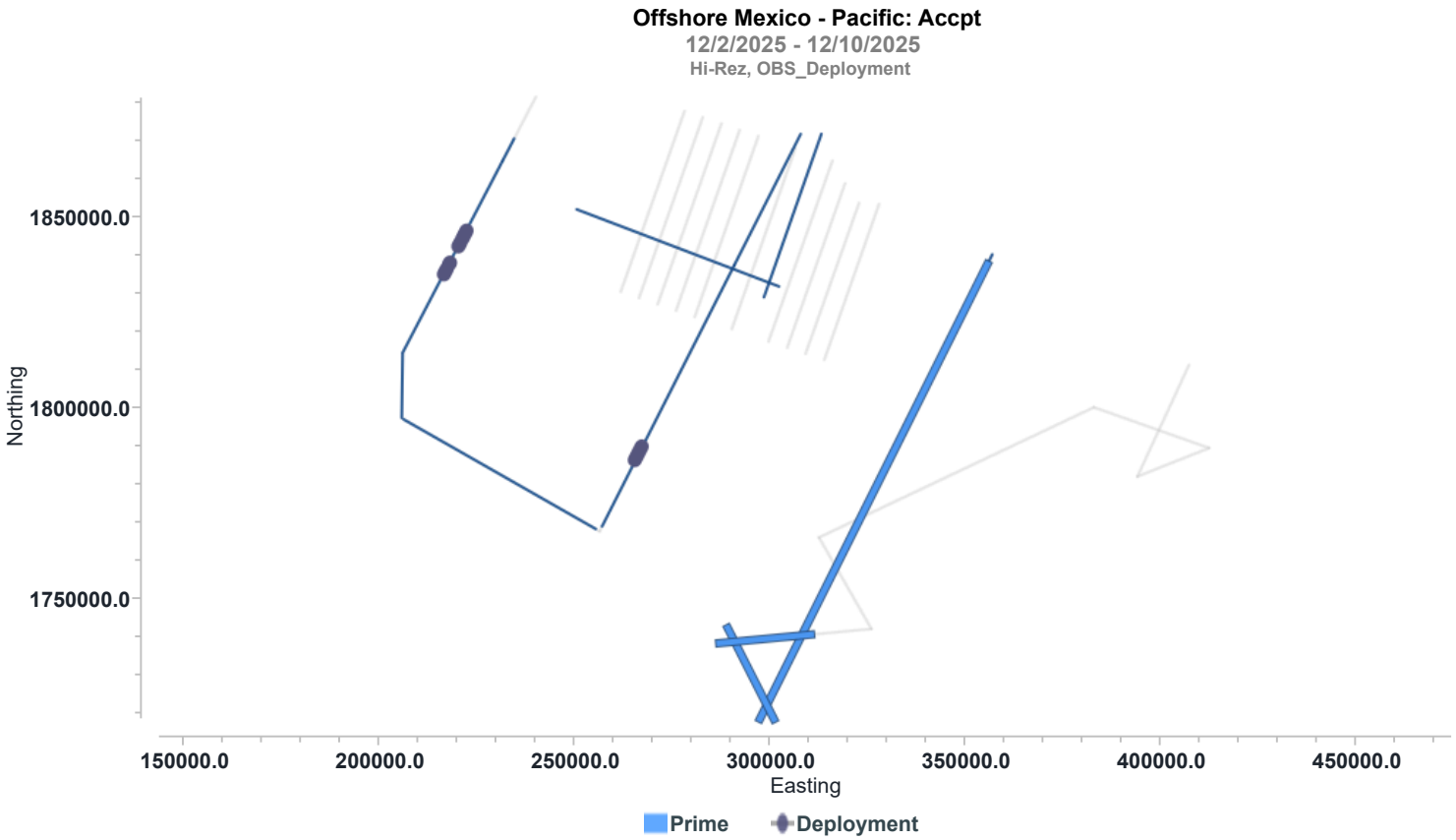
Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
7	E01	206.1	19984	25276	Prime	132.33	4.708	Complete	Complete
8	E02	333.6	25838	26900	Prime	26.58	4.779	Complete	Complete
9	E03	84.5	26843	27784	Prime	23.55	4.623	Midnight	Part
Total						**182.45**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	182.45	185.30	535.28	535.28
Combined	**182.45**	**185.30**	**535.28**	**535.28**



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 10 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Wed 10 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
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Gilles Guerin L-DEO OMO Technician
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Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	2	5	11	11	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	2	5	10	10		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Thu 11 Dec

Sequence 9 was completed at LGSP 28561, after which all sources were secured. Ramp-up for the next line began shortly thereafter, Sequence 10 started at FGSP 29342. One shot was missed during a Seal alarm reset, but acquisition continued normally. An XBT was deployed as part of Sequence 10. The line ended at LGSP 30757, and the sources were taken silent.

Ramp-up then began for Sequence 11. Once the array reached full volume, the line started at FGSP 31383. During this sequence, magnetometer error messages began appearing in the record, and data quality is uncertain. Additional noise was observed on the streamer near 2500 ms, and the Knudsen briefly lost seafloor returns while passing over a seamount. Sequence 11 concluded at LGSP 34606.

Sequence 12 began at FGSP 35520 with a 9 second record length. The line progressed without major interruption and ended at LGSP 37017, where all sources were secured.

Operations remained steady overall, aside from the noted instrument noise and magnetometer issues.

Daily Comment Summaries - Plan for Tomorrow

Thu 11 Dec

Finish up the seismic ops, recover gear and transition in to heat probe work.

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	02:19	Prime	AC_PP	2.317
Seq: 9 Line: E03 SOL Seq 9 Line:E03 FGSP:27785 EOL Seq 9 Line:E03 LGSP:28561 Complete				
02:19	03:37	Prime L/C	AC_PLC	1.300
Seq: 9 Line: E03 Nominal Prime line change.				
03:37	07:34	Prime	AC_PP	3.950
Seq: 10 Line: E04 SOL Seq 10 Line:E04 FGSP:29342 EOL Seq 10 Line:E04 LGSP:30757 Complete				
07:34	09:30	Prime L/C	AC_PLC	1.933
Seq: 10 Line: E04 Nominal Prime line change.				
09:30	18:54	Prime	AC_PP	9.400
Seq: 11 Line: E05 SOL Seq 11 Line:E05 FGSP:31383 EOL Seq 11 Line:E05 LGSP:34606 Complete				
18:54	19:00	Prime L/C	AC_PLC	0.100
Seq: 11				

Start	End	Category	Code	Duration (hrs)
Line: E05 Nominal Prime line change.				
19:00	23:42	Prime	AC_PP	4.700
Seq: 12 Line: E06 SOL Seq 12 Line:E06 FGSP:35520 EOL Seq 12 Line:E06 LGSP:37017 Complete Record Length changed to 9 seconds				
23:42	24:00	Prime L/C	AC_PLC	0.300
Seq: 12 Line: E06 Nominal Prime line change.				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

11-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime	20.367	84.861
Prime L/C	3.633	15.139
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**21.323**
At Anchor	12.500	5.482
Deployment	16.200	7.105
Transit to Prospect	19.917	8.735
Chargeable Standby	**36.967**	**16.213**
Calibrations	8.667	3.801
Field Operations	2.183	0.958
Planned Operations	10.350	4.539
Source Recovery	4.017	1.762
Streamer Deployment	6.333	2.778
Transit	15.767	6.915
Acquisition	**130.733**	**57.339**
Prime	84.483	37.054
Prime L/C	10.033	4.401
Swath Move	36.217	15.885
Deploy	36.217	15.885
DownTime	**11.683**	**5.124**
Equipment Handling	7.217	3.165
Vessel	4.467	1.959
Total	228.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
9	E03	84.5	27785	28561	Prime	19.43	4.623	Complete	Complete
10	E04	330.7	29342	30757	Prime	35.40	4.836	Complete	Complete

Daily Science Report

Lamont-Doherty Earth Observatory
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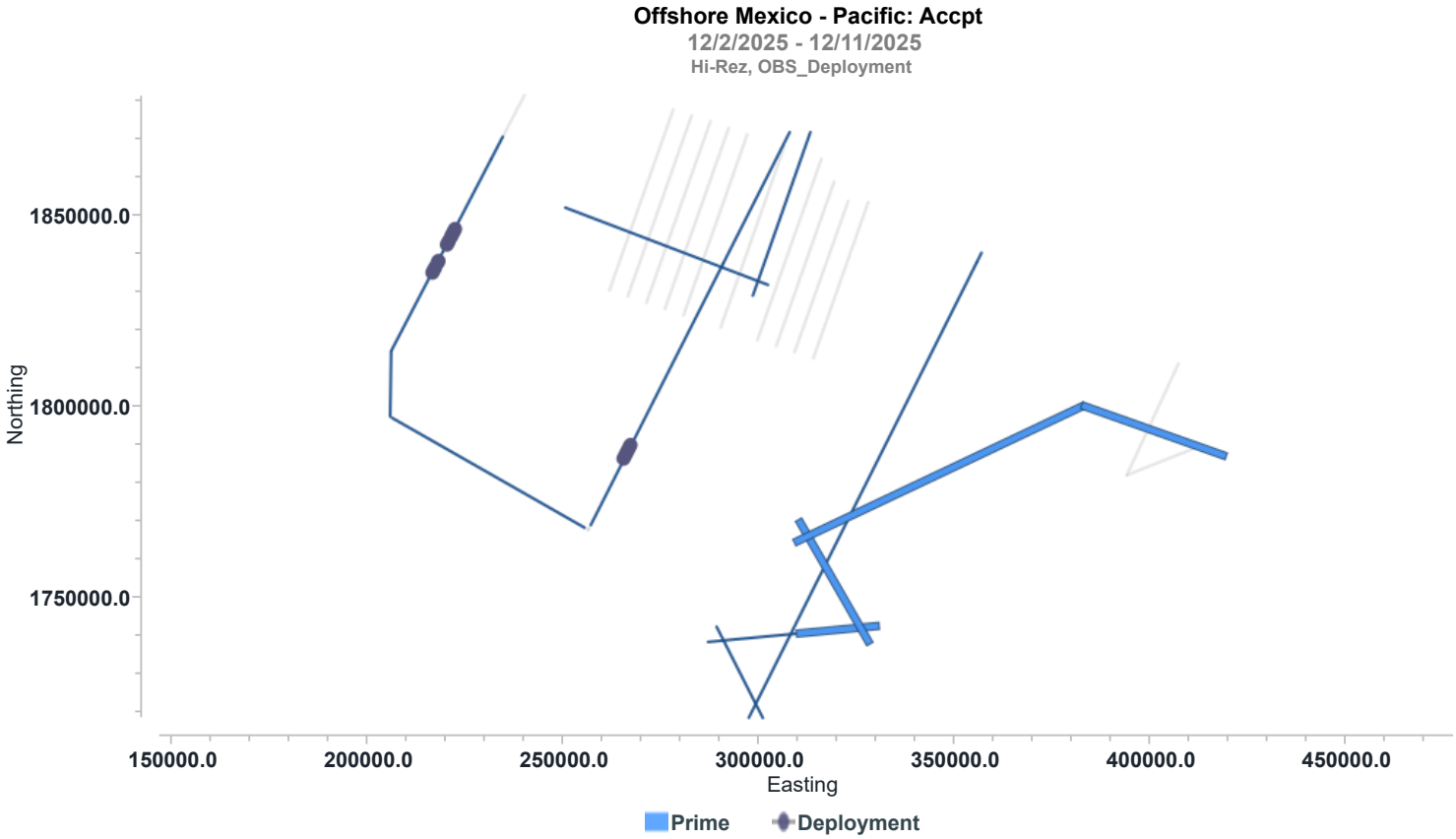
Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
11	E05	64.2	31383	34606	Prime	80.60	4.628	Complete	Complete
12	E06	109.9	35520	37017	Prime	37.45	4.300	Complete	Complete
Total						**172.88**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	172.88	358.18	708.15	708.15
Combined	**172.88**	**358.18**	**708.15**	**708.15**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 11 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Thu 11 Dec

Technical Staff On-board the Langseth
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HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	5	11	11	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	5	10	10		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Fri 12 Dec

The vessel continued seismic and heat flow operations throughout December 12.

Seismic acquisition resumed shortly after midnight with a source ramp-up. Seismic Line MGL2514013E07 commenced shortly thereafter. During the early portion of the line, fishing activity was observed in the area, with small vessels crossing the streamer. Operations continued with heightened awareness.

Seismic Line MGL2514014E08 was started and acquired without incident. Two XBT deployments were attempted during the day. Both sequences failed, the wire was hitting the gear.
After end of line, the vessel completed a port turn and stabilized while gear was adjusted in preparation for recovery. Source array 1 was recovered and brought onboard, followed by successful streamer recovery.

Fishing gear was found on the Magnetometer, source and streamer. The problems we were seeing with the magnetometer since the 12th was due to fishing line, it damaged the tow cable near the sea end termination. This cable will be swapped out before the next seismic phase.

After the seismic gear was onboard the vessel transited for ~3 hours. Once on station the pinger was deployed followed by the heat probe. The benthos 12 khz pinger needed to be swapped out as the LDEO pinger no longer works. Trouble shooting this now.

Just before midnight UTC heat probe stations HF4-1 and HF4-2 were completed. The probe seems to be working as expected, the team are getting good data transmitted from the probe up to the pinger pole.

Daily Comment Summaries - Plan for Tomorrow

Fri 12 Dec

Continue with heat probe stations

Timing Diary (Marcus G Langseth, Hi-Rez, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	00:58	Prime L/C	AC_PLC	0.967
Seq: 12 Line: E06 Nominal Prime line change.				
00:58	04:55	Prime	AC_PP	3.950
Seq: 13 Line: E07 SOL Seq 13 Line:E07 FGSP:37273 EOL Seq 13 Line:E07 LGSP:38451 Complete				
04:55	06:34	Prime L/C	AC_PLC	1.650
Seq: 13 Line: E07 Nominal Prime line change.				
06:34	12:40	Prime	AC_PP	6.100
Seq: 14 Line: E08 SOL Seq 14 Line:E08 FGSP:39192 EOL Seq 14 Line:E08 LGSP:40940 Complete				
12:40	16:49	Streamer Recovery	SB_PO_STR	4.150
The vessel turned to the west, source and streamer recovery.				

