

Observers Log

Vessel	Marcus G. Langseth
Client	Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	N/A	N/A
SP #	964	2091

Line	MGL1610OB03
Sequence	01
Direction	352

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	300			
Offset CS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			
SOL Cable Noise, μB	NA			
EOL Cable Noise, μB	NA			

Direction	352
Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	NA
Total recording delay	NA
Sample Rate	NA
Polarity	NA
Low-Cut	NA
Hi-Cut	NA
File Format	NA

Description	SOL/FGSP	EOL/LGSP
SP	964	2091
Date MM/DD/YY	10/29/16	10/31/16
Time UTC	19:17	08:26
Volume (cu in.)	6600in3	6600in3
Wind (kts)	10kts	10ktskts
Sea State (m)	1m	1mm
Water Depth (m)	1264m	1498.5m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
<i>SOL/EOL - Start/End of Line</i>	<i>LGSP - Last Good SP</i>
<i>FGSP- First Good SP</i>	<i>LCSP - Last Chargeable SP</i>
<i>FCSP - First Chargeable SP</i>	<i>LFESP - Last Full Fold SP</i>
<i>FOLSP - First Overlap SP</i>	<i>Fa - Feather Angle</i>
<i>BOT/EOT - Begin/End of Tape</i>	<i>SI - Seismic Interference</i>
<i>NDR - No Data Recorded</i>	<i>ITB - Imitation Time Break</i>
<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinon 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinon 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	N/A	N/A
SP #	2976	3305

Line	MGL1610OB02
Sequence	02
Direction	142

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	300			
Offset CS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			
SOL Cable Noise, μ B	NA			
EOLO Cable Noise, μ B	NA			

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	NA
Total recording delay	NA
Sample Rate	NA
Polarity	NA
Low-Cut	NA
Hi-Cut	NA
File Format	NA

Description	SOL/FGSP	EOL/LGSP
SP	2976	3305
Date MM/DD/YY	10/31/16	10/31/16
Time UTC	09:42	20:27
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S2kts	S14kts
Sea State (m)	1m	1m
Water Depth (m)	1458.9m	677m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments	
SOL NOISY CHANNELS	
EOL NOISY CHANNELS	

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable SP	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Observers Log

Vessel	Marcus G. Langseth
Client	A. Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	N/A	N/A
SP #	1	880

Line	MGL1610OB01
Sequence	03
Direction	244

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	300			
Offset CS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			
SOL Cable Noise, µB	NA			
EOL Cable Noise, µB	NA			

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	NA
Total recording delay	NA
Sample Rate	NA
Polarity	NA
Low-Cut	NA
Hi-Cut	NA
File Format	NA

Description	SOL/FGSP	EOL/LGSP
SP	1	880
Date MM/DD/YY	10/31/16	11/02/16
Time UTC	21:50	02:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 7kts	S16kts
Sea State (m)	1m	1-2m
Water Depth (m)	525m	4686m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Shots were renumbered after to avoid duplicate numbers during the shutdown for whales after shot 21, two shot point locations were missed (originally labelled as 4010, 4011) - so the total count of shots is 879, not 881 as suggested by the original numbers
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Observers Log

Vessel	Marcus G. Langseth
Client	A. Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	N/A	N/A
SP #	3988	4869

Line	MGL1610OB01
Sequence	03
Direction	244

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	300			
Offset CS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			
SOL Cable Noise, µB	NA			
EOL Cable Noise, µB	NA			

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	NA
Total recording delay	NA
Sample Rate	NA
Polarity	NA
Low-Cut	NA
Hi-Cut	NA
File Format	NA

Description	SOL/FGSP	EOL/LGSP
SP	3988	4869
Date MM/DD/YY	10/31/16	11/02/16
Time UTC	21:50	02:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 7kts	S16kts
Sea State (m)	1m	1-2m
Water Depth (m)	525m	4686m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
No spectra header or obsip for first shot
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

FILE

Observers Log

TAPE

00:00:00

Vessel	Marcus G. Langseth	
Client	A. Trehu	
Area	South East Pacific	
Job Number	MGL1610	
	SOL	EOL
Tape #	1	6
SP #	4749	8273

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC01
Sequence	04
Direction	064

