



Seq# 001		Line Name: MGL1610OB03		NAVIGATION	DATE: 2016-10-29	 	
		Line Brg : 352 °		LINE LOGS	JULIAN DAY: 303		
		CLIENT: TREHU OSU / NSF		SURVEY: Pisagua	AREA: Northern Chile		
DC SOL : 457.9 m		DEPTH SOL 1263.4 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : 2.2 m		DEPTH EOL 1498.5 m		NAVIGATION SYSTEM USED: SeaPath 330			
BSP SOL: 4.5 kts		FEATHER S: N/A		NAVIGATION SYSTEM USED: C-Nav2000			
BSP EOL: 5.0 kts		FEATHER E: N/A		NAVIGATION SYSTEM USED: POSMV			
WEATHER		MAX FEATHER N/A		GRAVITY METER: BMG-II: used, SN223			
WIND SOL: 12.3 kts				MAGNETOMETER: GeoMetrics: used			
WIND EOL: 10.9 kts							
SEAS SOL: 1.0 m		12:00 - 24:00 David Mat2:00 - 24:00 Gilles Guerin		watch personnel			
SEAS EOL: 1.0 m		00:00 - 12:00 Todd Jen3:00 - 12:00 Alan Thompson					
SP	UTC	EVENT	COMMENTS				
964	19:17:17	SOL					
1057	22:40:10	OBS	crossed OBS SG01				
1098	23:59	Midnight	Midnight shot point				
1107	0:17:27	OBS	crossed OBS SG02				
1154	0:55:00	OBS	crossed OBS SG03				
1207	3:31:49	OBS	crossed OBS SS04				
1256	05:06:23	OBS	crossed OBS SS05				
1307	06:45:33	OBS	crossed OBS SS06				
1353	08:13	OBS	crossed OBS SS07				
1415	10:16	OBS	crossed OBS SS08				
1459	11:41	power down	last full volume shot point				
1460	11:43		first mitigation shot point				
1471	12:05	OBS	crossed OBS SS09				
1472	12:08		last mitigation shot point				
1473	12:12	power up	first full volume shot point				
1515	13:36	OBS	crossed OBS SS10				
1568	15:18	OBS	crossed OBS SS11				
1617	16:53	OBS	crossed OBS SS12				
1668	18:33	OBS	crossed OBS SS13				
1726	20:26	OBS	crossed OBS SG14				
1765	21:41:39	power down	last full volume shot point				
1766	21:43:34		first mitigation shot point				
1779	22:13:14		last mitigation shot point				
1780	22:15:35	power up	first full volume shot point				
1782	22:19:41	OBS	crossed OBS SS15				
1829	23:49:22	OBS	crossed OBS SS16				
1833	23:58:21	Midnight	Midnight shot point				
1882	01:34:05	OBS	crossed OBS SS17				
1930	03:08:17	OBS	crossed OBS SS18				
1982	04:50:27	OBS	crossed OBS SS19				
2031	06:27:14	OBS	crossed OBS SS20				
2091	08:26:42	EOL					
Posnet locations & remarks: good - none - intermittent			acoustics				
Tailbuoy #1	none	Gun string #1	GOOD	Acx string 1 failed			
Tailbuoy #2	none	Gun string #2	GOOD				
Tailbuoy #3	none	Gun string #3	Failed				
Tailbuoy #4	none	Gun string #4	Failed				
SP spacing: 300m				line status: complete			

VESSEL POSITION			
Shotpoints		Latitude (N / +)	Longitude (E / +)
FSP	964	-21° 46' 30.962"	-70° 32' 24.524"
LSP	2091	-18° 44' 45.705"	-70° 57' 05.123"

