Seq# 001

Line Name: MGL2514001W01 | **Line Brg :** 206.3 °

NAVIGATION LINE LOGS

DATE: 2025-12-04 | **JULIAN DAY:** 338

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-26.5 m**
DC EOL:	**-196.9 m**
BSP SOL:	**4.9 kts**
BSP EOL:	**5.0 kts**

WEATHER

WIND SOL:	W 4 kts
WIND EOL:	W 4.5 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

DEPTH SOL : 1942.3 m
DEPTH EOL : 3721.0 m
FEATHER SOL: -2.71 °
FEATHER EOL: 1.87 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
1002	**1002**	**21:17**	**SOL**	**SOL MGL2514001W01**
				SEAL is not receiving orca headers at SOL, troubleshooting
				changed master antenna output to 2 watts, tailbuoy latency improves
				turtle spotted, stopped shooting
1491	1491	23:08	FGSP	Nav header issue is resolved, SEAL recording good shots
1750	1750	23:59	LSOD	Last shot point of the day
4003	**4003**	**6:38**	**EOL**	**EOL MGL2514001W01**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**1002**	**16°59'50.82"**	**101°26'24.12"**
LSP	**4003**	**16°23'19.75"**	**101°44'59.56"**

		Latitude (N)	Longitude (W)
FSP	**1002**	**16.997451**	**101.440033**
LSP	**4003**	**16.388819**	**101.749877**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: INCOMPLETE SP 1001-1490

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos Produced P1

Seq# 002

Line Name: MGL2514002W02 | **Line Brg :** 180 °

NAVIGATION LINE LOGS

DATE: 2025-12-05 | **JULIAN DAY:** 339

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-2.2 m**	**DEPTH SOL :** 3844.9 m	**NAVIGATION SYSTEM USED: C-NavX3 - Primary**
DC EOL:	**-567.2 m**	**DEPTH EOL :** 3574.9 m	**NAVIGATION SYSTEM USED: SeaPath 330**
BSP SOL:	**5.1 kts**	**FEATHER SOL:** -22.92 °	**NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted**
BSP EOL:	**4.7 kts**	**FEATHER EOL:** 7.23 °	

WEATHER

WIND SOL:	W 5.9 kts
WIND EOL:	W 4 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
5015	**1016**	**6:40**	**SOL**	**SOL MGL2514002W02**
5680	**1681**	**8:35**	**EOL**	**EOL MGL2514002W02**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**5015**	**16°23'10.00"**	**101°44'59.92"**
LSP	**5680**	**16°14'09.16"**	**101°44'40.90"**

		Latitude (N)	Longitude (W)
FSP	**5015**	**16.386112**	**101.749979**
LSP	**5680**	**16.235879**	**101.744695**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments	Seispos Produced P1

Seq# 003

Line Name: MGL2514003W03 | **Line Brg :** 120 °

NAVIGATION LINE LOGS

DATE: 2025-12-05 | **JULIAN DAY:** 339

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-82.6 m**
DC EOL:	**##########**
BSP SOL:	**4.7 kts**
BSP EOL:	**3.8 kts**

WEATHER

WIND SOL:	W 5.9 kts
WIND EOL:	W 2.8 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

DEPTH SOL : 3574.7 m
DEPTH EOL : 3547.0 m
FEATHER SOL: -49.58 °
FEATHER EOL: 18.09 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
6025	**1002**	**8:37**	**SOL**	**SOL MGL2514003W03**
7391	**2368**	12:30		Streamer communication errors
7407	**2384**	12:33		**First good shot after streamer communication errors**
8295	**3272**	**15:23**	**EOL**	**EOL MGL2514003W03**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**6025**	**16°14'01.11"**	**101°44'33.12"**
LSP	**8295**	**15°59'09.19"**	**101°16'40.22"**

		Latitude (N)	Longitude (W)
FSP	**6025**	**16.233643**	**101.742533**
LSP	**8295**	**15.985885**	**101.277839**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos Produced P1

Seq# 004

Line Name: MGL2514004W04 | **Line Brg :** 25.7 °

NAVIGATION LINE LOGS

DATE: 2025-12-05 | **JULIAN DAY:** 339

Lamont-Doherty Earth Observatory
Columbia University | Earth Institute

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-203.1 m**
DC EOL:	**-129.2 m**
BSP SOL:	**4.0 kts**
BSP EOL:	**4.7 kts**