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	205			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	20
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	4869	8273
Date MM/DD/YY	11/02/16	11/03/16
Time UTC	23:19	21:23
Volume (cu in.)	6560in3	6560in3
Wind (kts)	S 10-15kts	S 5-10kts
Sea State (m)	1m	1m
Water Depth (m)	4700m	5332m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Comm error on gun string 2 before start of line. Had to recover string2. Volume of first shots= 5270 in3 . 29 guns.
Crash of seal and no compass data on the first shots. First good shot at full volume SP 4869, tape 3
No spectra header or obsip for first shot
Intermittent swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	TAPE	Description
22:29	1	4749	1	SOL MGL1610MC01 - S4G10 off; String 2 offline 29 guns. See vol. 5270 in3cu.in.
22:30	3	4751	1	seal acquisition software crashed
22:30	3	4751	1	EOT #1
22:30	4	4752	3	BOT #3
22:59	14	4822	3	seal crashed after few shots. First good shot point on Seal - no compass
23:08	36	4844	3	first good shot with compass data
23:19	60	4869	3	First good shot point with volume 6560 in3 (S1G5,S2G5,S3G5 spare, S4G10 off)
04:01		5607	3	S3G1 Delta Error -2.1ms
05:17	1002	5811	3	EOT #3
05:18	1003	5812	4	BOT #4
06:22		5982	4	S3G1 Delta Error -2.2ms
06:33		6012	4	S3G1 Delta Error -2.4ms
07:04		6094	4	S3G1 Delta Error 2.1ms
07:49		6209	4	S3G1 Delta Error -2.1ms
08:23		6295	4	S3G1 Delta Error 2.9ms
11:24		6761	4	S3G1 Delta Error 2.3ms
11:31		6777	4	S3G1 Delta Error -2.1ms
11:44	2002	6811	4	EOT #4
11:44	2003	6812	5	BOT #5
14:23		7216	5	S3G1 Delta Error 2.3ms
14:39		7257	5	S3G1 Delta Error -2.3ms
14:40		7259	5	S3G1 Delta Error 2.1ms
14:51		7290	5	S3G1 Delta Error -2.1ms
15:00		7312	5	S3G1 Delta Error -2.1ms
15:15		7352	5	S1G2 Delta Error -2.1ms
15:21		7365	5	S1G2 Delta Error -2.1ms
15:31		7391	5	S1G2 Delta Error 2.3ms
16:12		7495	5	S4G6 Delta Error -2.3ms
16:12		7496	5	S4G6 Delta Error 2.7ms
16:32		7547	5	S3G1 Delta Error -2.3ms
16:33		7550	5	S4G6 Delta Error 2.2ms
16:38		7562	5	S3G1 Delta Error -2.5ms
16:41		7571	5	S3G1 Delta Error 2.6ms
18:10		7799	5	S3G1 Delta Error -2.4ms
18:14	3002	7811	5	EOT #5
18:15	3003	7812	6	BOT #6
18:24		7836	6	S4G6 Delta Error -2.2ms
20:45		8183	6	S4G6 auto fire error at 490.4 ms
20:58		8211	6	S3G1 Delta Error 2.7ms
20:59		8214	6	S3G1 Delta Error -2.1ms
21:23		8273	6	Shut down for sea lions - last good shot
21:23		8273	6	EOL MGL1610MC01- volume 6560 in3 (S1G5,S2G5,S3G5 spare, S4G10 off)

Observers Log

Vessel	Marcus G. Langseth
Client	A. Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	7	8
SP #	8409	10170

Line	MGL1610MC01A
Sequence	05
Direction	064

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	205			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	20
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	8409	10170
Date MM/DD/YY	11/03/16	11/04/16
Time UTC	22:38	09:53
Volume (cu in.)	6560in3	6560in3
Wind (kts)	S 10-15kts	S2.6kts
Sea State (m)	1m	1.5m
Water Depth (m)	4540m	729.8m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
No spectra header or obsip for first shot
Intermittent swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	A. Trehu
Area	South East East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinon 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinon 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	9	11
SP #	10890	12924

Line	MGL1610MC02
Sequence	06
Direction	327

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	9.0			
SOL Cable Noise, μB				
EOI Cable Noise, μB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	20s
Total recording delay	~160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	10890	12924
Date MM/DD/YY	11/04/16	11/05/16
Time UTC	13:38	02:16
Volume (cu in.)	6560in3in3	6560in3in3
Wind (kts)	SSE 3.5kts	sse 4ktskts
Sea State (m)	1.5m	1.5m
Water Depth (m)	656.4m	1474m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments	
SOL NOISY CHANNELS	
EOL NOISY CHANNELS	

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable SP	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	Tape	Description
13:328	5229	10890	9	SOL MGL1610MC02 Source vol. 6560 in3 (S1G5,S2G5,S3G5 spare, S4G10 off)
13:38	5229	10890	9	First good shot point
13:39		10895	9	S4G6 Delta Error 2.2ms
13:51		10928	9	S4G6 Delta Error 2.5ms
13:52		10929	9	S4G6 Delta Error -2.2ms
13:53		10933	9	S4G6 Delta Error 2.9ms
13:57		10943	9	S4G6 Delta Error -2.4ms
13:58		10946	9	S4G6 Delta Error 2.4ms
13:59		10949	9	S4G6 Delta Error -2.3ms
14:00		10951	9	S4G6 Delta Error -4.3ms
14:33	5381	11042	9	Shut down for Turtle - last good shot
14:39	5382	11057	9	Mitigation Gun
14:48	5405	11082	9	Resume Full Power; S4G5 Delta Error 5.4ms
14:49		11083	9	S4G5 Delta Error -3.9ms
18:20		11654	9	Turning to stbd for fishing traffic
19:27		11816	9	S4G6auto fire error a 353.6 ms
19:43		11856	9	S4G6 auto fire error a 875.2 ms
20:01		11902	9	S4G6 auto fire error a 1527.2 ms
20:02	6228	11905	9	EOT #9
20:02	6229	11906	10	BOT #10
21:01		12056	10	S1G2 Delta timing error 2.3 ms
21:56		12195	10	S4G6 Delta timing error 2.3 ms
22:09		12231		S4G6 auto fire error at 6546 ms
22:12	6561	12238		Power down for whale(s) - last shot at full volume
22:13	6562	12240		First shot with mitigation gun
22:18	6573	12253		Resume full volume - first shot point
22:18		12254		S4G6 Delta timing error 3.0 ms
22:19		12258		S4G6 Delta timing error -2.5 ms
22:21		12264		S4G6 Delta timing error 2.1 ms
22:22		12266		S4G6 Delta timing error 2.1 ms
22:40		12316		S4G6 Delta timing error -2.1 ms
22:40		12317		S4G6 Delta timing error 2.8 ms
22:45		12331		S4G6 Delta timing error -3.0 ms
22:48		12338		S4G6 Delta timing error 2.6 ms
22:48		12340		S4G6 Delta timing error 2.1 ms
23:43		12496		S3G1 Delta timing error -2.2 ms
23:47		12507		S3G1 Delta timing error -2.1 ms
23:59		12541		midnight shot
00:12		12576		S4G6 Delta timing error 2.1 ms
00:45		12669		S3G1 Delta timing error -2.2 ms