Daily Science Report

Lamont-Doherty Earth Observatory
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Start	End	Category	Code	Duration (hrs)
16:49	19:55	Transit	SB_TRT	3.100
Transit to heat probe location				
19:55	21:10	Field Operations	SB_FO	1.250
Deploying pinger pole, preparing decks for heat probe and deploying heat probe.				
21:10	24:00	Deploy	AC_SM_De	2.833
Heat Probe Operation: HF4-1 Deployment Heat Probe Operation: HF4-2 Deployment				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

12-Dec	Hours	% Percent
Acquisition	**15.500**	**64.583**
Prime	10.050	41.875
Prime L/C	2.617	10.903
Swath Move	2.833	11.806
Deploy	2.833	11.806
Chargeable Standby	**8.500**	**35.417**
Field Operations	1.250	5.208
Planned Operations	4.150	17.292
Streamer Recovery	4.150	17.292
Transit	3.100	12.917
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**19.292**
At Anchor	12.500	4.960
Deployment	16.200	6.429
Transit to Prospect	19.917	7.903
Chargeable Standby	**45.467**	**18.042**
Calibrations	8.667	3.439
Field Operations	3.433	1.362
Planned Operations	14.500	5.754
Source Recovery	4.017	1.594
Streamer Deployment	6.333	2.513
Streamer Recovery	4.150	1.647
Transit	18.867	7.487
Acquisition	**146.233**	**58.029**
Prime	94.533	37.513
Prime L/C	12.650	5.020
Swath Move	39.050	15.496
Deploy	39.050	15.496
DownTime	**11.683**	**4.636**
Equipment Handling	7.217	2.864
Vessel	4.467	1.772
Total	252.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m

Hi-Rez					
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

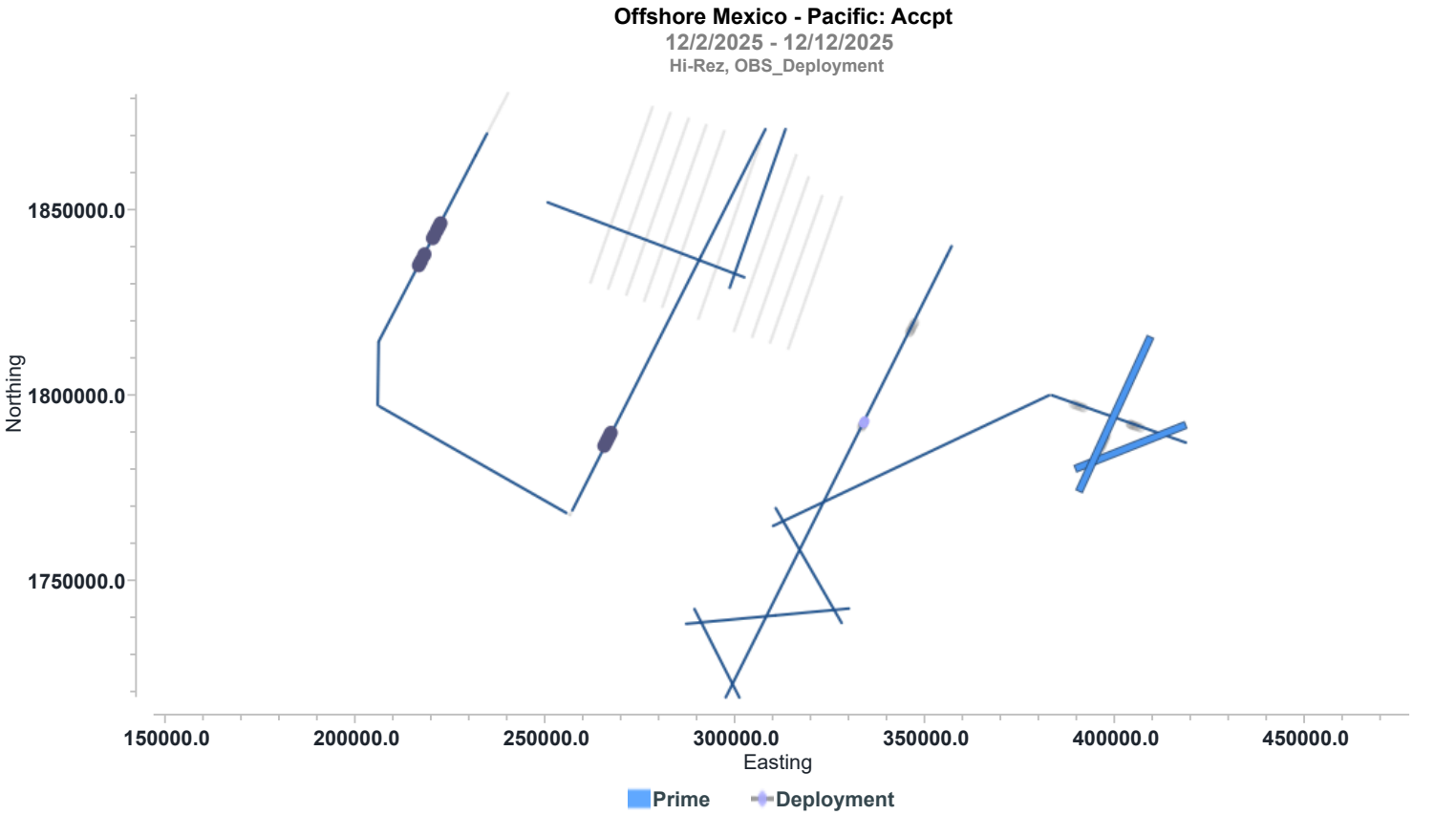
Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
13	E07	247.9	37273	38451	Prime	29.48	4.026	Complete	Complete
14	E08	24.3	39192	40940	Prime	43.73	3.868	Complete	Complete
Total						**73.20**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	73.20	431.38	781.35	781.35
Combined	**73.20**	**431.38**	**781.35**	**781.35**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 12 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Fri 12 Dec

Technical Staff On-board the Langseth

Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth

Yessica Vicencio - RPS Lead PSO
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Maritza Martínez García - RPS PSO

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Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
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Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	1

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	1	6	12	12	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	1	6	11	11		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sat 13 Dec

It was a full day of heat probe operations.

Station 4 was completed, the probe was recovered, and the vessel transited to Station 5.

The heat probe and pinger pole were deployed, and operations at Station 5 commenced.

Just before midnight UTC, Station 5 was finished and the heat probe was recovered on deck in preparation for transit to Station 6.

A total of 15 penetrations were conducted today.

Daily Comment Summaries - Plan for Tomorrow

Sat 13 Dec

Continue with heat probe ops.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	05:18	Deploy	AC_SM_De	5.300
Heat Probe Operation: HF4-3 Deployment Heat Probe Operation: HF4-4 Deployment Heat Probe Operation: HF4-5 Deployment Heat Probe Operation: HF4-6 Deployment Heat Probe Operation: HF4-7 Deployment Heat Probe Operation: HF4-8 Deployment Heat Probe Operation: HF4-9 Deployment				
05:18	10:24	Field Operations	SB_FO	5.100
Recover heat probe/pinger pole, Transit, deploy heat probe/pinger pole.				
10:24	20:09	Deploy	AC_SM_De	9.750
Heat Probe Operation: HF5-1 Deployment Heat Probe Operation: HF5-2 Deployment Heat Probe Operation: HF5-3 Deployment Heat Probe Operation: HF5-4 Deployment Heat Probe Operation: HF5-5 Deployment Heat Probe Operation: HF5-6 Deployment Heat Probe Operation: HF5-7 Deployment Heat Probe Operation: HF5-8 Deployment				
20:09	24:00	Field Operations	SB_FO	3.850
Recover heat probe/pinger pole, Transit, deploy heat probe/pinger pole.				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

13-Dec	Hours	% Percent
Acquisition	**15.050**	**62.708**
Swath Move	15.050	62.708
Deploy	15.050	62.708
Chargeable Standby	**8.950**	**37.292**
Field Operations	8.950	37.292
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**17.615**
At Anchor	12.500	4.529
Deployment	16.200	5.870
Transit to Prospect	19.917	7.216
Chargeable Standby	**54.417**	**19.716**
Calibrations	8.667	3.140
Field Operations	12.383	4.487
Planned Operations	14.500	5.254
Source Recovery	4.017	1.455
Streamer Deployment	6.333	2.295
Streamer Recovery	4.150	1.504
Transit	18.867	6.836
Acquisition	**161.283**	**58.436**
Prime	94.533	34.251
Prime L/C	12.650	4.583
Swath Move	54.100	19.601
Deploy	54.100	19.601
DownTime	**11.683**	**4.233**
Equipment Handling	7.217	2.615
Vessel	4.467	1.618
Total	276.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

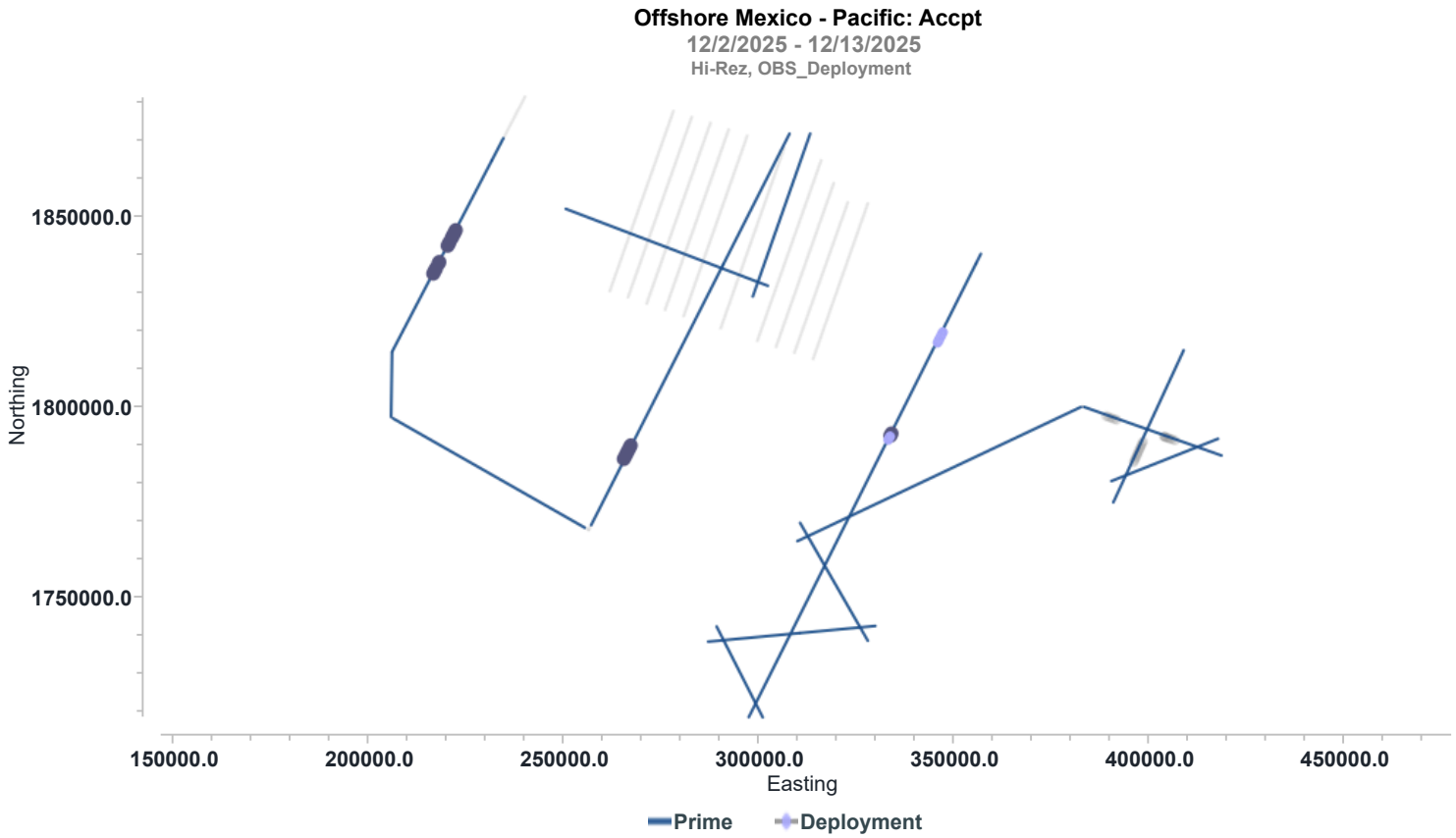
Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	431.38	781.35	781.35
Combined	**0**	**431.38**	**781.35**	**781.35**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 13 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sat 13 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
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Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	2

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	2	8	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	2	8	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sun 14 Dec

At the start of the day, the heat probe was on deck while the vessel completed the transit to Station 6.

At 03:15 UTC, the heat probe was deployed, beginning another day of heat probe operations.

Station 6 was completed, and five penetrations were completed at Station 7, for a total of 15 penetrations for the day.

During the transit between Stations 6 and 7, the pinger pole and heat probe were left deployed to maximize operational efficiency.

Also, during the transit, POSMV required a restart after failing to connect.

The magnetometer cable was changed out, and the towfish tested good on deck. The original magnetometer cable was damaged by fishing gear.

At the end of the day, the vessel had just completed penetration 7-5.

Daily Comment Summaries - Plan for Tomorrow

Sun 14 Dec

Finish station 7 and start station 8.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	03:15	Field Operations	SB_FO	3.250
Recover heat probe/pinger pole, Transit, deploy heat probe/pinger pole.				
03:15	14:46	Deploy	AC_SM_De	11.517
Heat Probe Operation: HF6-1 Deployment Heat Probe Operation: HF6-2 Deployment Heat Probe Operation: HF6-3 Deployment Heat Probe Operation: HF6-4 Deployment Heat Probe Operation: HF6-5 Deployment Heat Probe Operation: HF6-6 Deployment Heat Probe Operation: HF6-7 Deployment Heat Probe Operation: HF6-8 Deployment Heat Probe Operation: HF6-9 Deployment Heat Probe Operation: HF6-10 Deployment				
14:46	18:56	Transit	SB_TRT	4.167
Transit from Station 6 to 7. Heat Probe and Pinger were left deployed as this was the most efficient transit time.				
18:56	24:00	Deploy	AC_SM_De	5.067
Heat Probe Operation: HF7-1 Deployment Heat Probe Operation: HF7-2 Deployment Heat Probe Operation: HF7-3 Deployment Heat Probe Operation: HF7-4 Deployment Heat Probe Operation: HF7-5 Deployment				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

14-Dec	Hours	% Percent
Acquisition	**16.583**	**69.097**

14-Dec	Hours	% Percent
Swath Move	16.583	69.097
Deploy	16.583	69.097
Chargeable Standby	**7.417**	**30.903**
Field Operations	3.250	13.542
Transit	4.167	17.361
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**16.206**
At Anchor	12.500	4.167
Deployment	16.200	5.400
Transit to Prospect	19.917	6.639
Chargeable Standby	**61.817**	**20.606**
Calibrations	8.667	2.889
Field Operations	15.617	5.206
Planned Operations	14.500	4.833
Source Recovery	4.017	1.339
Streamer Deployment	6.333	2.111
Streamer Recovery	4.150	1.383
Transit	23.033	7.678
Acquisition	**177.883**	**59.294**
Prime	94.533	31.511
Prime L/C	12.650	4.217
Swath Move	70.700	23.567
Deploy	70.700	23.567
DownTime	**11.683**	**3.894**
Equipment Handling	7.217	2.406
Vessel	4.467	1.489
Total	300.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