DEPTH SOL : 3537.7 m
DEPTH EOL : 1645.9 m
FEATHER SOL: -63.29 °
FEATHER EOL: 6.84 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 2.5 kts
WIND EOL:	W 7 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
9058	**1058**	**15:32**	**SOL**	**SOL MGL2514004W04**
9857	1857	17:54		MMO shutdown (turtle)
9875	1875	17:57		ramp up
9911	1911	18:02		first full volume shot
12103	4103	23:59	LSOD	Last shot of the day
13474	5474	3:46	LPPSP	Last Preplot SP
13634	**5634**	**4:13**	**EOL**	**EOL MGL2514004W04**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**9058**	**15°59'26.34"**	**101°16'07.74"**
LSP	**13634**	**16°55'16.94"**	**100°48'09.23"**

		Latitude (N)	Longitude (W)
FSP	**9058**	**15.990651**	**101.268817**
LSP	**13634**	**16.921372**	**100.802563**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

c1, c2, deep whole line
shot 9630 gun depth sensor 2 drops from 2.6m to 3.0m
V1G3 Cnav2 bad adjust, position knocked out

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos Produced P1

Seq# 005

Line Name: MGL2514005W05 | **Line Brg :** 198.5 °

NAVIGATION LINE LOGS

DATE: 2025-12-06 | **JULIAN DAY:** 340

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-669.2 m**
DC EOL:	**-11.0 m**
BSP SOL:	**4.8 kts**
BSP EOL:	**4.8 kts**

WEATHER

WIND SOL:	W 8 kts
WIND EOL:	W 3.7 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

DEPTH SOL : 1349.8 m
DEPTH EOL : 4820.8 m
FEATHER SOL: 81.89 °
FEATHER EOL: -3.99 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
13971	**771**	**5:06**	**SOL**	**SOL MGL2514005W05, 4k run in**
14201	**1001**	**5:50**	**FPPSP**	First preplot Shot Point
15615	**2415**	9:55	LPPSP	Last preplot Shot Point
15775	**2575**	**10:22**	**EOL**	**EOL MGL2514005W05, 4k run out**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**13971**	**16°54'53.96"**	**100°44'51.90"**
LSP	**15775**	**16°31'49.18"**	**100°53'15.27"**

		Latitude (N)	Longitude (W)
FSP	**13971**	**16.914988**	**100.74775**
LSP	**15775**	**16.530329**	**100.887575**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos Produced P1

Seq# 006

Line Name: MGL2514006W06 **Line Brg :** 290 °

NAVIGATION LINE LOGS

DATE: 2025-12-06 **JULIAN DAY:** 340

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**-13.0 m**	**DEPTH SOL :** 5297.8 m	**NAVIGATION SYSTEM USED: C-NavX3 - Primary**
DC EOL:	**-18.0 m**	**DEPTH EOL :** 5055.7 m	**NAVIGATION SYSTEM USED: SeaPath 330**
BSP SOL:	**4.3 kts**	**FEATHER SOL:** -28.44 °	**NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted**
BSP EOL:	**3.6 kts**	**FEATHER EOL:** 1.29 °	

WEATHER

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

		shift hours	Nav	shift hours	Acq
WIND SOL:	5.4 kts				
WIND EOL:					
SEAS SOL:	0.5 m	**12:00 - 24:00**	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
SEAS EOL:	0.5 m	**0:00-12:00**	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
16392	**892**	**12:07**	**SOL**	**SOL MGL2514006W06, 4k run in**
16393	**893**	**12:07**	**FGSP**	First good shot point
16501	**1001**	**12:27**		First preplot Shot Point
18531	**3031**	**19:10**		Last preplot SP
18611	**3111**	**19:24**	**EOL**	**EOL MGL2514006W06, 4k run out**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**16393**	**16°33'32.84"**	**100°51'13.73"**
LSP	**18611**	**16°44'09.98"**	**101°20'24.28"**

		Latitude (N)	Longitude (W)
FSP	**16393**	**16.559123**	**100.853813**
LSP	**18611**	**16.736106**	**101.340078**

NRP – Stern	**29.2m**
NRP – COS	**298.0m**
NRP – CNG	**442.65m**
COS – CNG	**144.65m**
NRP – CMP	**370.33m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

s1d12 noisy, will replace

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos Produced P1

Seq# 007

Line Name: MGL2514007E01 | **Line Brg :** 205.7 °

NAVIGATION LINE LOGS

DATE: 2025-12-09 | **JULIAN DAY:** 343

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	##########
DC EOL:	39.9 m
BSP SOL:	4.5 kts
BSP EOL:	4.3 kts