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	12	18
SP #	12998	19836

Line	MGL1610MC03
Sequence	07
Direction	172

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	20s
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	13006	19836
Date MM/DD/YY	11/05/16	11/06/16
Time UTC	05:20	23:14
Volume (cu in.)	6600in3	6590in3
Wind (kts)	SE 3kts	S6kts
Sea State (m)	1.5m	1.5m
Water Depth (m)	1376m	1255m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
New volume of 6590 after SP 18734
Multiple Delta Errors from S3G1. No-fires from shots 19587 to 19612.
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
05:17		12998	12	SOL MGL1610MC03 Source vol. 6600 in3 (S1G5,S2G3,S2G8,S3G3,S3G6 spare, S4G6,S4G10 off)
05:20	7245	13006	12	FGSP recorded
05:28		13028	12	Multiple Delta Errors and No-fires 13028-13059
05:39		13059	12	Multiple Delta Errors and No-fires 13028-13059
05:39	7298	13059	12	Turned off S1G2. Turned on S1G5, S2G3, S3G3, S3G6. Gun Vol: 6590in3 36 guns
06:04		13127	12	S3G1 Delta timing error -2.1 ms
06:14		13155	12	S3G1 Delta timing error -2.1 ms
06:17		13163	12	S3G1 Delta timing error -2.1 ms
06:38		13221	12	S3G1 Delta timing error -2.2 ms
06:38		13222	12	S3G1 Delta timing error 2.2 ms
06:43		13235	12	S3G1 Delta timing error -2.3 ms
08:14		13482	12	S3G1 Delta timing error -2.1 ms
09:04		13619	12	S3G1 Delta timing error -2.2 ms
09:11		13639	12	S3G1 Delta timing error 2.4 ms
09:24		13674	12	S3G1 Delta timing error 2.4 ms
09:26		13680	12	S3G1 Delta timing error -2.2 ms
09:35		13704	12	S3G1 Delta timing error 2.6 ms
09:50		13744	12	S3G1 Delta timing error 2.2 ms
09:51		13748	12	S3G1 Delta timing error 2.3 ms
10:02		13778	12	S3G1 Delta timing error -2.4 ms
10:03		13780	12	S3G1 Delta timing error 2.3 ms
10:12		13803	12	S3G1 Delta timing error 2.1 ms
11:13		13966	12	S3G1 Delta timing error -2.3 ms
11:15		13972	12	S3G1 Delta timing error 3.2 ms
11:27	8244	14004	12	EOT #12
11:27	8245	14005	13	BOT #13
11:33		14021	13	S3G1 Delta timing error 2.3 ms
11:47		14060	13	S3G1 Delta timing error 2.5 ms
12:17		14141	13	S3G1 Delta timing error -2.4 ms
12:37		14198	13	S3G1 Delta timing error -2.3 ms
13:00		14261	13	S3G1 Delta timing error -2.2 ms
13:15		14303	13	S3G1 Delta timing error 2.2 ms

13:18		14314	13	S3G1 Delta timing error -2.5 ms
13:38		14367	13	S3G1 Delta timing error 2.3 ms
13:44		14383	13	S3G1 Delta timing error -2.1 ms
14:49		14558	13	S3G1 Delta timing error -2.1 ms
14:51		14563	13	S3G1 Delta timing error -2.4 ms
15:05		14601	13	S3G1 Delta timing error -2.2 ms
15:19		14639	13	S3G1 Delta timing error -2.3 ms
16:14		14787	13	S3G1 Delta timing error -2.8 ms
17:22		14975	13	S3G1 Delta timing error -2.1 ms
17:25		14985	13	S3G1 Delta timing error 2.3 ms
17:33	9244	15004	13	EOT #13
17:33	9245	15005	14	BOT #14
17:52		15057	14	S3G1 Delta timing error -2.1 ms
17:53		15060	14	S3G1 Delta timing error 2.4 ms
17:54		16063	14	S3G1 Delta timing error -2.5 ms
18:51		15217	14	S3G1 Delta timing error -2.1 ms
19:03		15251	14	S3G1 Delta timing error 2.3 ms
19:25		15312	14	S3G1 Delta timing error -2.2 ms
20:28		15483	14	S3G1 Delta timing error -2.1 ms
20:49		15542	14	S3G1 Delta timing error -2.2 ms
21:05		15587	14	S3G1 Delta timing error 2.2 ms
21:14		15611	14	S3G1 Delta timing error -2.5 ms
21:37		15676	14	S3G1 Delta timing error -2.2 ms
22:45		15866	14	S3G1 Delta timing error 2.1 ms
23:05		15921	14	S3G1 Delta timing error 2.9 ms
23:26		15980	14	S3G1 Delta timing error -2.1 ms
23:29		15987	14	S3G1 Delta timing error -2.2 ms
23:35	10244	16004	14	EOT #14
23:35	10245	16005	15	BOT #15
23:44		16028	15	S3G1 Delta timing error -2.1 ms
00:00		16072	15	Midnight shot
01:21		16295	15	S3G1 Delta timing error 2.1 ms
01:31		16323	15	S3G1 Delta timing error -2.2 ms