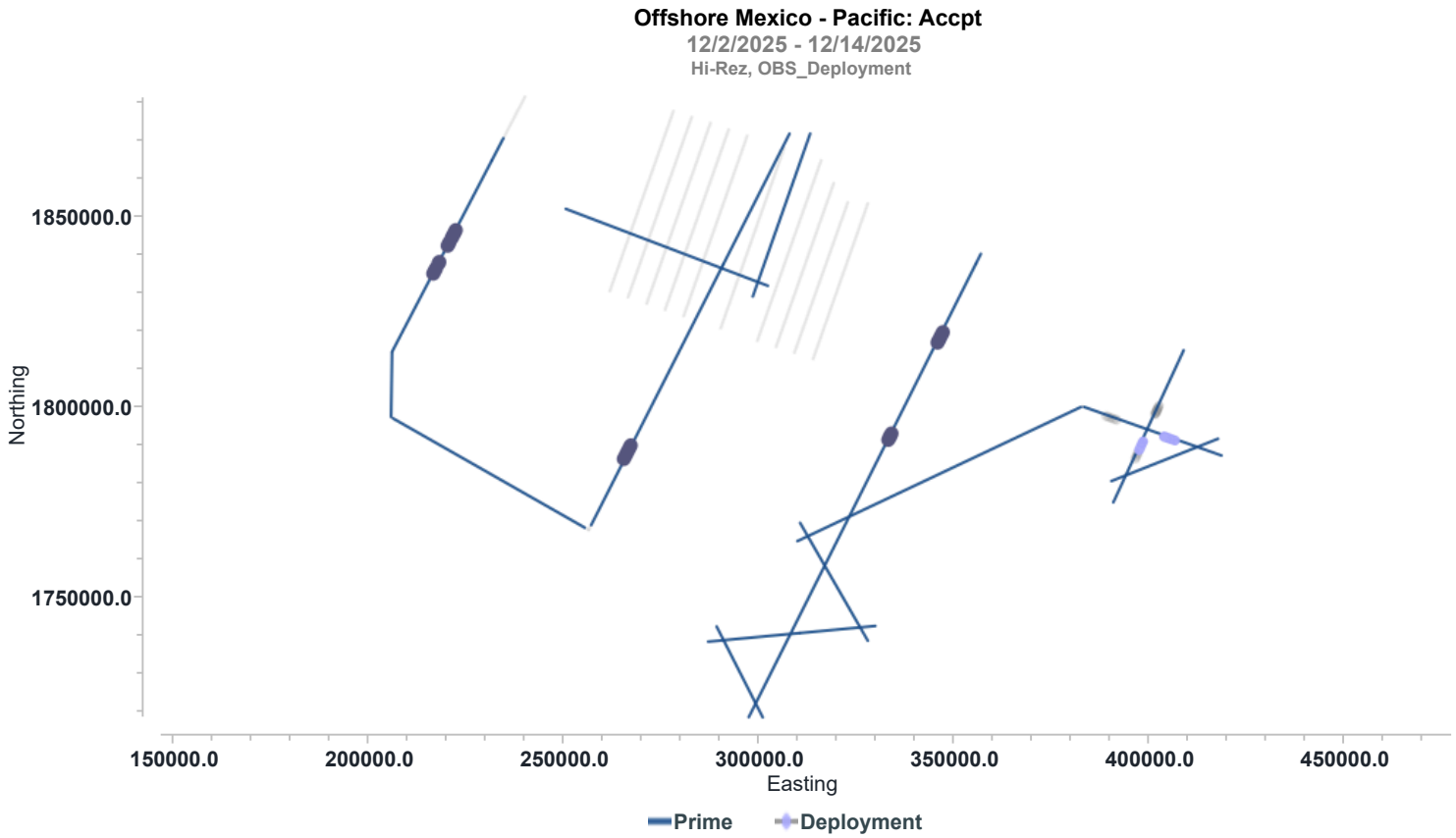
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	431.38	781.35	781.35
Combined	**0**	**431.38**	**781.35**	**781.35**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 14 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sun 14 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
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HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	8	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	8	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Mon 15 Dec

Heat flow operations continued with a series of stations completed along Lines HF7 and HF8. Stations HF7-5 through HF7-11 were occupied sequentially, with the probe penetrating the seafloor and being recovered at each site. An XBT was deployed following completion of HF7-9. After HF7-11, the heat flow probe was recovered to deck and the vessel transited to the HF8 line.

Stations HF8-1 through HF8-6 were completed in order. At each station, the vessel arrived on site, the heat flow probe was deployed, penetrated the bottom, and recovered. Upon completion of HF8-6, the heat flow probe and pinger were recovered and secured for transit.

The vessel then transited to Line HF9. At HF9-1, the pinger and heat flow probe were deployed and penetration was achieved, though overall penetrations along Line HF9 showed varying success. The vessel subsequently arrived at HF9-2, where the heat flow probe penetrated the seafloor and operations were ongoing at the end of the log period.

Daily Comment Summaries - Plan for Tomorrow

Mon 15 Dec

Continue with heat flow operations and start streamer ops.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	06:14	Deploy	AC_SM_De	6.233
Heat Probe Operation: HF7-6 Deployment Heat Probe Operation: HF7-7 Deployment Heat Probe Operation: HF7-8 Deployment Heat Probe Operation: HF7-9 Deployment Heat Probe Operation: HF7-10 Deployment Heat Probe Operation: HF7-11 Deployment				
06:14	09:50	Field Operations	SB_FO	3.600
Recover heat probe, secure on deck, transit, deploy heat probe				
09:50	17:20	Deploy	AC_SM_De	7.500
Heat Probe Operation: HF8-1 Deployment Heat Probe Operation: HF8-2 Deployment Heat Probe Operation: HF8-3 Deployment Heat Probe Operation: HF8-4 Deployment Heat Probe Operation: HF8-5 Deployment Heat Probe Operation: HF8-6 Deployment				
17:20	21:36	Field Operations	SB_FO	4.267
Recover heat probe, secure on deck, transit, deploy heat probe				
21:36	24:00	Deploy	AC_SM_De	2.400
Heat Probe Operation: HF9-1 Deployment Heat Probe Operation: HF9-2 Deployment				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

15-Dec	Hours	% Percent
Acquisition	**16.133**	**67.222**
Swath Move	16.133	67.222

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

15-Dec	Hours	% Percent
Deploy	16.133	67.222
Chargeable Standby	**7.867**	**32.778**
Field Operations	7.867	32.778
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**15.005**
At Anchor	12.500	3.858
Deployment	16.200	5.000
Transit to Prospect	19.917	6.147
Chargeable Standby	**69.683**	**21.507**
Calibrations	8.667	2.675
Field Operations	23.483	7.248
Planned Operations	14.500	4.475
Source Recovery	4.017	1.240
Streamer Deployment	6.333	1.955
Streamer Recovery	4.150	1.281
Transit	23.033	7.109
Acquisition	**194.017**	**59.882**
Prime	94.533	29.177
Prime L/C	12.650	3.904
Swath Move	86.833	26.800
Deploy	86.833	26.800
DownTime	**11.683**	**3.606**
Equipment Handling	7.217	2.227
Vessel	4.467	1.379
Total	324.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

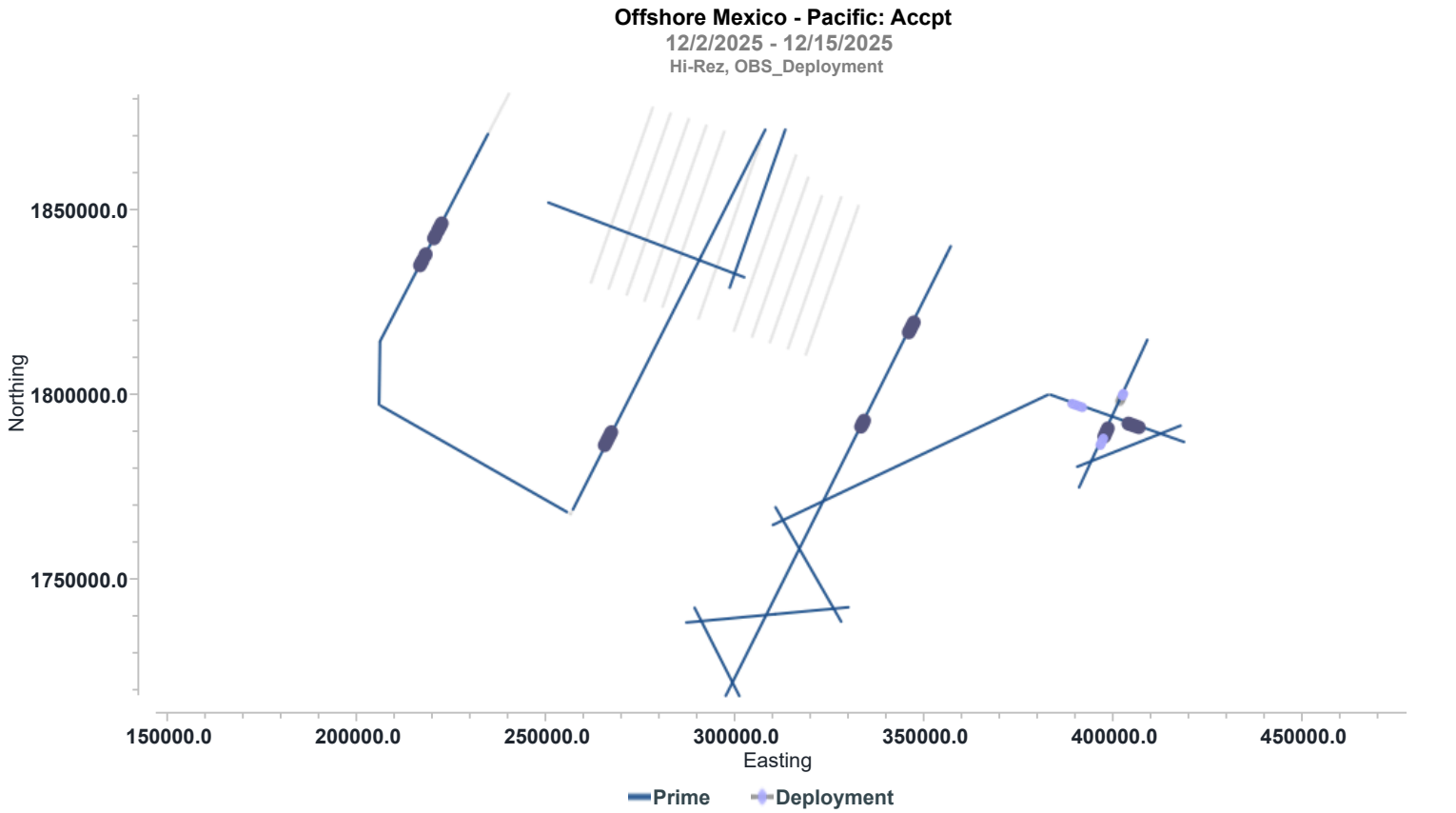
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	781.35	781.35
Combined	**0**	**0**	**781.35**	**781.35**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 15 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Mon 15 Dec

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HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Tue 16 Dec

Heat flow operations continued along Line HF9 with a sustained sequence of station occupations. Stations HF9-2 through HF9-14 were occupied in order. At each site, the vessel arrived on station, the heat flow probe was deployed, penetration was attempted, and the probe was recovered. As with earlier HF9 operations, penetrations showed varying success across the line, though all planned stations were completed.

Following completion of HF9-14, recovery of the heat flow probe was initiated. Shortly after starting recovery, several loose wraps were observed on the winch drum. The probe could not be lowered further, as the loose wraps were deeper in the drum and outside the working layer. A toolbox talk was held with the Captain, Chief Engineer, and technical staff to determine the safest course of action. It was decided to secure the wire over the side, with approximately 5,250 meters of cable in the water and an estimated 9,000 pounds of tension. Two Yale grips were applied and the wire was held on the traction head. Approximately 500 meters of cable were carefully decked before the loose wraps were cleared, at roughly 5,750 meters on the drum.

The cable was then tensioned to the extent possible using personnel on deck, tuggers, and rope to increase friction. While tension could not be fully restored, the wire was wrapped with clear plastic to limit bulging and prevent loose wraps from migrating deeper into the drum. The Yale grips were removed and recovery resumed. As the tensioned wire was spooled, it was observed seating next to the previously untensioned wraps and was deemed acceptable to continue.

Recovery proceeded until approximately 2,500 meters remaining, when the winch lost power. After initial troubleshooting, the Chief Engineer was called. Several power leads were reterminated, restoring winch functionality, and recovery of the heat flow probe was completed successfully.

Daily Comment Summaries - Plan for Tomorrow

Tue 16 Dec

Continue with seismic phase 3 ops

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	11:22	Deploy	AC_SM_De	11.367
Heat Probe Operation: HF9-3 Deployment Heat Probe Operation: HF9-4 Deployment Heat Probe Operation: HF9-5 Deployment Heat Probe Operation: HF9-6 Deployment Heat Probe Operation: HF9-7 Deployment Heat Probe Operation: HF9-8 Deployment Heat Probe Operation: HF9-9 Deployment Heat Probe Operation: HF9-10 Deployment Heat Probe Operation: HF9-11 Deployment Heat Probe Operation: HF9-12 Deployment Heat Probe Operation: HF9-13 Deployment Heat Probe Operation: HF9-14 Deployment				
11:22	20:21	Equipment Handling	DT_EH	8.983
Downtime due dynacon Winch. - Loops on drum - Power Problems				
20:21	21:31	Field Operations	SB_FO	1.167
Recovery of heat probe and pinger pole, secure on deck				
21:31	24:00	Transit	SB_TRT	2.483
Transit to streamer deployment area for Phase 3				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

16-Dec	Hours	% Percent
Acquisition	**11.367**	**47.361**
Swath Move	11.367	47.361
Deploy	11.367	47.361
Chargeable Standby	**3.650**	**15.208**
Field Operations	1.167	4.861
Transit	2.483	10.347
DownTime	**8.983**	**37.431**
Equipment Handling	8.983	37.431
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**13.970**
At Anchor	12.500	3.592
Deployment	16.200	4.655
Transit to Prospect	19.917	5.723
Chargeable Standby	**73.333**	**21.073**
Calibrations	8.667	2.490
Field Operations	24.650	7.083
Planned Operations	14.500	4.167
Source Recovery	4.017	1.154
Streamer Deployment	6.333	1.820
Streamer Recovery	4.150	1.193
Transit	25.517	7.332
Acquisition	**205.383**	**59.018**
Prime	94.533	27.165
Prime L/C	12.650	3.635

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Swath Move	98.200	28.218
Deploy	98.200	28.218
DownTime	**20.667**	**5.939**
Equipment Handling	16.200	4.655
Vessel	4.467	1.284
Total	348.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	8000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