WEATHER

WIND SOL:	W 10 kts
WIND EOL:	3.4 kts
SEAS SOL:	1 m
SEAS EOL:	1 m

DEPTH SOL : 1933.9 m
DEPTH EOL : 3472.6 m
FEATHER SOL: 43.61 °
FEATHER EOL: -0.54 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

	shift hours	Nav	shift hours	Acq
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
19844	**844**	**23:32**	**SOL**	**SOL MGL2514007E01**
19870	**870**	**23:36**	**FGSP**	Seal not recording SOL to SP 19869
19983	**983**	**23:59**	**LSOD**	Last shot of the day
20001	**1001**	**0:03**	**FPPSP**	First preplot SP
25116	**6116**	14:35	LPPSP	Last preplot SP
25276	**6276**	15:06	LGSP	**EOL MGL2514007E01**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**19844**	**16°37'59.44"**	**100°19'26.39"**
LSP	**25276**	**15°32'02.37"**	**100°53'19.24"**

		Latitude (N)	Longitude (W)
FSP	**19844**	**16.633177**	**100.323996**
LSP	**25276**	**15.533991**	**100.888679**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

First sequence shot with guns deployed additional 27m COS to CNG now 117.65 nominal

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments | Seispos produced P1

Seq# 008

Line Name: MGL2514008E02 | **Line Brg :** 333.1 °

NAVIGATION LINE LOGS

DATE: 2025-12-10 | **JULIAN DAY:** 344

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**499.6 m**
DC EOL:	**-9.3 m**
BSP SOL:	**4.7 kts**
BSP EOL:	**4.6 kts**

DEPTH SOL : 3352.4 m
DEPTH EOL : 3505.8 m
FEATHER SOL: -20.06 °
FEATHER EOL: 1.18 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	2.7 kts
WIND EOL:	3.4 kts
SEAS SOL:	1 m
SEAS EOL:	1 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
25838	**838**	**16:47**	**SOL**	**SOL MGL2514008E02**
26001	**1001**	**17:15**	**FPPSP**	**First preplot SP**
26900	**1900**	**19:47**	**EOL**	**EOL MGL2514008E02**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**25838**	**15°32'26.93"**	**100°51'03.75"**
LSP	**26900**	**15°45'09.77"**	**100°58'02.24"**

		Latitude (N)	Longitude (W)
FSP	**25838**	**15.540813**	**100.851041**
LSP	**26900**	**15.752715**	**100.967288**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**	
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD	
Head Float #1	**GOOD**					

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments	NRT Produced P1

Seq# 009

Line Name: MGL2514009E03 **Line Brg :** 84.3 °

NAVIGATION LINE LOGS

DATE: 2025-12-10 **JULIAN DAY:** 344

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**-6.2 m**
DC EOL:	**-59.0 m**
BSP SOL:	**4.2 kts**
BSP EOL:	**4.4 kts**

DEPTH SOL : 3473.9 m
DEPTH EOL : 3557.5 m
FEATHER SOL: -42.27 °
FEATHER EOL: -3.8 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	NW 4 kts
WIND EOL:	N 0.5 kts
SEAS SOL:	1 m
SEAS EOL:	.5 m

	shift hours	**Nav**	**shift hours**	**Acq**
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
26843	**843**	**21:18**	**SOL**	**SOL MGL2514009E03**
27001	**1001**	**21:46**	**FPPSP**	**First preplot SP**
27784	**1784**	**23:59**	**LSOD**	**Last shot of the day**
28293	**2293**	**1:31**	**LPPSP**	**Last preplot SP**
28561	**2561**	**2:20**	**EOL**	**EOL MGL2514009E03**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**26843**	**15°42'53.17"**	**100°58'57.56"**
LSP	**28561**	**15°45'13.57"**	**100°35'02.17"**

		Latitude (N)	Longitude (W)
FSP	**26843**	**15.71477**	**100.982656**
LSP	**28561**	**15.753769**	**100.583936**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**	
Tailbuoy #1	**GOOD**		**Gun string #1**	**GOOD**	**GOOD**	
Head Float #1	**GOOD**					

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments	Seispos produced P1

Seq# 010

Line Name: MGL2514010E04 | **Line Brg :** 330.3 °

NAVIGATION LINE LOGS

DATE: 2025-12-11 | **JULIAN DAY:** 345

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	##########
DC EOL:	-31.6 m
BSP SOL:	5.0 kts
BSP EOL:	4.8 kts