01:32		16325	15	S3G1 Delta timing error 2.1 ms
01:46		16364	15	S3G1 Delta timing error -2.3 ms
02:27		16477	15	S3G1 Delta timing error 2.3 ms
03:11		16598	15	S3G1 Delta timing error 2.2 ms
03:13		16601	15	S3G1 Delta timing error -2.4 ms
03:16		16609	15	S3G1 Delta timing error 2.3 ms
03:17		16613	15	S3G1 Delta timing error 2.3 ms
03:30		16649	15	S3G1 Delta timing error -2.2 ms
04:27		16804	15	S3G1 Delta timing error -2.1 ms
04:28		16807	15	S3G1 Delta timing error 2.1 ms
04:40		16839	15	S3G1 Delta timing error -2.1 ms
05:01		16896	15	S3G1 Delta timing error -2.2 ms
05:12		16927	15	S3G1 Delta timing error 2.4 ms
05:35		16987	15	S3G1 Delta timing error -2.6 ms
05:42	11244	17004	15	EOT #15
05:42	11245	17005	16	BOT #16
05:44		17013	16	S3G1 Delta timing error -2.1 ms
05:49		17025	16	S3G1 Delta timing error -2.6 ms
06:54		17204	16	S3G1 Delta timing error -2.5 ms
07:24		17287	16	S3G1 Delta timing error -2.2 ms
07:48		17354	16	S3G1 Delta timing error -2.4 ms
07:53		17369	16	S3G1 Delta timing error -2.2 ms
08:12		17422	16	S3G1 Delta timing error -2.3 ms
12:00			16	Airleak detected on gunstring 3 by PSO on tower
11:43	12244	18004	16	EOT #16
11:44	12245	18005	17	BOT #17
12:15		18089	17	S3G1 Delta timing error -2.5 ms
12:15		18090	17	S3G1 Delta timing error 2.1 ms
13:16		18253	17	S3G1 Delta timing error -2.1 ms
13:27		18285	17	S3G1 Delta timing error -2.1 ms
13:52		18349	17	S3G1 Delta timing error -2.2 ms
13:52		18350	17	S3G1 Delta timing error 2.4 ms
14:08		18391	17	S3G1 Delta timing error -2.3 ms

14:20		18422	17	S3G1 Delta timing error -2.4 ms
15:14	12806	18566	17	power down for dolphins - last shot at full volume
15:22	12822	18586	17	Restore full volume - first shot close to full volume
15:26	12832	18596	17	Some gun adjustments - final volume 6590 in3, 36 guns. S1G2,S4G6,S4G10 off; S2G8 spare
16:07	12935	18699	17	power down for turtle - last shot at full volume
16:21	12967	18734	17	full volume restored (6590 in3) - first good shot
16:26		18748	17	S3G1 Delta timing error -2.9 ms
16:32		18762	17	S3G1 Delta timing error 2.1 ms
16:35		18770	17	S3G1 Delta timing error -2.2 ms
16:44		18794	17	S3G1 Delta timing error 2.5 ms
16:49		18805	17	S3G1 Delta timing error -2.3 ms
16:56		18824	17	S3G1 Delta timing error 2.5 ms
17:09		18856	17	S3G1 Delta timing error -2.3 ms
17:52		18960	17	S3G1 Delta timing error 2.3 ms
18:06		18994	17	S3G1 Delta timing error -2.1 ms
18:12	13244	19011	17	EOT #17
18:12	13245	19012	18	BOT #18
18:15		19018	18	S3G1 Delta timing error -2.1 ms
18:15		19019	18	S3G1 Delta timing error 2.3 ms
19:06		19151	18	S3G1 Delta timing error -2.3 ms
19:37		19236	18	S3G1 Delta timing error -3.1 ms
19:37		19237	18	S3G1 Delta timing error 2.7 ms
19:42		19251	18	S3G1 Delta timing error -2.5 ms
20:21		19357	18	S3G1 Delta timing error -2.5 ms
21:09		19491	18	S3G1 Delta timing error -2.3 ms
21:11		19497	18	S3G1 Delta timing error -2.4 ms
21:17		19513	18	S3G1 Delta timing error 2.7 ms
21:27		19540	18	S3G1 Delta timing error 2.7 ms
21:27		19541	18	S3G1 Delta timing error 2.7 ms
21:28		19543	18	S3G1 Delta timing error 2.7 ms
21:44		19587	18	S3G1 no fire errors from shots 19587 to 19612. gain increased to fix
21:54		19613	18	No more "no fire error"
22:37		19731	18	S3G1 Delta timing error -2.5 ms

22:38		19734	18	S3G1 Delta timing error 2.1 ms
22:56		19785	18	S3G1 Delta timing error -2.6 ms
22:57		19787	18	S3G1 Delta timing error 4 ms
22:58		19790	18	S3G1 Delta timing error -2.2 ms
22:58		19791	18	S3G1 Delta timing error 2.8 ms
23:01		19798	18	S3G1 Delta timing error 2.1 ms
23:01		19800	18	S3G1 Delta timing error -2.1 ms
23:09		19822	18	S3G1 no fire error
23:14	14069	19836	18	EOL MGL1610MC03 Source vol. 6590 in3 (S1G2,S4G6,S4G10 off; S2G8 spare)