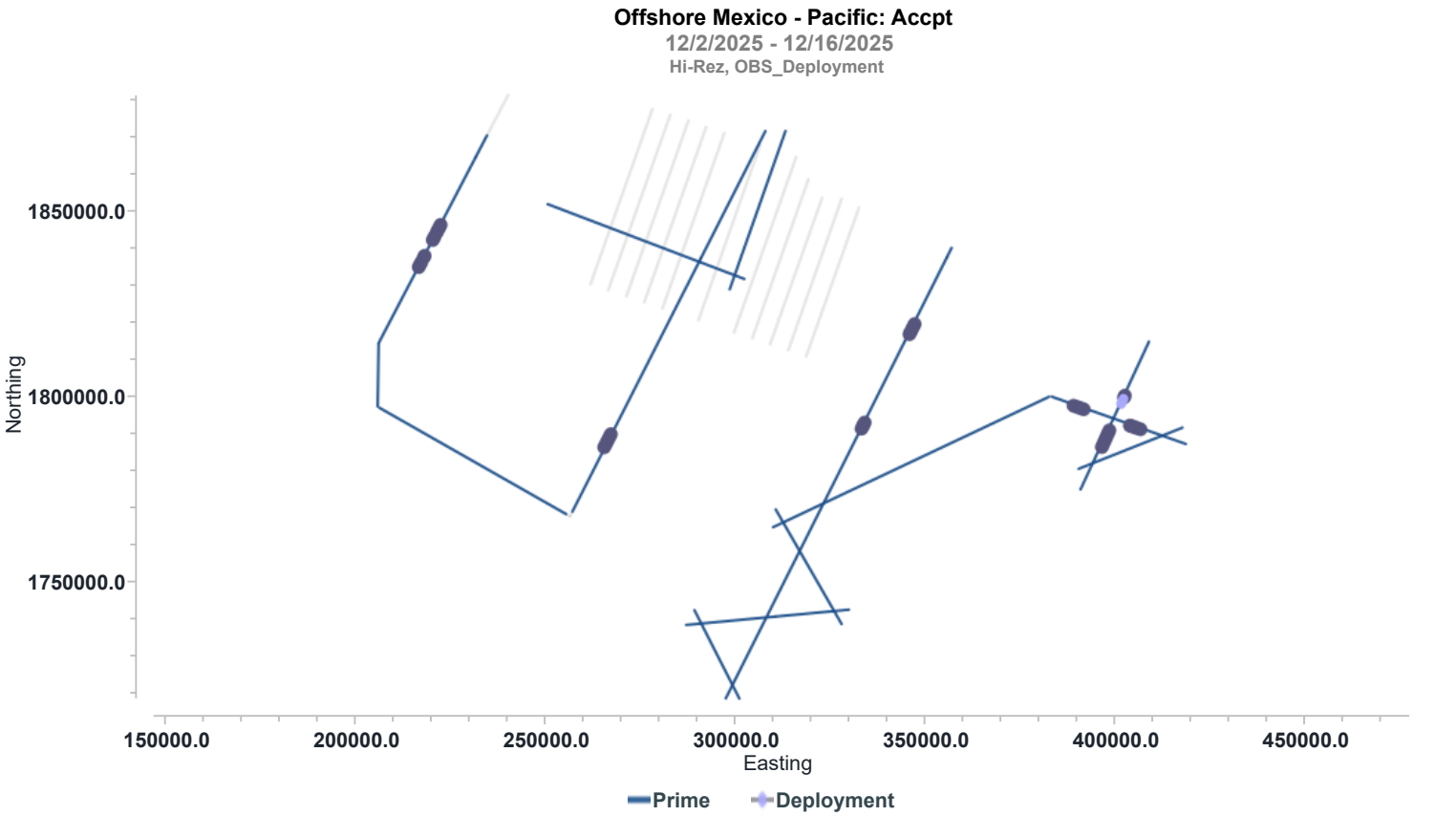
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	781.35	781.35
Combined	**0**	**0**	**781.35**	**781.35**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 16 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Tue 16 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth
Yessica Vicencio - RPS Lead PSO
Veronica Balderas - RPS PSO
Lilia Perez - RPS PSO
Ana Betsabe Salomon - RPS PSO
Maritza Martínez García - RPS PSO

Science Party On-board the Langseth
Glenn Spinelli - Chief Scientist - New Mexico Tech
Lindsay Worthington – Scientist - University of New Mexico
Jeffrey Poort – Scientist - Sorbonne University
Lujendra Ojha – Scientist - Rutgers
Jeffrey Poort – Scientist - Sorbonne University
Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
Elizabeth Houghton - Grad Student - University of New Mexico
Harol Stiven Buitrago Segura - Grad Student - CICESE
Isabela Macías Iñiguez - Grad Student
Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Wed 17 Dec

Seismic operations commenced with full streamer deployment. The tail buoy was deployed followed by sequential deployment of Birds 16 through 1, after which the head float was deployed and the streamer was brought into position. The PAM system was then deployed and pre-watch initiated. The seismic source array was deployed and brought into position, followed by a successful test ramp-up and subsequent shutdown. The magnetometer was deployed and brought online.

Seismic acquisition began with ramp-up to full volume and the start of Line MGL2514015T01. During the line, an XBT deployment failed, and a POSMV IMU fault required a power cycle. Due to a magnetometer fault, Maggie was recovered, then later redeployed once conditions allowed. Line MGL2514015T01 was completed successfully.

Following completion of the line, sources were ramped up and Line MGL2514016T02 was initiated and acquired to completion, after which all sources were disabled. Later in the day, sources were again ramped up and Line MGL2514017T03 was started, with acquisition ongoing at the end of the log period.

Daily Comment Summaries - Plan for Tomorrow

Wed 17 Dec

Continue with seismic phase 3 ops

Timing Diary (Marcus G Langseth, Hi-Rez, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	00:45	Transit	SB_TRT	0.750
Transit to streamer deployment area for Phase 3				
00:45	04:52	Streamer Deployment	SB_PO_STD	4.117
Deploy streamer and guns. Test fire guns to ensure all is working.				
04:52	07:46	Transit	SB_TRT	2.900
Transit to SOL, slow speed over ground due to currents				
07:46	13:09	Prime	AC_PP	5.383
Seq: 15 Line: T01 SOL Seq 15 Line:T01 FGSP:41471 EOL Seq 15 Line:T01 LGSP:43196 Complete				
13:09	14:49	Prime L/C	AC_PLC	1.667
Seq: 15 Line: T01 Nominal Prime line change.				
14:49	20:27	Prime	AC_PP	5.633
Seq: 16 Line: T02 SOL Seq 16 Line:T02 FGSP:45417 EOL Seq 16 Line:T02 LGSP:47223 Complete				
20:27	22:51	Prime L/C	AC_PLC	2.400
Seq: 16 Line: T02 Nominal Prime line change.				
22:51	24:00	Prime	AC_PP	1.150

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Start	End	Category	Code	Duration (hrs)
Seq: 17 Line: T03 SOL Seq 17 Line:T03 FGSP:48515 MSP Seq 17 Line:T03 LGSP:48852 Midnight				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

17-Dec	Hours	% Percent
Acquisition	**16.233**	**67.639**
Prime	12.167	50.694
Prime L/C	4.067	16.944
Chargeable Standby	**7.767**	**32.361**
Planned Operations	4.117	17.153
Streamer Deployment	4.117	17.153
Transit	3.650	15.208
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**13.069**
At Anchor	12.500	3.360
Deployment	16.200	4.355
Transit to Prospect	19.917	5.354
Chargeable Standby	**81.100**	**21.801**
Calibrations	8.667	2.330
Field Operations	24.650	6.626
Planned Operations	18.617	5.004
Source Recovery	4.017	1.080
Streamer Deployment	10.450	2.809
Streamer Recovery	4.150	1.116
Transit	29.167	7.841
Acquisition	**221.617**	**59.574**
Prime	106.700	28.683
Prime L/C	16.717	4.494
Swath Move	98.200	26.398
Deploy	98.200	26.398
DownTime	**20.667**	**5.556**
Equipment Handling	16.200	4.355
Vessel	4.467	1.201
Total	372.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
15	T01	199.1	41471	43196	Prime	43.15	4.326	Complete	Complete
16	T02	19.0	45417	47223	Prime	45.18	4.328	Complete	Complete
17	T03	199.1	48515	48852	Prime	8.45	4.148	Midnight	Part
Total						**96.78**			

Daily Science Report

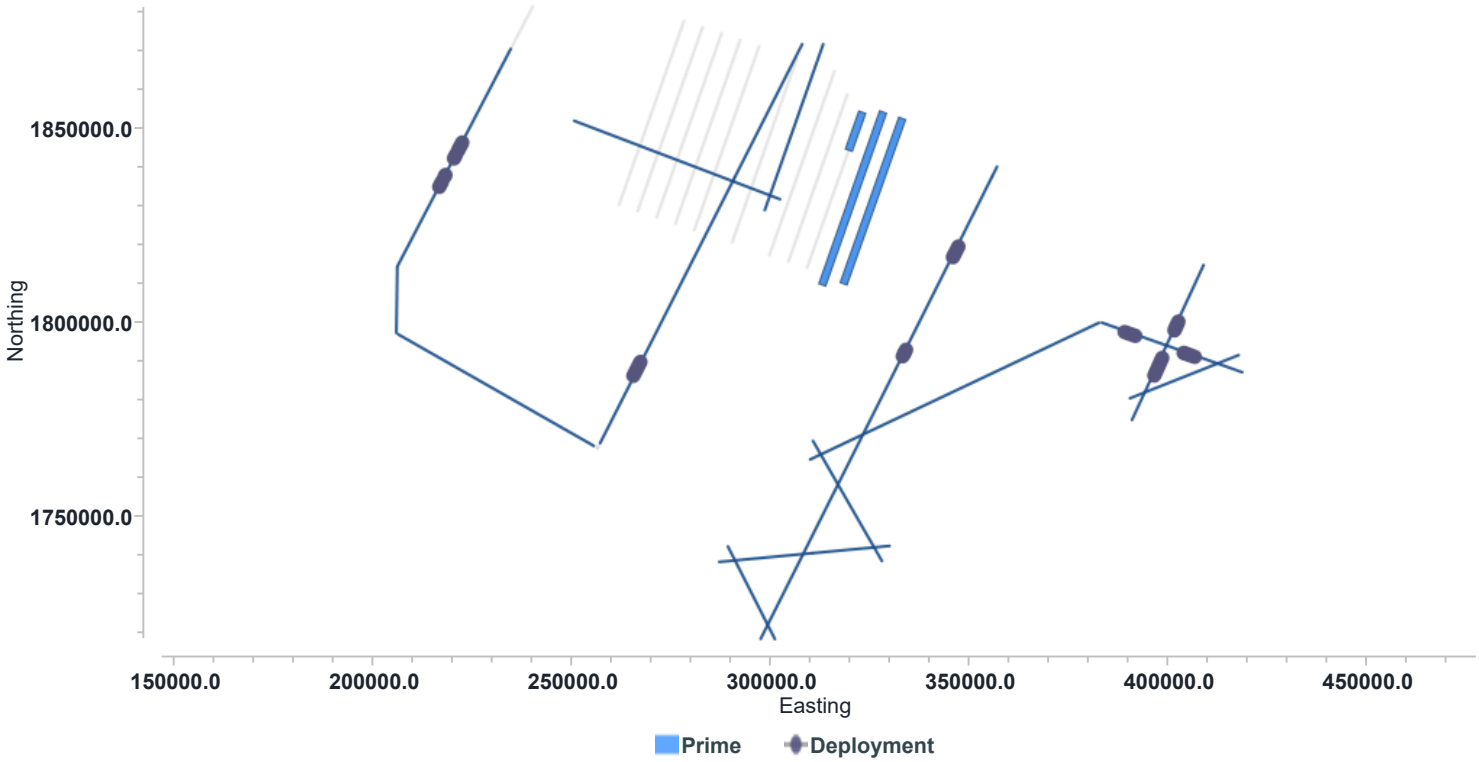
Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	96.78	96.78	878.13	878.13
Combined	**96.78**	**96.78**	**878.13**	**878.13**

Offshore Mexico - Pacific: Accpt
12/2/2025 - 12/17/2025
Hi-Rez, OBS_Deployment



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 17 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Wed 17 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

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Maritza Martínez García - RPS PSO

Science Party On-board the Langseth
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Jeffrey Poort – Scientist - Sorbonne University
Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
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Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Thu 18 Dec

Seismic operations continued with the completion of line MGL2514017T03 in the early morning hours, after which all sources were secured. Following a standard ramp-up, acquisition began on MGL2514018T04 and proceeded steadily through the morning. The line was completed around midday and sources were again silenced.

Early afternoon operations included ramp-up and the start of MGL2514019T05. During acquisition, a shutdown was required following a PSO detection. After clearance, operations returned to full volume. Later in the line, a second shutdown was implemented due to a turtle sighting, with a precautionary 15-minute silence period as the animal was not observed leaving the area. Once cleared, acquisition resumed at full volume.

Line MGL2514019T05 was completed in the evening and all sources were secured. Late-night operations included ramp-up and the start of MGL2514020T06, continuing seismic acquisition into the next operational period.

Daily Comment Summaries - Plan for Tomorrow

Thu 18 Dec

Continue with Seismic Ops

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	04:45	Prime	AC_PP	4.750
Seq: 17 Line: T03 SOL Seq 17 Line:T03 FGSP:48853 EOL Seq 17 Line:T03 LGSP:50328 Complete				
04:45	05:43	Prime L/C	AC_PLC	0.967
Seq: 17 Line: T03 Nominal Prime line change.				
05:43	12:31	Prime	AC_PP	6.800
Seq: 18 Line: T04 SOL Seq 18 Line:T04 FGSP:51341 EOL Seq 18 Line:T04 LGSP:53500 Complete				
12:31	13:59	Prime L/C	AC_PLC	1.467
Seq: 18 Line: T04 Nominal Prime line change.				
13:59	21:07	Prime	AC_PP	7.133
Seq: 19 Line: T05 SOL Seq 19 Line:T05 FGSP:54343 EOL Seq 19 Line:T05 LGSP:56659 Complete				
21:07	22:43	Prime L/C	AC_PLC	1.600
Seq: 19 Line: T05 Nominal Prime line change.				