DEPTH SOL : 3560.0 m
DEPTH EOL : 3698.1 m
FEATHER SOL: 62.78 °
FEATHER EOL: -6.05 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	NW 3 kts
WIND EOL:	2.6 kts
SEAS SOL:	1 m
SEAS EOL:	1 m

shift hours	Nav	shift hours	Acq
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
29342	842	3:37	SOL	SOL MGL2514010E04
29501	1001	4:05	FPPSP	First preplot SP
30597	2097	7:06	LPPSP	Last preplot SP
30757	2257	7:34	EOL	EOL MGL2514010E04

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	29342	15°42'55.69"	100°37'06.80"
LSP	30757	15°59'59.06"	100°46'13.07"

		Latitude (N)	Longitude (W)
FSP	29342	15.71547	100.618556
LSP	30757	15.999738	-100.770297

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				Forward	Center	
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD	
Head Float #1	**GOOD**					

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments | Seispos produced P1

Seq# 011

Line Name: MGL2514011E05 | **Line Brg :** 63 °

NAVIGATION LINE LOGS

DATE: 2025-12-11 | **JULIAN DAY:** 345

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-437.6 m**
DC EOL:	**166.3 m**
BSP SOL:	**3.7 kts**
BSP EOL:	**4.7 kts**

DEPTH SOL : 3557.2 m
DEPTH EOL : 5293.3 m
FEATHER SOL: -54.84 °
FEATHER EOL: 6.15 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	NW 3 kts
WIND EOL:	N 1 kts
SEAS SOL:	1 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
31383	**883**	**9:30**	**SOL**	**SOL MGL2514011E05**
31501	**1001**	**9:56**	**FPPSP**	**First preplot SP**
34606	**4106**	**18:54**	**EOL**	**EOL MGL2514011E05**
				line ended early for inside turn onto next sequence

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**31383**	**15°57'32.47"**	**100°46'25.64"**
LSP	**34606**	**16°16'33.66"**	**100°05'44.35"**

		Latitude (N)	Longitude (W)
FSP	**31383**	**15.95902**	**100.773789**
LSP	**34606**	**16.276016**	**100.095654**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**	
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD	
Head Float #1	**GOOD**					

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Overall Comments	Seispos produced P1

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Seq# 012

Line Name: MGL2514012E06 **Line Brg :** 109.6 °

NAVIGATION LINE LOGS

DATE: 2025-12-11 **JULIAN DAY:** 345

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**13.3 m**
DC EOL:	**-18.2 m**
BSP SOL:	**4.9 kts**
BSP EOL:	**4.4 kts**

DEPTH SOL : 5275.4 m
DEPTH EOL : 5267.6 m
FEATHER SOL: 47.51 °
FEATHER EOL: -18.23 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	NW 3 kts
WIND EOL:	NW 3 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
35520	**1020**	**19:00**	**SOL**	**SOL MGL2514012E06**
				Line started late d/t inside turn from prior sequence
				First sequence shot with 9 second record length
36753	**2253**	**22:47**	**LPPSP**	Last preplot SP
37017	**2517**	**23:42**	**EOL**	**EOL MGL2514012E06**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**35520**	**16°16'31.67"**	**100°05'16.76"**
LSP	**37017**	**16°09'43.84"**	**99°45'29.43"**

		Latitude (N)	Longitude (W)
FSP	**35520**	**16.275465**	**100.08799**
LSP	**37017**	**16.162178**	**99.758175**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**	
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD	
Head Float #1	**GOOD**					

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

First sequence shot with 9 second record length

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 013

Line Name: MGL2514013E07 | **Line Brg :** 247.7 °

NAVIGATION LINE LOGS

DATE: 2025-12-12 | **JULIAN DAY:** 346

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	-792.8 m
DC EOL:	44.9 m
BSP SOL:	4.8 kts
BSP EOL:	4.1 kts

DEPTH SOL : 5338.6 m
DEPTH EOL : 4389.9 m
FEATHER SOL: -44.98 °
FEATHER EOL: -11.31 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 8 kts
WIND EOL:	W 7 kts
SEAS SOL:	0.5 m
SEAS EOL:	1 m

shift hours	Nav	shift hours	Acq
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
37273	**773**	**0:58**	**SOL**	**SOL MGL2514013E07**
				large DC to port at SOL due to fishing vessel in track line
37501	**1001**	**1:42**	**FPPSP**	**First preplot SP**
38291	**1791**	**4:22**	**LPPSP**	**Last preplot SP**
38451	**1951**	**4:55**	**EOL**	**EOL MGL2514013E07**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**37273**	**16°11'41.34"**	**99°46'10.87"**
LSP	**38451**	**16°06'02.08"**	**100°01'38.31"**