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	19	20
SP #	19930	21645

Line	MGL1610MC16A
Sequence	08
Direction	352

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	19930	21645
Date MM/DD/YY	11/07/16	11/08/16
Time UTC	12:40	14:35
Volume (cu in.)	6600in3	6600in3
Wind (kts)	W 3.5kts	W 5.3kts
Sea State (m)	1m	1m
Water Depth (m)	2840m	2098.0m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	21	22
SP #	22142	23542

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	22142	23542
Date MM/DD/YY	11/08/16	11/09/16
Time UTC	17:04	14:18
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S5kts	SW 8.2kts
Sea State (m)	1m	1m
Water Depth (m)	2650m	3461.6m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC15
Sequence	09
Direction	169

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Turn noise at beginning of line
Turn noise over at 18:10 - shot point 22217
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	24	25
SP #	23936	25201

Line	MGL1610MC11
Sequence	010
Direction	348

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	23936	25201
Date MM/DD/YY	11/09/16	11/10/16
Time UTC	16:11	11:19
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SW 8.2kts	SSW 4.2kts
Sea State (m)	1m	1m
Water Depth (m)	4310m	3841m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Turn noise at beginning of line - no more noise after SP 23977
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	26	26
SP #	25957	26584

Line	MGL1610MC12
Sequence	011
Direction	348

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	25957	26584
Date MM/DD/YY	11/10/16	11/10/16
Time UTC	14:01	23:28
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSW 4.2kts	S6kts
Sea State (m)	1m	1m
Water Depth (m)	5353m	1350m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Turn noise at beginning of line - no more noise after SP 25965
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	27	28
SP #	26938	28364

Line	MGL1610MC13
Sequence	012
Direction	171

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	26938	28364
Date MM/DD/YY	11/11/16	11/11/16
Time UTC	01:20	23:04
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SW 7kts	SE 7kts
Sea State (m)	1m	1m
Water Depth (m)	1465m	390m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Turn noise at beginning of line - no more noise after SP 27000
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
01:20	19080	26938	27	SOL MGL1610MC13 Source vol. 6600 in3 (S1G5,S2G5,S3G5,S4G5 spare)
11:42	19765	27623	27	power down for turtle - last good SP 27623
11:54		27635	27	missed sp
11:54	19777	27636	27	back to full volume
13:30	19880	27739	27	SN abeam at front of the cable 5-10 ubars
13:40	19891	27750	27	SN abeam at tail of the cable 5-10 ubars (3 Chilean Navy Boats)
14:00	19912	27771	27	SN abeam at front of the cable 5-10 ubars
14:20	19933	27792	27	SN No Longer Visible
15:32	20010	27869	27	Restarted export on seal after seisnet crash - did reset tape file counter
15:38		27875		missed SP 27875 while recovering export
16:21	20063	27923	27	power down for sea lion - last good shot: 27923
16:36	20079	27939	27	EOT # 27
16:37	20080	27940	28	BOT #28
16:38	20081	27941	28	back to full volume frst good shot 27941
17:59	20170	28030	28	power down for whale - last good shot: 28030
18:00		28031	28	missed shot 28031 while powering down
18:13		28045	28	missed shot 28045 while powering up
18:14	20184	28046	28	back to full volume frst good shot 28046
19:42		28143	28	S1G4 delta timing error 2.2 ms
19:51	20292	28154	28	power down for whale - last good shot: 28154
20:15		28180	28	missed shot 28180 while powering up
20:15	20318	28181	28	back to full volume frst good shot 28181
21:25	20394	28257	28	power down for whale - last good shot: 28257
21:55		28290	28	missed shot 28290 while powering up
21:56	20427	28291	28	back to full volume frst good shot 28291
22:54	20491	28355	28	starting turn to next line - some turn noise
23:04	20500	28364	28	EOL MGL1610MC13 Source vol. 6600 in3 (S1G5,S2G5,S3G5,S4G5 spare)

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	29	29
SP #	28730	29556

Line	MGL1610MC17
Sequence	013
Direction	260

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	28789	29556
Date MM/DD/YY	11/11/16	11/12/16
Time UTC	00:10	11:57
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S7kts	SSE 4.7kts
Sea State (m)	1m	1m
Water Depth (m)	815m	5407m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments

Mitigation gun at SOL - First shot at full volume = 28789

Turn noise at beginning of line -while using mitigation gun
Full gun volume at EOL
Swell noise throughout line.