Start	End	Category	Code	Duration (hrs)
22:43	24:00	Prime	AC_PP	1.283

Seq: 20
Line: T06
SOL Seq 20 Line:T06 FGSP:59656
MSP Seq 20 Line:T06 LGSP:59239 Midnight

Timing Day by Day (Marcus G Langseth, Hi-Rez)

18-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime	19.967	83.194
Prime L/C	4.033	16.806
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**12.277**
At Anchor	12.500	3.157
Deployment	16.200	4.091
Transit to Prospect	19.917	5.029
Chargeable Standby	**81.100**	**20.480**
Calibrations	8.667	2.189
Field Operations	24.650	6.225
Planned Operations	18.617	4.701
Source Recovery	4.017	1.014
Streamer Deployment	10.450	2.639
Streamer Recovery	4.150	1.048
Transit	29.167	7.365
Acquisition	**245.617**	**62.024**
Prime	126.667	31.987
Prime L/C	20.750	5.240
Swath Move	98.200	24.798
Deploy	98.200	24.798
DownTime	**20.667**	**5.219**
Equipment Handling	16.200	4.091
Vessel	4.467	1.128
Total	396.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
17	T03	199.1	48853	50328	Prime	36.90	4.148	Complete	Complete
18	T04	19.0	51341	53500	Prime	54.00	4.286	Complete	Complete
19	T05	199.1	54343	56659	Prime	57.93	4.383	Complete	Complete
20	T06	19.0	59656	59239	Prime	10.45	4.391	Midnight	Part
Total						**159.28**			

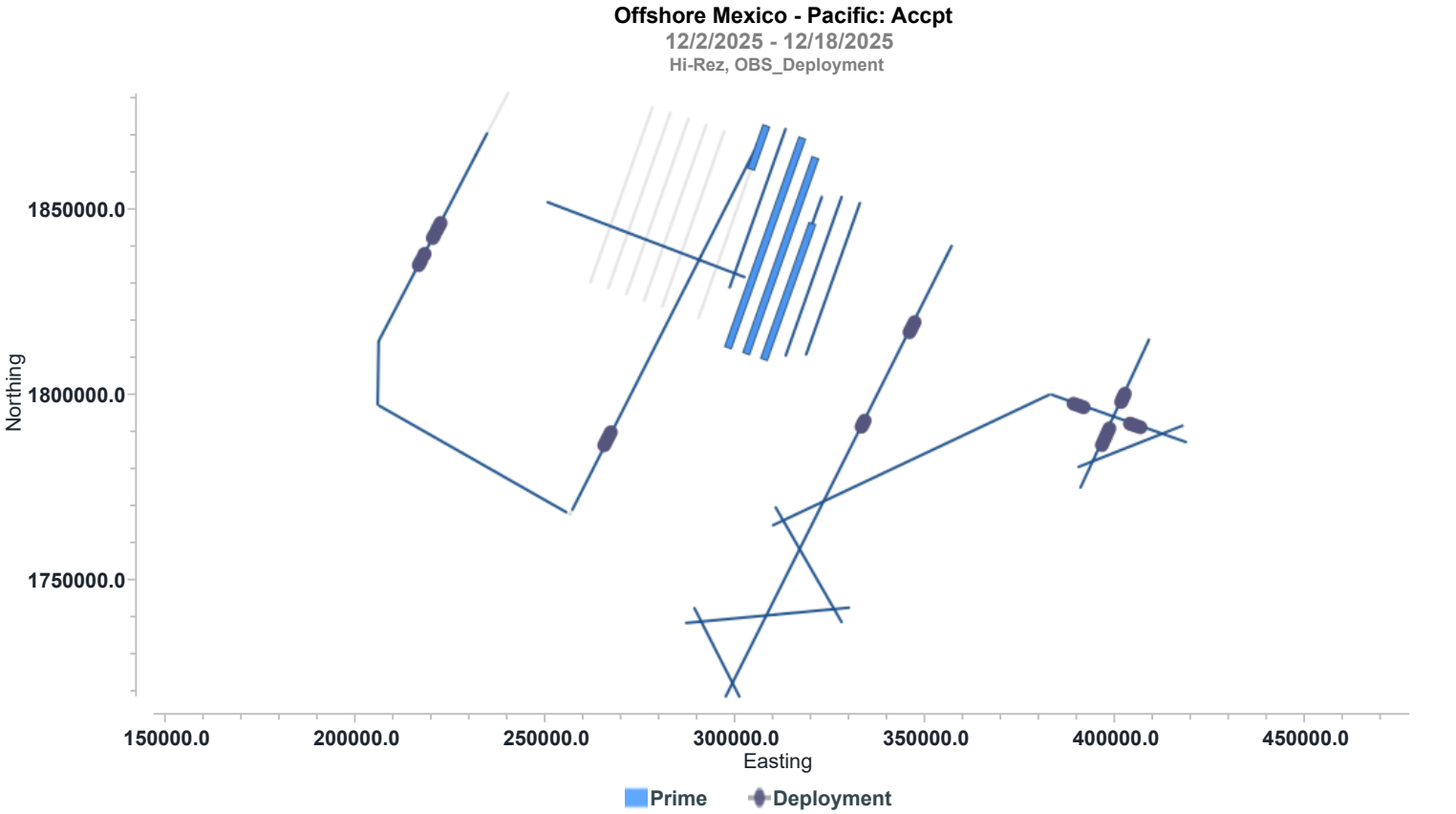
Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Accepted km	Day	Week	Month	Project
Prime	159.28	256.05	1037.40	1037.40
Combined	**159.28**	**256.05**	**1037.40**	**1037.40**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 18 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Thu 18 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
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Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

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Lilia Perez - RPS PSO
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Maritza Martínez García - RPS PSO

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Mandy Kiger – Scientist - Oregon State University
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Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Fri 19 Dec

Seismic acquisition continued overnight with the completion of MGL2514020T06 in the early morning hours, after which all sources were secured. Following a standard ramp-up, operations resumed with the start of MGL2514021T07, and acquisition proceeded through the morning.

Line MGL2514021T07 was completed in the early afternoon and the guns were secured. After a subsequent ramp-up, acquisition began on MGL2514022T08, which continued through the afternoon and evening hours. The line was completed later that night, and all sources were again secured.

Late-night operations included another ramp-up and the start of MGL2514023T09, continuing seismic acquisition into the next operational period.

Daily Comment Summaries - Plan for Tomorrow

Fri 19 Dec

Continue Seismic Ops

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	05:50	Prime	AC_PP	5.833
Seq: 20 Line: T06 SOL Seq 20 Line:T06 FGSP:59238 EOL Seq 20 Line:T06 LGSP:57341 Complete				
05:50	07:38	Prime L/C	AC_PLC	1.800
Seq: 20 Line: T06 Nominal Prime line change.				
07:38	14:38	Prime	AC_PP	7.000
Seq: 21 Line: T07 SOL Seq 21 Line:T07 FGSP:60392 EOL Seq 21 Line:T07 LGSP:62658 Complete				
14:38	15:35	Prime L/C	AC_PLC	0.950
Seq: 21 Line: T07 Nominal Prime line change.				
15:35	22:47	Prime	AC_PP	7.200
Seq: 22 Line: T08 SOL Seq 22 Line:T08 FGSP:63322 EOL Seq 22 Line:T08 LGSP:65658 Complete				
22:47	23:47	Prime L/C	AC_PLC	1.000
Seq: 22 Line: T08 Nominal Prime line change.				
23:47	24:00	Prime	AC_PP	0.217

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Start	End	Category	Code	Duration (hrs)
Seq: 23 Line: T09 SOL Seq 23 Line:T09 Block:Offshore Mexico - Pacific FGSP:66341 Hdg:199° Prime MSP Seq 23 Line:T09 Block:Offshore Mexico - Pacific LGSP:66404 Midnight				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

19-Dec	Hours	% Percent
Acquisition	**24.000**	**100.000**
Prime	20.250	84.375
Prime L/C	3.750	15.625
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**11.575**
At Anchor	12.500	2.976
Deployment	16.200	3.857
Transit to Prospect	19.917	4.742
Chargeable Standby	**81.100**	**19.310**
Calibrations	8.667	2.063
Field Operations	24.650	5.869
Planned Operations	18.617	4.433
Source Recovery	4.017	0.956
Streamer Deployment	10.450	2.488
Streamer Recovery	4.150	0.988
Transit	29.167	6.944
Acquisition	**269.617**	**64.194**
Prime	146.917	34.980
Prime L/C	24.500	5.833
Swath Move	98.200	23.381
Deploy	98.200	23.381
DownTime	**20.667**	**4.921**
Equipment Handling	16.200	3.857
Vessel	4.467	1.063
Total	420.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
20	T06	19.0	59238	57341	Prime	47.45	4.391	Complete	Complete
21	T07	199.0	60392	62658	Prime	56.68	4.370	Complete	Complete
22	T08	19.0	63322	65658	Prime	58.43	4.380	Complete	Complete
23	T09	199.0	66341	66404	Prime	1.60	4.374	Midnight	Part
Total						**164.15**			

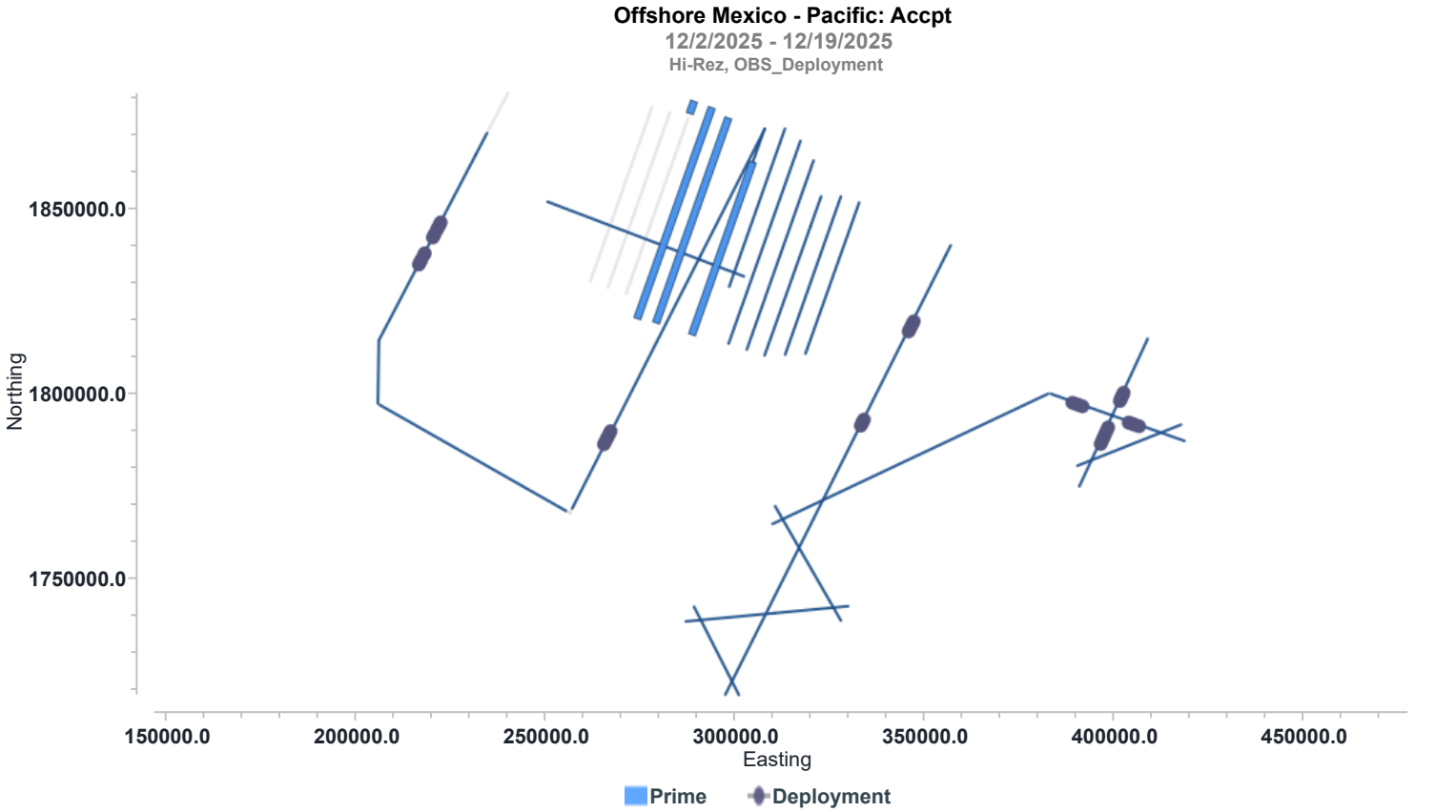
Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Accepted km	Day	Week	Month	Project
Prime	164.15	420.20	1201.55	1201.55
Combined	**164.15**	**420.20**	**1201.55**	**1201.55**



Daily Comment Summaries - Daily Comments On Status of Equipment

Fri 19 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Fri 19 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

PSO Staff On-board the Langseth
Yessica Vicencio - RPS Lead PSO
Veronica Balderas - RPS PSO

Lilia Perez - RPS PSO
Ana Betsabe Salomon - RPS PSO
Maritza Martínez García - RPS PSO

Science Party On-board the Langseth

Glenn Spinelli - Chief Scientist - New Mexico Tech
Lindsay Worthington – Scientist - University of New Mexico
Jeffrey Poort – Scientist - Sorbonne University
Lujendra Ojha – Scientist - Rutgers
Jeffrey Poort – Scientist - Sorbonne University
Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
Elizabeth Houghton - Grad Student - University of New Mexico
Harol Stiven Buitrago Segura - Grad Student - CICESE
Isabela Macías Iñiguez - Grad Student
Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sat 20 Dec

Operations continued with the completion of MGL2514023T09, after which all sources were secured. Following a standard ramp-up, acquisition commenced on MGL2514024T10 and proceeded steadily until the line was completed later in the operational period. Sources were then silenced in preparation for the next line.

After another ramp-up, acquisition began on MGL2514025T11, the final seismic line of the cruise. The line was completed successfully, marking the last shot of the program, and all sources were secured for the remainder of the cruise.

Following the completion of seismic operations, recovery activities were initiated. The magnetometer was recovered, followed by recovery of the source array, which was subsequently secured on deck. Streamer recovery started shortly after.

At end of day the streamer was being recovered.

Daily Comment Summaries - Plan for Tomorrow

Sat 20 Dec

Complete streamer recovery, transit to first heat flow station and start ops.