		Latitude (N)	Longitude (W)
FSP	**37273**	**16.194817**	**-99.769686**
LSP	**38451**	**16.100579**	**-100.027309**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				Forward	Center
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**ABSENT**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Head Float RGPS absent whole line

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seg# 014

Line Name: MGL2514014E08 | **Line Brg :** 24 °

NAVIGATION LINE LOGS

DATE: 2025-12-12 | **JULIAN DAY:** 346

Lamont-Doherty Earth Observatory
Columbia University | Earth Institute

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	1799.1 m	**DEPTH SOL :**	4196.5 m
DC EOL:	-7.3 m	**DEPTH EOL :**	3094.5 m
BSP SOL:	4.1 kts	**FEATHER SOL:**	-37.85 °
BSP EOL:	3.8 kts	**FEATHER EOL:**	5.72 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 7 kts
WIND EOL:	NE 7 kts
SEAS SOL:	1 m
SEAS EOL:	0.5 m

	shift hours	Nav	shift hours	Acq
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
39192	**692**	**6:34**	**SOL**	**SOL MGL2514014E08**
39501	**1001**	**7:41**	**FPPSP**	First preplot SP
40780	**2280**	**12:07**	**LPPSP**	Last preplot SP
40940	**2440**	**12:41**	**EOL**	**EOL MGL2514014E08**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**39192**	**16°02'50.29"**	**100°00'10.10"**
LSP	**40940**	**16°24'52.40"**	**99°51'05.82"**

	Latitude (N)	Longitude (W)
FSP	**16.047302**	**-100.002805**
LSP	**16.414556**	**-99.851616**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				Forward	Center
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**ABSENT**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Head Float RGPS absent whole line

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seq# 015

Line Name: MGL2514015T01 | **Line Brg :** 198.7 °

NAVIGATION LINE LOGS

DATE: 2025-12-17 | **JULIAN DAY:** 351

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-8.0 m**
DC EOL:	**-7.7 m**
BSP SOL:	**4.6 kts**
BSP EOL:	**4.4 kts**

DEPTH SOL : 1237.7 m
DEPTH EOL : 4415.5 m
FEATHER SOL: -18.46 °
FEATHER EOL: -8.13 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 6.8 kts
WIND EOL:	W 7.1 kts
SEAS SOL:	1 m
SEAS EOL:	0.5 m

	shift hours	Nav	shift hours	Acq
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
41471	**971**	**7:46**	**SOL**	**SOL MGL2514015T01**
41501	**1001**	**7:52**	**FPPSP**	First preplot SP
43196	**2696**	**13:09**	**EOL**	**EOL MGL2514015T01**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**41471**	**16°44'15.41"**	**100°34'07.15"**
LSP	**43196**	**16°22'06.17"**	**100°41'52.22"**

		Latitude (N)	Longitude (W)
FSP	**41471**	**16.737615**	**100.568653**
LSP	**43196**	**16.368381**	**100.697838**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seq# 016

Line Name: MGL2514016T02 | **Line Brg :** 18.5 °

NAVIGATION LINE LOGS

DATE: 2025-12-17 | **JULIAN DAY:** 351

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**39.5 m**
DC EOL:	**3.5 m**
BSP SOL:	**4.7 kts**
BSP EOL:	**4.1 kts**

DEPTH SOL : 4374.7 m
DEPTH EOL : 945.5 m
FEATHER SOL: 26.26 °
FEATHER EOL: 13.86 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 4.2 kts
WIND EOL:	W 13 kts
SEAS SOL:	0.5 m
SEAS EOL:	1 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
45417	**917**	**14:49**	**SOL**	**SOL MGL2514016T02**
45501	**1001**	**15:04**	**FPPSP**	First preplot SP
47223	**2723**	**20:27**	**EOL**	**EOL MGL2514016T02**
				no run out this sequence

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**45417**	**16°22'14.42"**	**100°44'45.29"**
LSP	**47223**	**16°45'27.69"**	**100°36'43.31"**

		Latitude (N)	Longitude (W)
FSP	**45417**	**16.370673**	**100.745915**
LSP	**47223**	**16.757691**	**100.61203**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seq# 017

Line Name: MGL2514017T03 **Line Brg :** 198.7 °

NAVIGATION LINE LOGS

DATE: 2025-12-17 **JULIAN DAY:** 351

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**-42.9 m**
DC EOL:	**128.5 m**
BSP SOL:	**4.0 kts**
BSP EOL:	**4.0 kts**