SOL NOISY CHANNELS

EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	30	30
SP #	29972	30469

Line	MGL1610MC18
Sequence	014
Direction	348

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	29972	30469
Date MM/DD/YY	11/12/16	11/12/16
Time UTC	14:25	21:58
Volume (cu in.)	6600in3	6420in3
Wind (kts)	W 6kts	S7kts
Sea State (m)	1m	1m
Water Depth (m)	6102m	5787m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Volume decreased to 6420 in3 after failure of S1G1 after shot 30002
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
14:25	21328	29972	30	SOL MGL1610MC18 Source vol. 6600 in3 (S1G5, S2G5,S3G5,S4G5 spares)
14:53	21358	30002	30	S1G1 No Fire
14:54	21359	30003	30	S1G1 No Fire
14:55	21360	30004	30	S1G1 No Fire
14:56	21361	30005	30	Disabled S1G1, Enabled S1G5 New Gun Volume is 6420 in3
21:58	21825	30469	30	EOL MGL1610MC18 Source vol. 6420 in3 (S1G1,S2G5,S3G5,S4G5 spare)

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	31	31
SP #	30935	31448

Line	MGL1610MC07
Sequence	015
Direction	350

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	30935	31448
Date MM/DD/YY	11/12/16	11/13/16
Time UTC	22:08	05:56
Volume (cu in.)	6420in3	3300in3
Wind (kts)	S6kts	W 1.0kts
Sea State (m)	1m	1.0m
Water Depth (m)	5680m	6675.3m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Volume remains to 6420 in3 after gun S1G1 failure in previous sequence
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
22:08	21826	30935	31	SOL MGL1610MC07 Source vol. 6420 in3 (S1G1,S2G5,S3G5,S4G5 spare)
04:55	22274	31383	31	Last shot full volume
04:56	22275	31384	31	Strings 1 and 2 disabled for maintenance recovery, new vol. 3300 in3
05:48	22328	31437	31	begin starboard turn
05:57	22339	31448	31	EOL MGL1610MC07 Source vol. 3300 in3 (S1G1,S2G5,S3G5,S4G5 spare)

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	32	32
SP #	31948	32818

Line	MGL1610MC22
Sequence	016
Direction	166

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	31948	32818
Date MM/DD/YY	11/13/16	11/13/16
Time UTC	08:16	21:44
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NW 5-10kts	S8kts
Sea State (m)	1m	1m
Water Depth (m)	7115m	7206m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun problems at SOL. FGSP with full volume (6600 in3) is 32016.
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	33	33
SP #	32844	33639

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	32844	33639
Date MM/DD/YY	11/13/16	11/14/2016
Time UTC	21:53	10:05
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S8kts	SE 6.8kts
Sea State (m)	1m	1m
Water Depth (m)	7215m	133.3m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC10
Sequence	017
Direction	079

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise at beginning of line until SP 32900
Full gun volume at SOL
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	34	35
SP #	33999	35906

Line	MGL1610MC09
Sequence	018
Direction	348

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	33999	35096
Date MM/DD/YY	11/14/16	11/15/16
Time UTC	13:03	05:51
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE6.5kts	SE5.5kts
Sea State (m)	1m	1m
Water Depth (m)	359m	990m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	36	36
SP #	35979	36908

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	35979	36863
Date MM/DD/YY	11/15/16	11/15/16
Time UTC	8:05	21:35
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE 9.2kts	S5-10kts
Sea State (m)	1m	1-2m
Water Depth (m)	921m	6597m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC08
Sequence	019
Direction	245

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL. Line stopped after failure of Seal 408after SP 36863 = Last Good Shot Point
Shots 36864 -
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	37	37
SP #	46765	47011

Line	MGL1610MC08A
Sequence	020
Direction	245

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	46765	47011
Date MM/DD/YY	11/16/16	11/16/16
Time UTC	3:05	06:50
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 5.8kts	S 5.8kts
Sea State (m)	1m	1m
Water Depth (m)	7116m	5505m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Reshoot of end of MC08 due to recording system failure.
Full gun volume at SOL
Full gun volume at EOL
Swell noise throughout line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	38	39
SP #	47951	49078

Line	MGL1610MC04
Sequence	021
Direction	071

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	47951	49078
Date MM/DD/YY	11/16/16	11/17/16
Time UTC	9:44	02:55
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 6kts	S 8kts
Sea State (m)	1m	1m
Water Depth (m)	6291m	900m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Full gun volume at EOL
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	40	40
SP #	49968	50538

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	49968	50538
Date MM/DD/YY	11/17/16	11/17/16
Time UTC	5:18	14:01
Volume (cu in.)	6600in3	6420in3
Wind (kts)	S 6kts	SE 10.2kts
Sea State (m)	1m	1m
Water Depth (m)	1037m	840.1m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC05
Sequence	022
Direction	162

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Full gun volume at SOL
Gun volume at EOL: 6420 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
05:18	27366	49968	40	SOL MGL1610MC05 - Volume = 6600 in3 - S1G5,S2G5,S3G5,S4G5 spares
05:19	27367	49969	40	S4G2 -2.1ms, S4G4 -3.3 ms Delta Errors
06:07	27419	50021	40	S1G1 No Fire
06:16	27429	50031	40	S1G1 No Fire
06:17	27430	50032	40	S1G1 No Fire
06:18	27431	50033	40	S1G1 No Fire
06:19	27432	50034	40	Disabled S1G1, Enabled S1G5 New Vol: 6420; S1G5 Delta error 6.2 ms
06:20	27433	50035	40	S1G5 Delta Error -4.0 ms
10:32	27708	50310	40	S1G7 Delta Error -7.8 ms
10:33	27709	50311	40	S1G7 Delta Error 12.5 ms
10:34	27710	50312	40	S1G7 Delta Error -3.4 ms
14:01	27936	50538	40	EOL MGL1610MC05 Source vol. 6420 in3 (S2G5,S3G5,S4G5 spare) S1G1 off

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	41	42
SP #	50963	52114

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	50963	52114
Date MM/DD/YY	11/17/16	11/18/16
Time UTC	17:02	10:30
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S11kts	S 12kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	745m	4994m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC19
Sequence	023
Direction	250