Timing Diary (Marcus G Langseth, Hi-Rez)

Start	End	Category	Code	Duration (hrs)
00:00	06:56	Prime	AC_PP	6.933
Seq: 23 Line: T09 SOL Seq 23 Line:T09 FGSP:66405 EOL Seq 23 Line:T09 LGSP:68658 Complete				
06:56	08:04	Prime L/C	AC_PLC	1.133
Seq: 23 Line: T09 Nominal Prime line change.				
08:04	15:04	Prime	AC_PP	7.000
Seq: 24 Line: T10 SOL Seq 24 Line:T10 FGSP:69501 EOL Seq 24 Line:T10 LGSP:71658 Complete				
15:04	16:16	Prime L/C	AC_PLC	1.200
Seq: 24 Line: T10 Nominal Prime line change.				
16:16	23:11	Prime	AC_PP	6.917
Seq: 25 Line: T11 SOL Seq 25 Line:T11 FGSP:72421 EOL Seq 25 Line:T11 LGSP:74658 Complete				
23:11	24:00	Streamer Recovery	SB_PO_STR	0.817
Chargeable Standby related to Planned Operations due to Streamer Recovery				

Timing Day by Day (Marcus G Langseth, Hi-Rez)

20-Dec	Hours	% Percent
Acquisition	**23.183**	**96.597**
Prime	20.850	86.875
Prime L/C	2.333	9.722
Chargeable Standby	**0.817**	**3.403**
Planned Operations	0.817	3.403
Streamer Recovery	0.817	3.403
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**10.950**
At Anchor	12.500	2.815
Deployment	16.200	3.649
Transit to Prospect	19.917	4.486
Chargeable Standby	**81.917**	**18.450**
Calibrations	8.667	1.952
Field Operations	24.650	5.552
Planned Operations	19.433	4.377
Source Recovery	4.017	0.905
Streamer Deployment	10.450	2.354
Streamer Recovery	4.967	1.119
Transit	29.167	6.569
Acquisition	**292.800**	**65.946**
Prime	167.767	37.785
Prime L/C	26.833	6.044
Swath Move	98.200	22.117
Deploy	98.200	22.117
DownTime	**20.667**	**4.655**
Equipment Handling	16.200	3.649
Vessel	4.467	1.006
Total	444.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

Production Listing (Accpt Main km by Shotpoint) - Full Fold

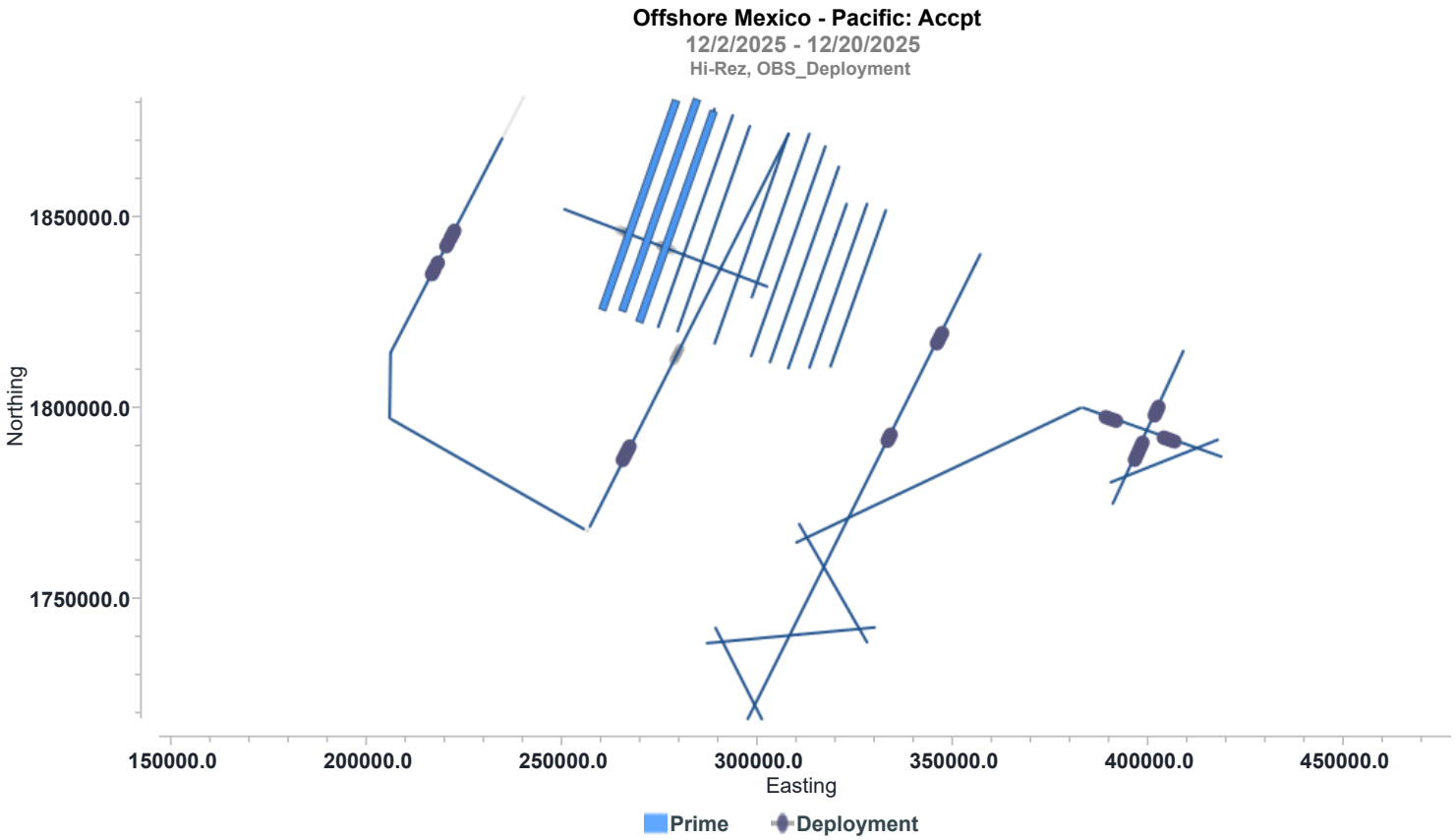
Hi-Rez

Seq	Line	Heading	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
23	T09	199.0	66405	68658	Prime	56.35	4.374	Complete	Complete
24	T10	19.0	69394	71658	Prime	56.63	4.366	Complete	Complete
25	T11	199.0	72421	74658	Prime	55.95	4.366	Complete	Complete
Total						**168.93**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	168.93	589.13	1370.48	1370.48
Combined	**168.93**	**589.13**	**1370.48**	**1370.48**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sat 20 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sat 20 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
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Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	14	14	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	13	13		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Sun 21 Dec

At the start of the day, streamer recovery operations were in full swing, including recovery of the head float and successive birds. The full streamer was successfully recovered, with the tail buoy secured, marking completion of streamer operations.

Following streamer recovery, the vessel transited to the heat flow survey area. The pinger pole was deployed, followed by deployment of the heat flow probe at station HF10-1. After penetration at HF10-1, the vessel proceeded sequentially through heat flow stations HF10-2 through HF10-16. At each station, the probe was deployed, penetrated the seafloor, and recovered without incident.

Upon completion of HF10-16, the heat flow probe was recovered and secured on deck. The pinger pole was subsequently recovered and secured, and the vessel prepared for transit to the next operational area.

Daily Comment Summaries - Plan for Tomorrow

Sun 21 Dec

Continue with heat flow ops

Timing Diary (Marcus G Langseth, Hi-Rez, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	02:09	Streamer Recovery	SB_PO_STR	2.150
Streamer and source recovery				
02:09	04:28	Field Operations	SB_FO	2.317
Transit to heat probe location, deck preparation, deploy pinger pole and heat probe				
04:28	18:13	Deploy	AC_SM_De	13.750
Heat Probe Operation: HF10-1 Deployment Heat Probe Operation: HF10-2 Deployment Heat Probe Operation: HF10-3 Deployment Heat Probe Operation: HF10-4 Deployment Heat Probe Operation: HF10-5 Deployment Heat Probe Operation: HF10-6 Deployment Heat Probe Operation: HF10-7 Deployment Heat Probe Operation: HF10-8 Deployment Heat Probe Operation: HF10-9 Deployment Heat Probe Operation: HF10-10 Deployment Heat Probe Operation: HF10-11 Deployment Heat Probe Operation: HF10-12 Deployment Heat Probe Operation: HF10-13 Deployment Heat Probe Operation: HF10-14 Deployment Heat Probe Operation: HF10-15 Deployment Heat Probe Operation: HF10-16 Deployment				
18:13	24:00	Field Operations	SB_FO	5.783
Recovery Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				

Timing Day by Day (Marcus G Langseth, Hi-Rez, OBS_Deployment)

21-Dec	Hours	% Percent
Acquisition	**13.750**	**57.292**
Swath Move	13.750	57.292
Deploy	13.750	57.292
Chargeable Standby	**10.250**	**42.708**
Field Operations	8.100	33.750

21-Dec	Hours	% Percent
Planned Operations	2.150	8.958
Streamer Recovery	2.150	8.958
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**10.388**
At Anchor	12.500	2.671
Deployment	16.200	3.462
Transit to Prospect	19.917	4.256
Chargeable Standby	**92.167**	**19.694**
Calibrations	8.667	1.852
Field Operations	32.750	6.998
Planned Operations	21.583	4.612
Source Recovery	4.017	0.858
Streamer Deployment	10.450	2.233
Streamer Recovery	7.117	1.521
Transit	29.167	6.232
Acquisition	**306.550**	**65.502**
Prime	167.767	35.848
Prime L/C	26.833	5.734
Swath Move	111.950	23.921
Deploy	111.950	23.921
DownTime	**20.667**	**4.416**
Equipment Handling	16.200	3.462
Vessel	4.467	0.954
Total	468.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

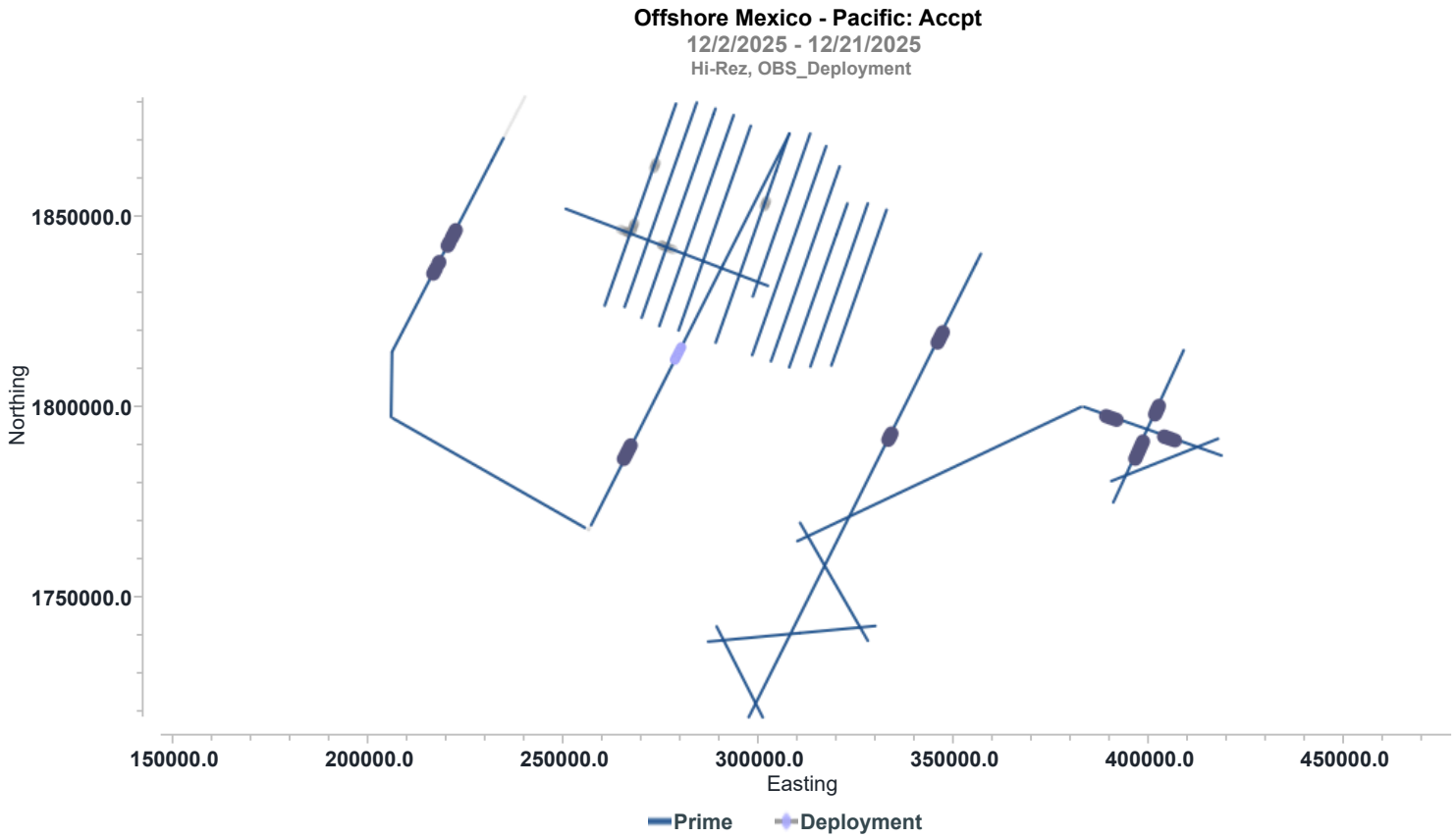
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	589.13	1370.48	1370.48
Combined	**0**	**589.13**	**1370.48**	**1370.48**



Daily Comment Summaries - Daily Comments On Status of Equipment

Sun 21 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Sun 21 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
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Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

Daily Total Category	Code	Count
Toolbox Meetings	Mtgs_Tbox	1

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	1	1	15	15	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	1	1	14	14		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Mon 22 Dec

A start of day the vessel had completed the transit and the probe was being lowered to HF11-1. Operations began with arrival at HF11-1, followed by a successful series of probe penetrations and recoveries at HF11-1 through HF11-12. Each station was completed efficiently, with consistent bottom contact and clean recoveries. HF11-6 marked a notable milestone as the 100th successful heat flow station of the program. After completion of HF11-12, the heat flow probe was fully recovered to deck without issue.

Following recovery, the vessel transited to the HF12 line and resumed heat flow operations. Stations HF12-1 through HF12-9 were completed successfully, with good sediment penetration and standard recoveries at each waypoint. At HF12-10, the probe was not lowered as the team, did not like the look of the bottom data from the Knudsen.

In parallel with science operations, the shipboard cornhole tournament officially kicked off today. Science party members, PSOs, and technicians gathered on the muster deck for what can only be described as a thrilling spectacle worthy of ESPN 8, adding a welcome dose of levity and camaraderie to an otherwise highly productive day.

At end of day the vessel was slowly transiting to station HF13-1, the probe and pinger pole were left deployed for this short transit.