DEPTH SOL : 1044.1 m
DEPTH EOL : 4313.8 m
FEATHER SOL: 8.67 °
FEATHER EOL: -7.88 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 16 kts
WIND EOL:	W 16 kts
SEAS SOL:	1 m
SEAS EOL:	1 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
48515	**1015**	**22:51**	**SOL**	**SOL MGL2514015T01**
				high dc to starboard coming onto line to avoid vessel in area
				Delayed SOL due to permit not allowing ramp up until water depth 1000m
48852	**1352**	**23:59**	**LSOD**	Last shot of the day
50168	**2668**	**4:14**	**LPPSP**	Last preplot SP
50328	**2828**	**4:45**	**EOL**	**EOL MGL2514015T01**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**48515**	**16°45'03.95"**	**100°39'45.53"**
LSP	**50328**	**16°21'48.75"**	**100°48'00.03"**

		Latitude (N)	Longitude (W)
FSP	**48515**	**16.751098**	**100.662646**
LSP	**50328**	**16.363541**	**100.800008**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	**GOOD**	**GOOD**
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

V1G1 out for 3 shots 49152 to 49154

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments	Seispos produced P1

Seq# 018

Line Name: MGL2514018T04 **Line Brg :** 18.5 °

NAVIGATION LINE LOGS

DATE: 2025-12-18 **JULIAN DAY:** 352

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**-159.9 m**
DC EOL:	**35.7 m**
BSP SOL:	**4.5 kts**
BSP EOL:	**4.3 kts**
WEATHER	
WIND SOL:	W 14 kts
WIND EOL:	11.7 kts
SEAS SOL:	1 m
SEAS EOL:	0.5 m

DEPTH SOL : 4277.0 m
DEPTH EOL : 1091.5 m
FEATHER SOL: 67.08 °
FEATHER EOL: 7.56 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

	shift hours	**Nav**	**shift hours**	**Acq**
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	**Orca Ref**	**UTC**	**EVENT**	***COMMENTS***
51341	**841**	**5:43**	**SOL**	**SOL MGL2514018T04**
51501	**1001**	**6:13**	**FPPSP**	First preplot SP
53316	**2816**	**11:57**	**LPPSP**	Last preplot SP
53500	**3000**	**12:31**	**EOL**	**EOL MGL2514018T04**

VESSEL POSITION

	Shotpoints	**Latitude (N)**	**Longitude (W)**
FSP	**51341**	**16°22'58.66"**	**100°50'32.36"**
LSP	**53500**	**16°50'41.72"**	**100°40'48.23"**

		Latitude (N)	**Longitude (W)**
FSP	**51341**	**16.382961**	**100.842323**
LSP	**53500**	**16.844923**	**100.680063**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 019

Line Name: MGL2514019T05 | **Line Brg :** 198.6 °

NAVIGATION LINE LOGS

DATE: 2025-12-18 | **JULIAN DAY:** 352

Lamont-Doherty Earth Observatory
Columbia University | Earth Institute

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**45.4 m**
DC EOL:	**62.2 m**
BSP SOL:	**4.9 kts**
BSP EOL:	**4.1 kts**

DEPTH SOL : 1305.3 m
DEPTH EOL : 4163.8 m
FEATHER SOL: -59.68 °
FEATHER EOL: 1.92 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	3.5 kts
WIND EOL:	W 9 kts
SEAS SOL:	0.5 m
SEAS EOL:	1 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
54343	**3843**	**13:59**	**SOL**	**SOL MGL2514019T05**
54501	**4001**	**14:28**	**FPPSP**	First preplot SP
56499	**5999**	**20:37**	**LPPSP**	Last preplot SP
56659	**6159**	**21:07**	**EOL**	**EOL MGL2514019T05**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**54343**	**16°53'13.84"**	**100°42'56.03"**
LSP	**56659**	**16°23'28.38"**	**100°53'18.19"**

	Latitude (N)	Longitude (W)
FSP **54343**	**16.887179**	**100.715565**
LSP **56659**	**16.391217**	**100.888387**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 020

Line Name: MGL2514020T06 | **Line Brg :** 18.4 °

NAVIGATION LINE LOGS

DATE: 2015-12-18 | **JULIAN DAY:** 352

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**-175.1 m**
DC EOL:	**-64.3 m**
BSP SOL:	**4.4 kts**
BSP EOL:	**4.3 kts**