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise at beginning
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	43	44
SP #	52959	54125

Line	MGL1610MC06
Sequence	024
Direction	068

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	52959	54125
Date MM/DD/YY	11/18/16	11/19/16
Time UTC	12:20	06:06
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S11kts	S 4kts
Sea State (m)	1-2m	1m
Water Depth (m)	4832m	674m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	45	45
SP #	55001	55387

Line	MGL1610MC20
Sequence	025
Direction	180

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	55001	55387
Date MM/DD/YY	11/19/16	11/19/16
Time UTC	6:46	12:43
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 4.4kts	SSE 8.7kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	672m	493m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gunstrings 1 and 2 were very narrow separation until 07:30 due to lead-in.
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	46	47
SP #	55986	56990

Line	MGL1610MC21
Sequence	026
Direction	254

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	55986	56990
Date MM/DD/YY	11/19/16	11/20/16
Time UTC	13:56	05:12
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSE 8.7kts	S 7.3kts
Sea State (m)	1-2m	1m
Water Depth (m)	802m	5523m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	48	49
SP #	57038	58162

Line	MGL1610MC25
Sequence	027
Direction	073

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	57038	58162
Date MM/DD/YY	11/20/16	11/21/16
Time UTC	7:10	00:13
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 6.8kts	S5kts
Sea State (m)	1m	1m
Water Depth (m)	5198m	564m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	50	50
SP #	59011	59421

Line	MGL1610MC24
Sequence	028
Direction	352

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	59011	59421
Date MM/DD/YY	11/21/16	11/21/16
Time UTC	0:24	06:36
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE4kts	SSE 8.4kts
Sea State (m)	1m	1m
Water Depth (m)	501m	137m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
first two shots on tape recorded while on mitigation gun on internal
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	51	52
SP #	59966	61011

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	59966	61011
Date MM/DD/YY	11/21/16	11/21/16
Time UTC	7:35	23:27
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSE 8.4kts	SSE8kts
Sea State (m)	1m	1m
Water Depth (m)	524m	6793m

Cable	Dead Channels
1	
2	
3	
4	

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC23
Sequence	029
Direction	245

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	53	53
SP #	62002	62533

Line	MGL1610MC26
Sequence	030
Direction	191

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	62002	62533
Date MM/DD/YY	11/21/16	11/22/16
Time UTC	23:30	07:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSE7-8kts	S 3.3kts
Sea State (m)	1m	1m
Water Depth (m)	6680m	4130m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	54	55
SP #	63050	64176

Line	MGL1610MC27
Sequence	031
Direction	75.8

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	63050	64176
Date MM/DD/YY	11/22/16	11/23/16
Time UTC	8:24	01:32
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 8.8kts	S11kts
Sea State (m)	1m	1m
Water Depth (m)	4647m	441m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise in streamer at SOL
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	56	56
SP #	65001	65327

Line	MGL1610MC28
Sequence	032
Direction	211.3

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	65001	65327
Date MM/DD/YY	11/23/16	11/23/16
Time UTC	2:11	07:08
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S7kts	SSE 9.4kts
Sea State (m)	1m	1m
Water Depth (m)	144m	191m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise in streamer at SOL
Early End of Line due to Fishing Boat on line.
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	57	58
SP #	66004	67457

Line	MGL1610MC29
Sequence	033
Direction	351.7

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	66004	67457
Date MM/DD/YY	11/23/16	11/24/16
Time UTC	8:46	06:52
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSE 9.4kts	SE 11.6kts
Sea State (m)	1m	1m
Water Depth (m)	932.8m	1516m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise in streamer at SOL
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Time UTC	FILE	SP	Tape	Description
08:46	36209	66004	57	SOL MGL1610MC29 - Volume = 6600 in3 - S1G5,S2G5,S3G5,S4G5 spares
10:53	36346	66143	57	Auto Fire Error S4G6
13:11	36498	66293	57	Power down for whales. Last full volume shot point
13:12	36499	66294	57	Mitigation begins
14:25		66374	57	Missed Shot point
14:26	36579	66375	57	Full Gun Volume after mitigation ends
15:40	36661	66457	57	Power down for whales. Last full volume shot point
15:50	36672	66468	57	Full Gun Volume after mitigation ends
16:12	36696	66492	57	power down for turtle - last shot at full volume
16:13	36697	66493	57	shut down - last shot with mitigation gun
16:28	36698	66510	57	back to full volume - first good shot
16:33	36704	66516	57	power down for turtle - last shot at full volume
16:34		66517	57	missed shot point while powering down
16:46	36717	66530	57	back to full volume - first good shot
00:00	37193	67006	57	Midnight Shotpoint
00:14	37208	67021	57	EOT #57
00:15	37209	67022	58	BOT #58
06:52	37644	67457	58	EOL MGL1610MC29 - Volume = 6600 in3 - S1G5,S2G5,S3G5,S4G5 spares

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	59	60
SP #	68007	69485

Line	MGL1610MC30
Sequence	034
Direction	172.5

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	68007	69485
Date MM/DD/YY	11/24/16	11/25/16
Time UTC	8:58	07:25
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE 15.9kts	E 10kts
Sea State (m)	1m	1m
Water Depth (m)	1893m	2257m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise in streamer at SOL
Offline to avoid fishing gear during line.
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	61	61
SP #	69979	70305