NAVIGATION OFFSET APPLIED	
NRP - Stern	29.5m
NRP - COS	205.0m
NRP - CNG	n/a
COS - CNG	n/a
NRP - CMP	n/a

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Seq# 008	Line Name: MGL1610MC16A		NAVIGATION		DATE: 2016-11-07		Lamont-Doherty Earth Observatory		
	Line Brg : 353.93 °		LINE LOGS		JULIAN DAY: 312		COLUMBIA UNIVERSITY EARTH INSTITUTE		
CLIENT: TREHU / NSF		SURVEY: MGL1610		AREA: Northern Chile					
DC SOL: -44.3 m		DEPTH SOL : 2840.0 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL: -4.9 m		DEPTH EOL : 2098.0 m		NAVIGATION SYSTEM USED: SeaPath 200					
BSP SOL: 4.2 kts		FEATHER SOL: -08.4 °		NAVIGATION SYSTEM USED: C-Nav2000					
BSP EOL: 4.6 kts		FEATHER EOL: 04.8 °		NAVIGATION SYSTEM USED: POSMV					
WEATHER		MAX FEATHER: -10.2 °		GRAVITY METER: BMG-II: used, SN223					
WIND SOL: 1.5 kts				MAGNETOMETER: GeoMetrics: used					
WIND EOL: 5.8 kts		shift hours shift leaders shift hours watch personnel shift hours watch personnel							
SEAS SOL: 1.0 m		12:00 - 24:00 David Martinson 00:00 - 12:00 Todd Jensvold							
SEAS EOL:		12:00 - 24:00 Gilles Guerin 00:00 - 12:00 Alan Thompson							
SP	UTC	EVENT	COMMENTS			VESSEL POSITION			
19932	12:42:46	SOL	Start of line						
20124	15:32:40	XBT				Shotpoints Latitude (S) Longitude (W)			
20305	18:18:22	OBS	crossed OBS SS61			FSP	19932	21° 00' 27.529"	70° 46' 46.433"
20425	20:09:04	OBS	crossed OBS SG62			LSP	21645	19° 05' 31.917"	71° 03' 49.835"
20541	21:52:07	OBS	crossed OBS SS59						
20657	23:34:38	OBS	crossed OBS SG56			NAVIGATION OFFSET APPLIED			
20686	0:00:12	MIDNIGHT	midnight shot			NRP - Stern 29.5m			
20772	1:18:24	OBS	crossed OBS SS52			NRP - COS 205.0m			
20891	00:04:40	OBS	crossed OBS SS48			NRP - CNG 431.0m			
21019	05:00:32	OBS	crossed OBS SS43			COS - CNG 226.0m			
21155	07:03:52	OBS	crossed OBS SG41			NRP - CMP 318m			
21283	09:03:00	OBS	crossed OBS SS39						
21410	10:58:06	OBS	crossed OBS SS36						
21645	14:35:15	EOL	End of line						
Posnet locations & remarks: good - none - intermittent									
Tailbuoy #1	GOOD	Gun string #1	GOOD						
Tailbuoy #2	none	Gun string #2	GOOD						
Tailbuoy #3	none	Gun string #3	NONE						
Tailbuoy #4	none	Gun string #4	GOOD						
SP spacing: 125.0m					line status: Complete				

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Seq# 014		Line Name: MGL1610MC18		NAVIGATION		DATE: 2016-11-12		Lamont-Doherty Earth Observatory	
Line Brg : 348.3 °		LINE LOGS		JULIAN DAY: 317		COLUMBIA UNIVERSITY EARTH INSTITUTE			
CLIENT: TREHU / NSF		SURVEY:		AREA: Northern Chile					
DC SOL: -4.1 m		DEPTH SOL : 6102.5 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL: -101.0 m		DEPTH EOL : 5845.6 m		NAVIGATION SYSTEM USED: SeaPath 200					
BSP SOL: 4.4 kts		FEATHER SOL: -20.8 °		NAVIGATION SYSTEM USED: C-Nav2000					
BSP EOL: 4.5 kts		FEATHER EOL: -00.1 °		NAVIGATION SYSTEM USED: POSMV					
WEATHER		MAX FEATHER:		GRAVITY METER: BMG-II: used, SN223					
WIND SOL: 5.7 kts				MAGNETOMETER: GeoMetrics: used					
WIND EOL: 7.8 kts		shift hours		shift leaders		shift hours		watch personnel	
SEAS SOL: 1.0 m		12:00 - 24:00		Gilles Guerin		00:00 - 12:00		Todd Jensvold	
SEAS EOL: 1.5 m		12:00 - 24:00		David Martinson		00:00 - 12:00		Alan Thompson	
SP	UTC	EVENT	COMMENTS						
29972	14:25:26	SOL	Start of line						
30469	21:58:54	EOL	end of line						
			VESSEL POSITION						
			Shotpoints		Latitude (S)		Longitude (W))		
			FSP 29772		20° 49' 39.565"		71° 24' 49.723"		
			LSP 30469		20° 16' 41.932"		71° 32' 07.366"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.5m				
			NRP - COS		205.0m				
			NRP - CNG		431.0m				
			COS - CNG		226.0m				
			NRP - CMP		318m				
Posnet locations & remarks: good - none - intermittent									
Tailbuoy #1	Intermittent	Gun string #1	Failed		Failed string 1 acoustic				
Tailbuoy #2	none	Gun string #2	GOOD						
Tailbuoy #3	none	Gun string #3	None						
Tailbuoy #4	none	Gun string #4	GOOD						
line status:			Complete						

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Seq# 021

Line Name: MGL1610MC04

Line Brg: 70.7 °

NAVIGATION

LINE LOGS

DATE: 2016-11-16

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CLIENT: TREHU / NSF

SURVEY:

AREA: Northern Chile

DC SOL: 8.9 m

DC EOL: 144.9 m

BBP SOL: 4.3 kts

BBP EOL: 5.7 kts

WEATHER

WIND SOL: 6.2 kts

WIND EOL: 7 kts

SEAS SOL: 1.0 m

SEAS EOL: 1.0 m

DEPTH SOL: 6291.3 m

DEPTH EOL: 900.7 m

FEATHER SOL: 44.1 °

FEATHER EOL: -04.4 °

MAX FEATHER: 44.1 °

NAVIGATION SYSTEM USED: C-Nav2000 - Primary

NAVIGATION SYSTEM USED: SeaPath 200

NAVIGATION SYSTEM USED: C-Nav2000

NAVIGATION SYSTEM USED: POSMV

GRAVITY METER: BMG-R: used, SN223

MAGNETOMETER: Guckelmeis: used

shift hours

shift leaders

shift hours

watch personnel

shift hours

watch personnel

12:00 - 24:00

Gilles Guerin

00:00 - 12:00

Todd Jensenold

12:00 - 24:00

David Martinsson

00:00 - 12:00

Alan Thompson

SP

UTC

COMMENTS

47951 08:44:02 SOL

Start of line

48484 17:07:00 OBS

crossed OBS 8556

48632 20:36:13 OBS

crossed OBS 9534

49147 21:56:39 OBS

crossed OBS 9519

48676 23:34 OBS

crossed OBS 9587

49030 00:36:27 OBS

crossed OBS 9587

49075 00:55:00 OBS

End of line

Shipshots

Latitude (N)

Longitude (W)

47951

19° 30' 05.596"

71° 45' 52.037"

LSP

49073

19° 10' 33.621"

71° 29' 55.886"

NAVIGATION OFFSET APPLIED:

NSP - Stern 25.0m

NSP - COS 206.0m

NSP - CIG 157.0m

COS - CWS 236.0m

NSP - CWP 211m

Revised Location & Remarks

Line Name

Seq#

Time

Remarks

Seq#

Time

Remarks

February 21

08:44:02

Start of line

February 21

08:44:02

Start of line

February 21

17:07:00

crossed OBS 8556

February 21

17:07:00

crossed OBS 8556

February 21

20:36:13

crossed OBS 9534

February 21

20:36:13

crossed OBS 9534

February 21

21:56:39

crossed OBS 9519

February 21

21:56:39

crossed OBS 9519

February 21

23:34

crossed OBS 9587

February 21

23:34

crossed OBS 9587

February 21

00:36:27

crossed OBS 9587

February 21

00:36:27

crossed OBS 9587

February 21

00:55:00

End of line

February 21

00:55:00

End of line

SP spacing: 125.0m

Line status: Complete

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Seq# 033	Line Name:	MGL1610MC29	NAVIGATION	DATE:	2016-11-23	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE
	Line Brg :	351.7 °	LINE LOGS	JULIAN DAY:	328	
CLIENT: TREHU / NSF		SURVEY:		AREA: Northern Chile		
DC SOL: 329.8 m	DEPTH SOL : 932.8 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL: -74.5 m	DEPTH EOL : 1516.4 m		NAVIGATION SYSTEM USED: SeaPath 200			
BSP SOL: 4.4 kts	FEATHER SOL: 75.0 °		NAVIGATION SYSTEM USED: C-Nav2000			
BSP EOL: 4.4 kts	FEATHER EOL: -02.1 °		NAVIGATION SYSTEM USED: POSMV			
WEATHER	MAX FEATHER: 75.0 °		GRAVITY METER: BMG-II: used, SN223			
WIND SOL: 9.6 kts			MAGNETOMETER: GeoMetrics: used			
WIND EOL: 12 kts	<u>shift hours</u>	<u>shift leaders</u>	<u>shift hours</u>	<u>watch personnel</u>	<u>shift hours</u>	<u>watch personnel</u>
SEAS SOL: 1.0 m	12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Todd Jensvold		
SEAS EOL: 1.0 m	12:00 - 24:00	David Martinson	00:00 - 12:00	Alan Thompson		
COMMENTS						
SP	UTC	EVENT	VESSEL POSITION			
66004	08:46:36	SOL	Shotpoints Latitude (S) Longitude (W)			
66149	11:01	XBT	FSP	66004	20° 40' 48.701"	70° 03' 53.658"
66294	13:12	powerdown	LSP	67457	19° 03' 25.077"	70° 50' 11.316"
66375	14:26:46	power up	NAVIGATION OFFSET APPLIED			
66457	15:40	powerdown	NRP - Stern	29.5m		
66468	15:50	power up	NRP - COS	205.0m		
66493	16:14	shut down	NRP - CNG	431.0m		
66494	16:28	power up	COS - CNG	226.0m		
66516	16:34	power down	NRP - CMP	318m		
66530	16:40	power up				
67006	00:00:26	MIDNIGHT				
67244	3:37	EM122				
67251	3:44	EM122				
67457	6:52	EOL				
Posnet locations & remarks: good - none - intermittent						
Tailbuoy #1	Intermittent	Gun string #1	GOOD	No ACX string 1		
Tailbuoy #2	none	Gun string #2	GOOD	Acoustic good		
Tailbuoy #3	none	Gun string #3	None	Acoustic good		
Tailbuoy #4	none	Gun string #4	GOOD	Acoustic good		
SP spacing:				125.0m		
line status:				complete		

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