DEPTH SOL : 4127.1 m
DEPTH EOL : 1649.5 m
FEATHER SOL: 52.12 °
FEATHER EOL: 14.33 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 9 kts
WIND EOL:	NW 6 kts
SEAS SOL:	1 m
SEAS EOL:	1 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
59656	**3156**	**22:43**	**SOL**	**SOL MGL2514020T06**
				Seq 20 shot with decrementing Shot point numbers, approved by PI
59501	**3001**	**23:11**	**FPPSP**	First preplot SP
59239	**2739**	**23:59**	**LSOD**	Last shot of the day
57501	**1001**	**5:21**	**LPPSP**	Last preplot SP
57341	**841**	**5:50**	**EOL**	**EOL MGL2514020T06**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**59656**	**16°25'35.11"**	**100°58'30.99"**
LSP	**57341**	**16°55'20.07"**	**100°48'09.81"**

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**59656**	**16.426419**	**100.975274**
LSP	**57341**	**16.922241**	**100.802725**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 021

Line Name: MGL2514021T07 | **NAVIGATION LINE LOGS** | **DATE:** 2015-12-19 | **JULIAN DAY:** 353

Line Brg : 198 °

Lamont-Doherty Earth Observatory
Columbia University | Earth Institute

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**4.6 m**	**DEPTH SOL :**	1925.2 m
DC EOL:	**1.4 m**	**DEPTH EOL :**	4146.2 m
BSP SOL:	**4.5 kts**	**FEATHER SOL:**	-38.32 °
BSP EOL:	**4.3 kts**	**FEATHER EOL:**	-4.38 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	5.8 kts
WIND EOL:	1.4 kts
SEAS SOL:	1 m
SEAS EOL:	0.5 m

	shift hours	**Nav**	**shift hours**	**Acq**
	12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
	0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	**Orca Ref**	**UTC**	**EVENT**	***COMMENTS***
60392	**892**	**7:37**	**SOL**	**SOL MGL2514021T07**
60501	**1001**	**7:56**	**FPPSP**	First preplot SP
62498	**2998**	**14:08**	**LPPSP**	Last preplot SP
62658	**3158**	**14:38**	**EOL**	**EOL MGL2514021T07**

VESSEL POSITION

	Shotpoints	**Latitude (N)**	**Longitude (W)**
FSP	**60392**	**16°56'00.90"**	**100°53'48.87"**
LSP	**62658**	**16°26'52.55"**	**101°03'53.28"**

	Shotpoints	**Latitude (N)**	**Longitude (W)**
FSP	**60392**	**16.933584**	**100.896909**
LSP	**62658**	**16.44793**	**101.064799**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD
line status:	COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seq# 022

Line Name: MGL2514022T08 **Line Brg :** 18.4 °

NAVIGATION LINE LOGS

DATE: 2015-12-19 **JULIAN DAY:** 353

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow **SURVEY: HI-RES** **AREA: Mexico Pacific Coast**

DC SOL:	**-229.7 m**
DC EOL:	**-77.7 m**
BSP SOL:	**4.3 kts**
BSP EOL:	**4.2 kts**

DEPTH SOL : 4169.8 m
DEPTH EOL : 2027.4 m
FEATHER SOL: 65.57 °
FEATHER EOL: 8.51 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	2.9 kts
WIND EOL:	W 5 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
63322	**822**	**15:35**	**SOL**	**SOL MGL2514022T08**
63501	**1001**	**16:08**	**FPPSP**	First preplot SP
65498	**2998**	**22:18**	**LPPSP**	Last preplot SP
65658	**3158**	**22:47**	**EOL**	**EOL MGL2514022T08**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**63322**	**16°27'50.66"**	**101°06'40.72"**
LSP	**65658**	**16°57'51.43"**	**100°56'12.63"**

	Latitude (N)	Longitude (W)
FSP **63322**	**16.464071**	**101.111311**
LSP **65658**	**16.964287**	**100.936842**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 023

Line Name: MGL2514023T09 | **Line Brg :** 199 °

NAVIGATION LINE LOGS

DATE: 2015-12-19 | **JULIAN DAY:** 535

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**112.9 m**
DC EOL:	**-13.4 m**
BSP SOL:	**4.2 kts**
BSP EOL:	**4.2 kts**

DEPTH SOL : 2091.7 m
DEPTH EOL : 4270.4 m
FEATHER SOL: -66.97 °
FEATHER EOL: -5.62 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	W 2 kts
WIND EOL:	4.3 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
66341	**841**	**23:47**	**SOL**	**SOL MGL2514023T09**
66404	**904**	**23:59**	**LSOD**	Last shot of the Day
66501	**1001**	**0:17**	**FPPSP**	First preplot SP
68498	**2998**	**6:26**	**LPPSP**	Last preplot SP
68658	**3158**	**6:56**	**EOL**	**EOL MGL2514023T09**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**66341**	**16°58'25.77"**	**100°58'59.10"**
LSP	**68658**	**16°28'36.78"**	**101°09'13.21"**