Line	MGL1610MC31
Sequence	035
Direction	296.9

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	69979	70305
Date MM/DD/YY	11/25/16	11/25/16
Time UTC	7:56	13:03
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 10kts	SE 6kts
Sea State (m)	1m	1m
Water Depth (m)	2380.8m	6484.3m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Turn noise in streamer at SOL
EEOL due to fishing gear
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	62	62
SP #	70915	71355

Line	MGL1610MC32
Sequence	036
Direction	349.2

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	70915	71355
Date MM/DD/YY	11/25/16	11/25/16
Time UTC	13:10	19:51
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE 6kts	S12kts
Sea State (m)	1m	0.5m
Water Depth (m)	6530.2m	6887m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Started down line due to fishing gear
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
SOL noisy while turning
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	63	63
SP #	72003	72353

Line	MGL1610MC32A
Sequence	037
Direction	344.0

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	72003	72353
Date MM/DD/YY	11/25/16	11/26/16
Time UTC	19:53	01:13
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S13kts	S8kts
Sea State (m)	0.5m	1m
Water Depth (m)	6890m	6690m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Started down line due to fishing gear
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	64	64
SP #	73003	73381

Line	MGL1610MC32B
Sequence	038
Direction	336.8

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	73003	73381
Date MM/DD/YY	11/26/16	11/26/16
Time UTC	1:15	07:01
Volume (cu in.)	6600in3	3300in3
Wind (kts)	S8kts	S 13.3kts
Sea State (m)	1m	1m
Water Depth (m)	6680m	6224.3m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 3300 in3
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	65	65
SP #	73944	74479

Line	MGL1610MC33
Sequence	039
Direction	54.9

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	73944	74479
Date MM/DD/YY	11/26/16	11/26/16
Time UTC	10:55	19:01
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S 11kts	S13kts
Sea State (m)	1m	1m
Water Depth (m)	6768m	2162m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	66	66
SP #	75031	75674

Line	MGL1610MC34
Sequence	040
Direction	170.9

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	75031	75674
Date MM/DD/YY	11/26/16	11/27/16
Time UTC	19:37	05:23
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE12kts	SW 14kts
Sea State (m)	1m	1m
Water Depth (m)	1850m	3443.6m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
~1km overshoot in turn because of DP failure. Significant turn noise and offset at beginning of line
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
EEOL to acquire reshoot on different line.
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	67	67
SP #	80447	80638

Line	MGL1610MC23A
Sequence	041
Direction	245.3

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP	Cable	Dead Channels
SP	80447	80638		
Date MM/DD/YY	11/27/16	11/27/16	1	
Time UTC	10:01	12:56	2	
Volume (cu in.)	6600in3	6600in3	3	
Wind (kts)	SE 9.5kts	S 9kts	4	
Sea State (m)	1m	1m		
Water Depth (m)	2847.3m	4253.6m		

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Reshoot for PSO sighting on Sea 29
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Observers Log

Vessel	Marcus G. Langseth
Area	South East Pacific
Job Number	MGL1610

	SOL	EOL
Tape #	68	69
SP #	81548	83301

Streamer Parameters				
	1	2	3	4
Length (m)	8100			
Auxiliaries	n/a			
Shotpoint Interval: (m)	125			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	648			
Streamer Depth (m)	9.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	81548	83301
Date MM/DD/YY	11/27/16	11/28/16
Time UTC	15:48	18:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE4kts	SE5kts
Sea State (m)	0.5-1m	1m
Water Depth (m)	3869m	2588m

Cable	Dead Channels
1	
2	
3	
4	

General / Line Comments
Turn noise at the beginning of line
Gun volume at SOL: 6600 in3
Gun volume at EOL: 6600 in3
EOL NOISY CHANNELS

Chief Science Officer	Robert Steinhaus		
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

Line	MGL1610MC34A
Sequence	042
Direction	170.9

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	16
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Observers Log

Vessel	Marcus G. Langseth
Client	A. Trehu
Area	South East Pacific
Job Number	MGL1610

Chief Science Officer	Robert Steinhaus		
Science Officer	David Martinson 12:00-24:00	Todd Jensvold 24:00-12:00	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00	
Navigation Leader	David Martinson 12:00-24:00	Alan Thompson 24:00-24:00	

	SOL	EOL
Tape #	N/A	N/A
SP #	89991	90251

Line	MGL1610EX01
Sequence	043
Direction	245.8

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			
SOL Cable Noise, µB	NA			
EOL Cable Noise, µB	NA			

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	12
Sub-array Separation	6 m
COS to COS	Single Source

Recording Parameters	
Record Length	NA
Total recording delay	NA
Sample Rate	NA
Polarity	NA
Low-Cut	NA
Hi-Cut	NA
File Format	NA

Description	SOL/FGSP	EOL/LGSP
SP	89991	90251
Date MM/DD/YY	12/05/16	12/05/16
Time UTC	12:13	18:51
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S12.2kts	S12ktskts
Sea State (m)	1.0m	0.5m
Water Depth (m)	S 12.2m	4580m

Cable	Dead Channels
1	
2	
3	
4	

Auxiliaries	
Aux. 1-8	Empty
Aux. 13-16	Empty
Aux 9 Gun hydrophone	Empty
Aux 10 Gun hydrophone	Empty
Aux 11 Gun hydrophone	Empty
Aux 12 Gun hydrophone	Empty

General / Line Comments
Extention Line. Source Only
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargable SP
FCSP - First Chargable SP	LFFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