Daily Comment Summaries - Plan for Tomorrow

Mon 22 Dec

Continue heat flow ops

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	00:29	Field Operations	SB_FO	0.483
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
00:29	10:39	Deploy	AC_SM_De	10.167
Heat Probe Operation: HF11-1 Deployment Heat Probe Operation: HF11-2 Deployment Heat Probe Operation: HF11-3 Deployment Heat Probe Operation: HF11-4 Deployment Heat Probe Operation: HF11-5 Deployment Heat Probe Operation: HF11-6 Deployment Heat Probe Operation: HF11-7 Deployment Heat Probe Operation: HF11-8 Deployment Heat Probe Operation: HF11-9 Deployment Heat Probe Operation: HF11-10 Deployment Heat Probe Operation: HF11-11 Deployment Heat Probe Operation: HF11-12 Deployment				
10:39	13:56	Field Operations	SB_FO	3.283

Start	End	Category	Code	Duration (hrs)
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
13:56	22:22	Deploy	AC_SM_De	8.433
Heat Probe Operation: HF12-1 Deployment Heat Probe Operation: HF12-2 Deployment Heat Probe Operation: HF12-3 Deployment Heat Probe Operation: HF12-4 Deployment Heat Probe Operation: HF12-5 Deployment Heat Probe Operation: HF12-6 Deployment Heat Probe Operation: HF12-7 Deployment Heat Probe Operation: HF12-8 Deployment Heat Probe Operation: HF12-9 Deployment				
22:22	24:00	Field Operations	SB_FO	1.633
Vessel transiting slowly with probe and pinger pole deployed				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

22-Dec	Hours	% Percent
Acquisition	**18.600**	**77.500**
Swath Move	18.600	77.500
Deploy	18.600	77.500
Chargeable Standby	**5.400**	**22.500**
Field Operations	5.400	22.500
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**9.881**
At Anchor	12.500	2.541
Deployment	16.200	3.293
Transit to Prospect	19.917	4.048
Chargeable Standby	**97.567**	**19.831**
Calibrations	8.667	1.762
Field Operations	38.150	7.754
Planned Operations	21.583	4.387
Source Recovery	4.017	0.816
Streamer Deployment	10.450	2.124
Streamer Recovery	7.117	1.446
Transit	29.167	5.928
Acquisition	**325.150**	**66.087**
Prime	167.767	34.099
Prime L/C	26.833	5.454
Swath Move	130.550	26.535
Deploy	130.550	26.535
DownTime	**20.667**	**4.201**
Equipment Handling	16.200	3.293
Vessel	4.467	0.908
Total	492.000	

Basic Project Details

Hi-Rez

General Details

Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

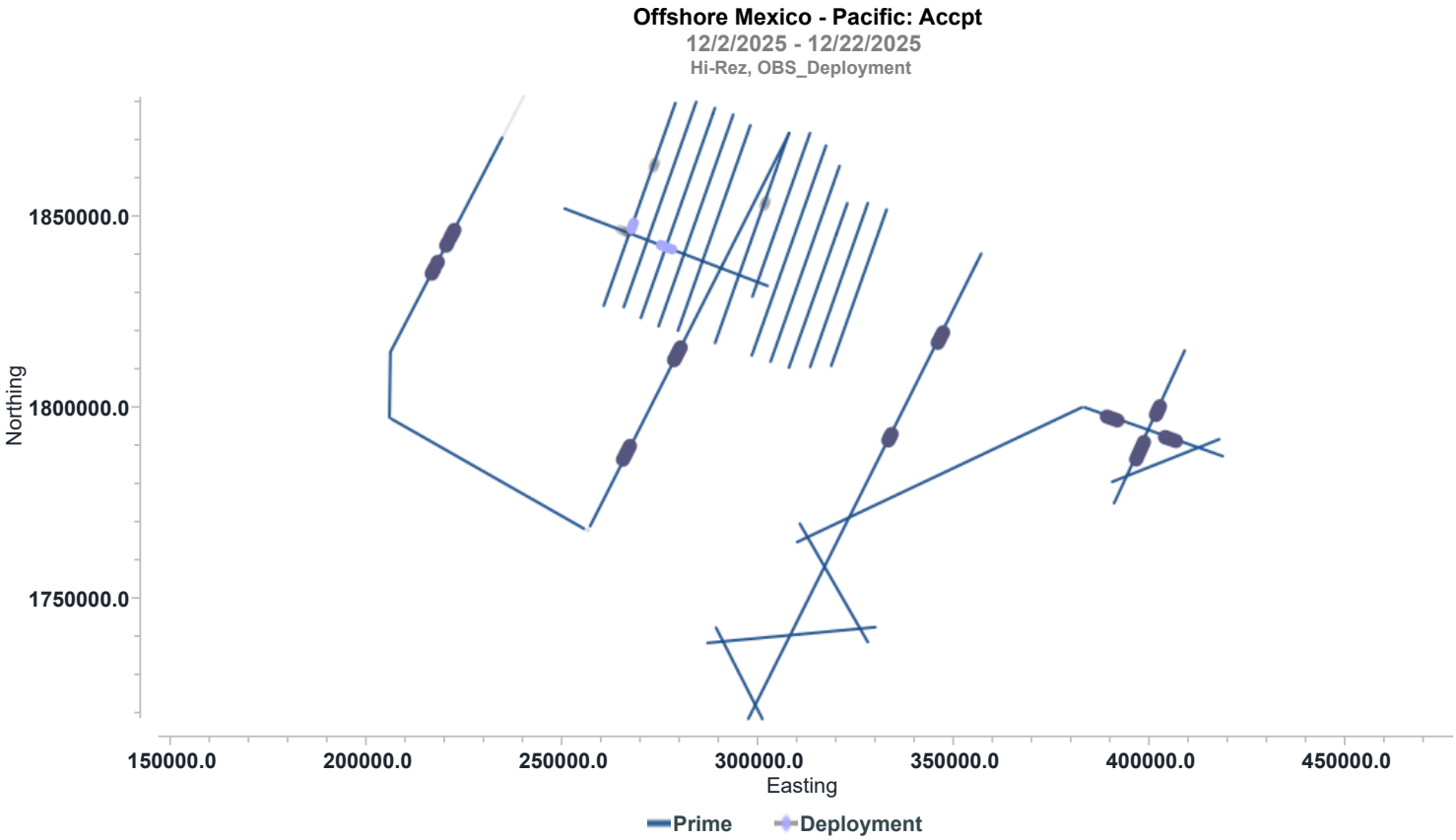
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	1370.48	1370.48
Combined	**0**	**0**	**1370.48**	**1370.48**



Daily Comment Summaries - Daily Comments On Status of Equipment

Mon 22 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Mon 22 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer

Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
Ray Hatton L-DEO OMO Contractor Technician
Jose Ramirez Najera Contractor Technician

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Lilia Perez - RPS PSO
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Maritza Martínez García - RPS PSO

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Jeffrey Poort – Scientist - Sorbonne University
Lujendra Ojha – Scientist - Rutgers
Jeffrey Poort – Scientist - Sorbonne University
Mandy Kiger – Scientist - Oregon State University
Estefanía Peña Salinas – PostDoc - UNAM
Luis Angel Vega Ramírez - PostDoc
Elizabeth Houghton - Grad Student - University of New Mexico
Harol Stiven Buitrago Segura - Grad Student - CICESE
Isabela Macías Iñiguez - Grad Student
Joel Aguilar Tomasini - Grad Student - CICESE
Kain Lager-Lowe - Grad Student - University of New Mexico
Lillian Adriana Piña Paez - Grad Student - Cal Institute of Technology
Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	15	15	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	14	14		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Tue 23 Dec

At start of day the vessel arrived on station at HF13-1 and commenced a continuous sequence of heat flow operations. Stations HF13-1 through HF13-12 were completed in rapid succession, with stable operations and efficient probe handling throughout the line. All HF13 stations were executed without operational incident, maintaining a strong and steady work pace.

Following completion of HF13-12, the heat flow probe was recovered to deck and the vessel transited to the HF14 line. Upon arrival, operations resumed with stations HF14-1 through HF14-8 completed in sequence. The team maintained consistent deployment and recovery procedures, and all stations were completed without interruption or equipment issues.

After HF14-8, the heat flow probe was fully recovered to deck and the pinger pole was secured for transit. The vessel then proceeded toward the next survey area. Late in the day, the pinger pole was redeployed at HF15-1, followed by deployment of the heat flow probe, which was in the water and descending at end of day as preparations were underway for the next phase of operations.

Daily Comment Summaries - Plan for Tomorrow

Tue 23 Dec

Continue with heat flow ops

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	00:03	Field Operations	SB_FO	0.050
Recovery Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
00:03	08:22	Deploy	AC_SM_De	8.317
Heat Probe Operation: HF13-1 Deployment Heat Probe Operation: HF13-2 Deployment Heat Probe Operation: HF13-3 Deployment Heat Probe Operation: HF13-4 Deployment Heat Probe Operation: HF13-5 Deployment Heat Probe Operation: HF13-6 Deployment Heat Probe Operation: HF13-7 Deployment Heat Probe Operation: HF13-8 Deployment Heat Probe Operation: HF13-9 Deployment Heat Probe Operation: HF13-10 Deployment Heat Probe Operation: HF13-11 Deployment Heat Probe Operation: HF13-12 Deployment				
08:22	13:19	Field Operations	SB_FO	4.950
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
13:19	19:50	Deploy	AC_SM_De	6.517
Heat Probe Operation: HF14-1 Deployment Heat Probe Operation: HF14-2 Deployment Heat Probe Operation: HF14-3 Deployment Heat Probe Operation: HF14-4 Deployment Heat Probe Operation: HF14-5 Deployment Heat Probe Operation: HF14-6 Deployment Heat Probe Operation: HF14-7 Deployment Heat Probe Operation: HF14-8 Deployment				
19:50	24:00	Field Operations	SB_FO	4.167
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

23-Dec	Hours	% Percent
Acquisition	**14.833**	**61.806**
Swath Move	14.833	61.806
Deploy	14.833	61.806
Chargeable Standby	**9.167**	**38.194**
Field Operations	9.167	38.194
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**9.422**
At Anchor	12.500	2.422
Deployment	16.200	3.140
Transit to Prospect	19.917	3.860
Chargeable Standby	**106.733**	**20.685**
Calibrations	8.667	1.680
Field Operations	47.317	9.170
Planned Operations	21.583	4.183
Source Recovery	4.017	0.778
Streamer Deployment	10.450	2.025
Streamer Recovery	7.117	1.379
Transit	29.167	5.652
Acquisition	**339.983**	**65.888**
Prime	167.767	32.513
Prime L/C	26.833	5.200
Swath Move	145.383	28.175
Deploy	145.383	28.175
DownTime	**20.667**	**4.005**
Equipment Handling	16.200	3.140
Vessel	4.467	0.866
Total	516.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

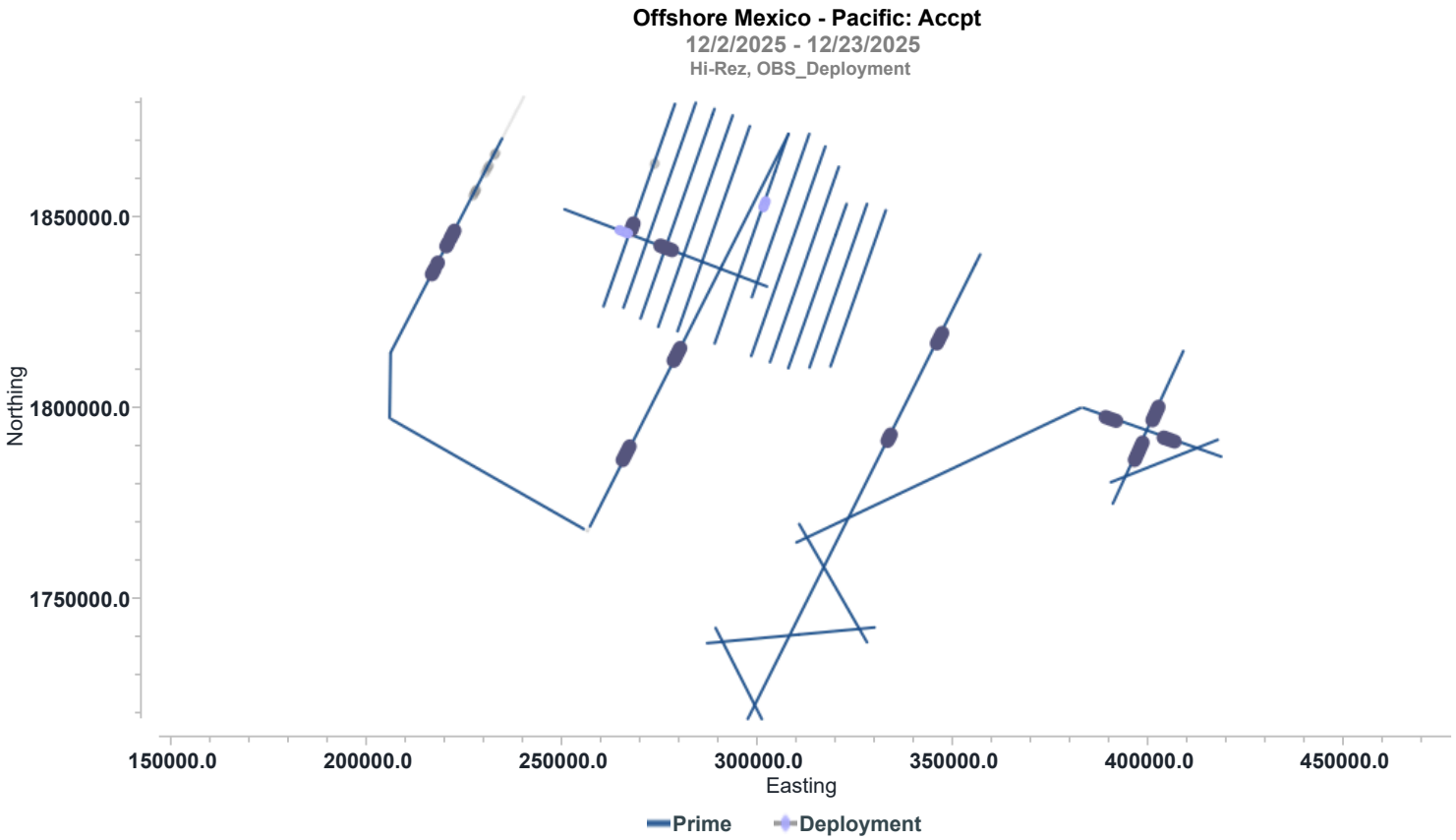
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	1370.48	1370.48
Combined	**0**	**0**	**1370.48**	**1370.48**



Daily Comment Summaries - Daily Comments On Status of Equipment

Tue 23 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Tue 23 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
Gilles Guerin L-DEO OMO Technician
Aaron Martin L-DEO OMO Technician
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Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	15	15	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	14	14		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Wed 24 Dec

Heat flow operations continued steadily throughout the day with excellent productivity across the HF15 and HF16 lines. Work began with completion of HF15-1, which experienced a short delay during descent due to winch troubleshooting. Once resolved, the probe achieved a clean penetration and recovery.

The team then completed HF15-2 and HF15-3 in quick succession before recovering the probe to deck and transiting to the next work area.

Operations on the HF16 line were highly efficient, with successful occupations of HF16-1 through HF16-5, followed by continued progress through HF16-6, HF16-7, HF16-8, HF16-10, and HF16-11. All stations resulted in clean penetrations and recoveries, including multiple sites in water depths exceeding 5,000 m.

In total, thirteen heat flow stations were completed across both lines. Despite minor early delays, the day concluded with exceptional operational momentum and strong performance from the entire science and deck team.

Daily Comment Summaries - Plan for Tomorrow

Wed 24 Dec

Continue with heat flow ops.
Recover the heat probe and pinger pole, secure on deck.
Start transit to port.