		Latitude (N)	Longitude (W)
FSP	**66341**	**16.973824**	**100.983083**
LSP	**68658**	**16.476882**	**101.15367**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments Seispos produced P1

Seq# 024

Line Name: MGL2514024T10 | **Line Brg :** 18.4 °

NAVIGATION LINE LOGS

DATE: 2015-12-20 | **JULIAN DAY:** 354

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**15.4 m**
DC EOL:	**-53.5 m**
BSP SOL:	**4.4 kts**
BSP EOL:	**4.2 kts**

DEPTH SOL : 4134.0 m
DEPTH EOL : 2056.7 m
FEATHER SOL: 36.66 °
FEATHER EOL: 7.39 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	N 1 kts
WIND EOL:	NE 7.2 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
69394	**894**	**8:04**	**SOL**	**SOL MGL2514024T10**
69501	**1001**	**8:24**	**FPPSP**	First preplot SP
71498	**2998**	**14:35**	**LPPSP**	Last preplot SP
71658	**3158**	**15:04**	**EOL**	**EOL MGL2514024T10**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**69394**	**16°30'28.10"**	**101°11'34.13"**
LSP	**71658**	**16°59'35.61"**	**101°01'32.25"**

		Latitude (N)	Longitude (W)
FSP	**69394**	**16.507806**	**101.192813**
LSP	**71658**	**16.993224**	**101.025624**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point

Overall Comments NRT Produced P1

Seq# 025

Line Name: MGL2514025T11 | **Line Brg :** 198.5 °

NAVIGATION LINE LOGS

DATE: 2015-12-20 | **JULIAN DAY:** 354

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT:Spinneli Heat Flow | **SURVEY: HI-RES** | **AREA: Mexico Pacific Coast**

DC SOL:	**1.0 m**
DC EOL:	**-38.7 m**
BSP SOL:	**4.4 kts**
BSP EOL:	**4.4 kts**

DEPTH SOL : 2234.5 m
DEPTH EOL : 3770.5 m
FEATHER SOL: -25.82 °
FEATHER EOL: -4.14 °

NAVIGATION SYSTEM USED: C-NavX3 - Primary
NAVIGATION SYSTEM USED: SeaPath 330
NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted

GRAVITY METER: DGS 81-44
MAGNETOMETER: Geometrics 882

WEATHER

WIND SOL:	3.9 kts
WIND EOL:	NW 4 kts
SEAS SOL:	0.5 m
SEAS EOL:	0.5 m

shift hours	**Nav**	**shift hours**	**Acq**
12:00 - 24:00	Aaron Martin	**12:00 - 24:00**	Gilles Guerin
0:00-12:00	Cody Bahlau	**00:00 - 12:00**	Jose Ramirez Najera

SP	Orca Ref	UTC	EVENT	*COMMENTS*
72421	**921**	**16:16**	**SOL**	**SOL MGL2514025T11**
72501	**1001**	**16:31**	**FPPSP**	First preplot SP
74498	**2998**	**22:42**	**LPPSP**	Last preplot SP
74658	**3158**	**23:11**	**EOL**	**EOL MGL2514025T11**

VESSEL POSITION

	Shotpoints	Latitude (N)	Longitude (W)
FSP	**72421**	**16°59'03.70"**	**101°04'37.31"**
LSP	**74658**	**16°30'17.29"**	**101°14'32.81"**

		Latitude (N)	Longitude (W)
FSP	**72421**	**16.984361**	**-101.077031**
LSP	**74658**	**16.504804**	**-101.242447**

NRP – Stern	**29.2m**
NRP – COS	**325.0m**
NRP – CNG	**442.65m**
COS – CNG	**117.65m**
NRP – CMP	**383.83m**

Posnet locations & remarks: good - none - intermittent				**Forward**	**Center**
Tailbuoy #1	**GOOD**		**Gun string #1**	GOOD	GOOD
Head Float #1	**GOOD**				

SP spacing: 25m

Compasses	GOOD
D.I.s	GOOD

line status: COMPLETE

PROCESSING NOTES

SP 73831-73913 no compass data, LIU power failure

NRT Produced P1

Overall Comments	NRT Produced P1

Acronyms key

DC SOL	Distance Crossed at Start of Line
DC EOL	Distance Crossed at End of Line
BSP	Bottom Speed, aka SOG: Speed Over Ground
FEATHER	The angle from the boat to the TB (Tail Buoy)
NRP	Navigation Reference Point
COS	Center of Source
CNG	Center Near Group
CMP	Common Mid-point