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	00:35	Field Operations	SB_FO	0.583
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
00:35	03:35	Equipment Handling	DT_EH	3.000
Downtime due to loose wraps on the winch drum.				
03:35	05:26	Deploy	AC_SM_De	1.850
Heat Probe Operation: HF15-1 Deployment Heat Probe Operation: HF15-2 Deployment Heat Probe Operation: HF15-3 Deployment				
05:26	10:05	Field Operations	SB_FO	4.650
Recover Heat Probe, secure heat probe and pinger pole on deck, transit and deploy heat probe and pinger pole				
10:05	22:59	Deploy	AC_SM_De	12.900
Heat Probe Operation: HF16-1 Deployment Heat Probe Operation: HF16-2 Deployment Heat Probe Operation: HF16-3 Deployment Heat Probe Operation: HF16-4 Deployment Heat Probe Operation: HF16-5 Deployment Heat Probe Operation: HF16-6 Deployment Heat Probe Operation: HF16-7 Deployment Heat Probe Operation: HF16-8 Deployment Heat Probe Operation: HF16-10 Deployment Heat Probe Operation: HF16-11 Deployment				
22:59	24:00	Field Operations	SB_FO	1.017
Transit with heat probe and pinger pole deployed. Transiting to HF16-14				

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

24-Dec	Hours	% Percent
Acquisition	**14.750**	**61.458**
Swath Move	14.750	61.458
Deploy	14.750	61.458
Chargeable Standby	**6.250**	**26.042**
Field Operations	6.250	26.042
DownTime	**3.000**	**12.500**
Equipment Handling	3.000	12.500
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**9.003**
At Anchor	12.500	2.315
Deployment	16.200	3.000
Transit to Prospect	19.917	3.688
Chargeable Standby	**112.983**	**20.923**
Calibrations	8.667	1.605
Field Operations	53.567	9.920
Planned Operations	21.583	3.997
Source Recovery	4.017	0.744
Streamer Deployment	10.450	1.935
Streamer Recovery	7.117	1.318
Transit	29.167	5.401
Acquisition	**354.733**	**65.691**
Prime	167.767	31.068
Prime L/C	26.833	4.969
Swath Move	160.133	29.654
Deploy	160.133	29.654
DownTime	**23.667**	**4.383**
Equipment Handling	19.200	3.556
Vessel	4.467	0.827
Total	540.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

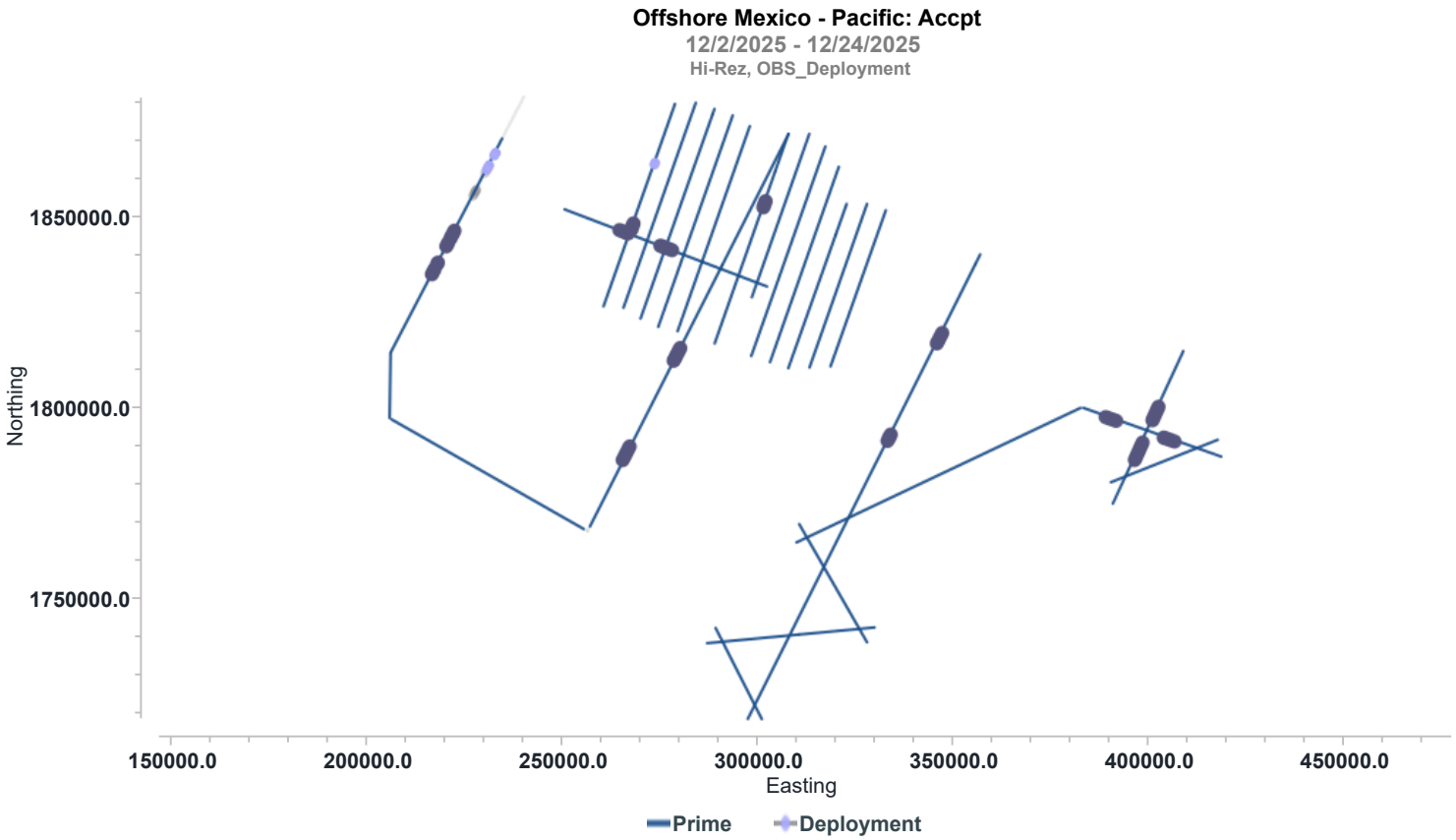
Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	1370.48	1370.48
Combined	**0**	**0**	**1370.48**	**1370.48**

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE



Daily Comment Summaries - Daily Comments On Status of Equipment

Wed 24 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Wed 24 Dec

Technical Staff On-board the Langseth
Cody Bahlau L-DEO OMO Chief Science Officer
Brian Agee L-DEO OMO Technician
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Maddie Hurd - Grad Student - University of New Mexico

HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	15	15	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	14	14		

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Client:	Lamont-Doherty Earth Observatory	**Contractor:**	Lamont-Doherty Earth Observatory
Job No:	MGL2514	**Job No:**	MGL2514
Block:	Offshore Mexico - Pacific	**Vessel:**	Marcus G Langseth
Client Contact:		**Supervisor:**	
Consultancy:		**Party Chiefs:**	Cody Bahlau
Job No:		**Client Reps:**	Glenn Spinelli

Daily Comment Summaries - Daily Summary

Thu 25 Dec

Heat-flow operations continued along the HF16 line with a steady sequence of stations completed from HF16-14 through HF16-20. Each deployment and recovery proceeded smoothly, with pull-out tensions consistent with good contact at the seafloor. HF16-20 marked the final heat-flow station of the cruise, closing out the data acquisition program.

Following completion of the heat-flow work, the gear was recovered and secured on deck in preparation for the transit to port. At 10:00 UTC, the ship began its transit, the sonar systems were powered on, and teams shifted into cleanup mode in preparation for a busy and short port call.

A strong and satisfying finish to the expedition.

Daily Comment Summaries - Plan for Tomorrow

Thu 25 Dec

Continue the transit to port.
Port call along side

Timing Diary (Marcus G Langseth, OBS_Deployment)

Start	End	Category	Code	Duration (hrs)
00:00	07:38	Deploy	AC_SM_De	7.633
Heat Probe Operation: HF16-14 Deployment Heat Probe Operation: HF16-15 Deployment Heat Probe Operation: HF16-16 Deployment Heat Probe Operation: HF16-17 Deployment Heat Probe Operation: HF16-18 Deployment Heat Probe Operation: HF16-19 Deployment Heat Probe Operation: HF16-20 Deployment				
07:38	10:00	Field Operations	SB_FO	2.367
Recover probe and secure everything on deck for transit to port.				
10:00	24:00	Transit From Prospect	DM_TF	14.000
Transit to Manzanillo				

Timing Day by Day (Marcus G Langseth, OBS_Deployment)

25-Dec	Hours	% Percent
Acquisition	**7.633**	**31.806**
Swath Move	7.633	31.806
Deploy	7.633	31.806
Chargeable Standby	**2.367**	**9.861**
Field Operations	2.367	9.861
Demobilisation	**14.000**	**58.333**
Transit From Prospect	14.000	58.333
Day's Total	**24.000**	**100.000**

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

Category	Hours	% Percent
Mobilisation	**48.617**	**8.620**
At Anchor	12.500	2.216

Daily Science Report

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

Category	Hours	% Percent
Deployment	16.200	2.872
Transit to Prospect	19.917	3.531
Chargeable Standby	**114.333**	**20.272**
Calibrations	8.667	1.537
Field Operations	54.917	9.737
Planned Operations	21.583	3.827
Source Recovery	4.017	0.712
Streamer Deployment	10.450	1.853
Streamer Recovery	7.117	1.262
Transit	29.167	5.171
Acquisition	**363.383**	**64.430**
Prime	167.767	29.746
Prime L/C	26.833	4.758
Swath Move	168.783	29.926
Deploy	168.783	29.926
DownTime	**23.667**	**4.196**
Equipment Handling	19.200	3.404
Vessel	4.467	0.792
Demobilisation	**14.000**	**2.482**
Transit From Prospect	14.000	2.482
Total	564.000	

Basic Project Details

Hi-Rez					
General Details					
Record length:	9000 ms	Sample rate:	0.5 ms	Shotpoint interval:	25 m
CoS to CNG:	100 m	Fold Coverage:	0		

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

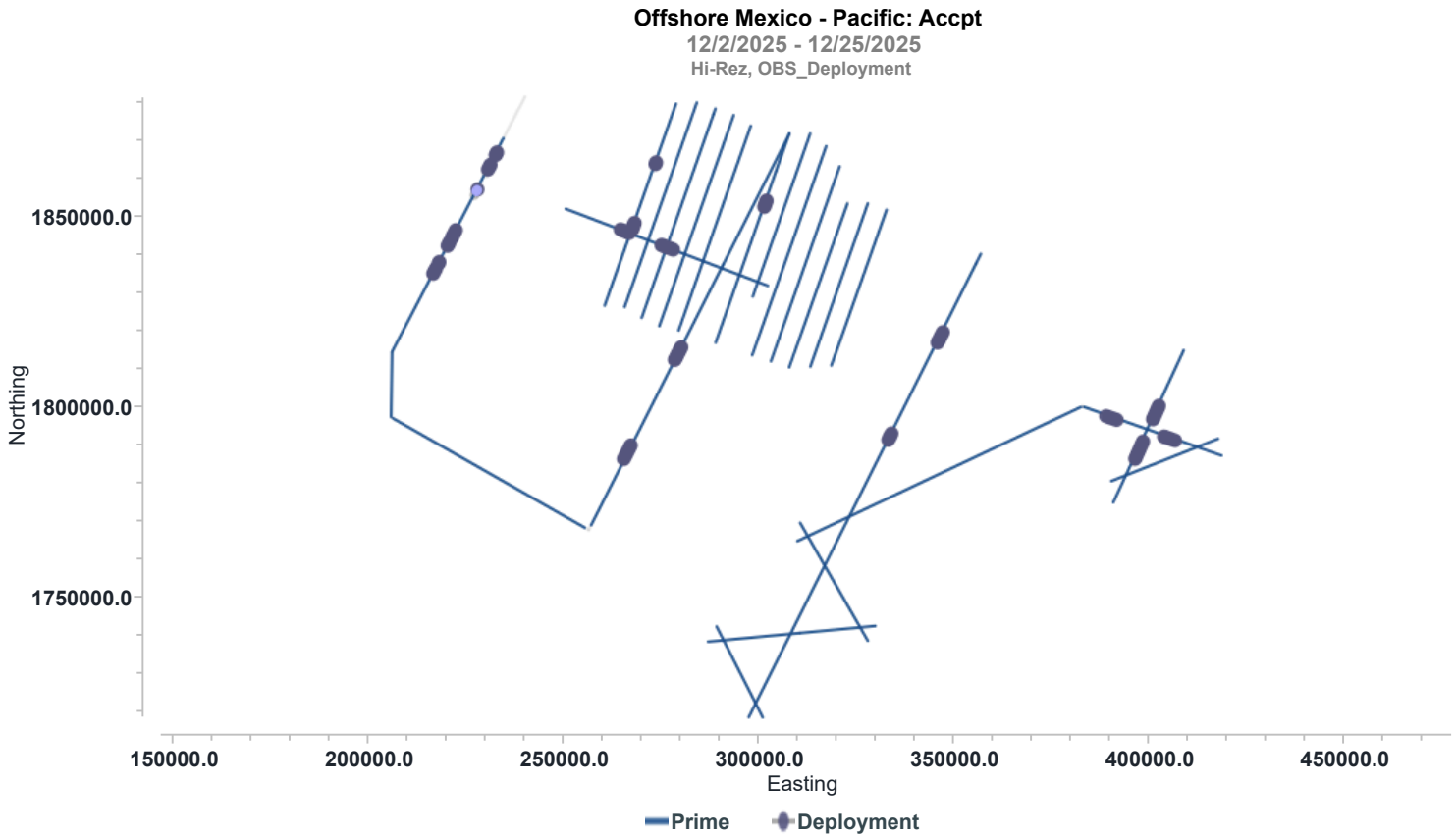
Hi-Rez

Seq	Line	FGSP	LGSP	Prod Type	Production	Ave Knots	Seq Status	Line Status
Total					**0**			

Production Totals (Accpt Main km by Shotpoint) - Full Fold

Hi-Rez

Accepted km	Day	Week	Month	Project
Prime	0	0	1370.48	1370.48
Combined	**0**	**0**	**1370.48**	**1370.48**



Daily Comment Summaries - Daily Comments On Status of Equipment

Thu 25 Dec

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

General Purpose Science:
No Major issues to Report.

Heat Probe:
No Major issues to Report.

Daily Comment Summaries - Personnel Onboard

Thu 25 Dec

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HSE Events Diary (Marcus G Langseth)

Start	End	Category	Code

HSE Event Period Totals - Project (Marcus G Langseth)

Category	Code	Day (num)	Week (num)	Month (num)	Project (num)	Proj Hours	Exposure Hours
Drills	Drls	0	0	2	2	0.500	
Abandon Ship Drill	AS	0	0	1	1	0.250	
Fire Drill	Fi	0	0	1	1	0.250	
Training	Trng	0	0	1	1	1.000	
Safety Induction Tours	SIT	0	0	1	1	1.000	
Meetings	Mtgs	0	0	15	15	0.500	
Start-up Meeting	StUp	0	0	1	1	0.500	
Toolbox Meetings	Tbox	0	0	14	14		