

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	897	1151

Line	MGL2105PO01B
Sequence	1
Direction	326

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

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

Description	SOL/FGSP	EOL/LGSP
SP	914	1151
Date MM/DD/YY	07/20/21	07/21/21
Time UTC	19:51	00:04
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 6 kts	NW 5 kts
Sea State (m)	1 m	0.5 m
Water Depth (m)	2400 m	1916 m

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
Line started with ramp up - first SP 897, 40in3, in gun
FGSP 914, 19:51, 6600in3, 36 guns.
Line aborted early after shutdown for whale
EM 122 was not working during sequence. Depth at SOL and EOL from Knudsen echosounder

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	

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Vessel	Marcus G. Langseth
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Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	1346	1781

Line	MGL2105PO01B1
Sequence	2
Direction	326

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

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

Description	SOL/FGSP	EOL/LGSP
SP	1346	1523
Date MM/DD/YY	07/21/21	07/21/21
Time UTC	01:45	04:39
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 6 kts	NW 6 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1750 m	na

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
Continuation of Sequence 1 after the shutdown
Spectra reference increased by 200 to avoid repeated shot points - i.e. SP 1351 matches SP1151, the last good SP for Sequence 1
Shut down for protected species. Ended line to circle back and come back onto line.
LGSP was 1523 at 04:39, but the line remained enabled in spectra until SP 1781, at 10:23
EM 122 was not working during sequence. Depth at SOL from Knudsen echosounder

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	

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Vessel	Marcus G. Langseth
Client	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	1849	1985

Line	MGL2105PO01B2
Sequence	3
Direction	326

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

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

Description	SOL/FGSP	EOL/LGSP
SP	1849	1985
Date MM/DD/YY	07/21/21	07/21/21
Time UTC	14:02	16:16
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	18NW kts	17NW kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1225 m	1080 m

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
Line aborted after shutdown for Protected Species on SP 1985
Spectra navigation system remained enabled until SP 1997 @ 16:32

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	

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Observers Log

Vessel	Marcus G. Langseth
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Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	2170	2252

Line	MGL2105PO01B3
Sequence	4
Direction	326

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

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

Description	SOL/FGSP	EOL/LGSP
SP	2170	2252
Date MM/DD/YY	07/21/21	07/21/21
Time UTC	17:42	19:04
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	NW 11 kts	NW 11 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1159 m	920 m

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
Continuation of Sequence 3
SP 2189 disabled Gun 1-1 due to too many timing errors. New volume 6240, 35 guns
Line aborted SP 2252 after protected species detection

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	2437	3020

Line	MGL2105PO01B4
Sequence	5
Direction	326

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

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

Description	SOL/FGSP	EOL/LGSP
SP	2437	3020
Date MM/DD/YY	07/21/21	07/22/21
Time UTC	20:34	06:02
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	N 10 kts	SW 10 kts
Sea State (m)	1 m	1.5 m
Water Depth (m)	790 m	950 m

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
Continuation of sequence 4 after PSO shutdown
Spectra reference increased by 200 - ie SP 2437 is same location as SP 2237 in sequence 4

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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
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Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	3103	3493

Line	MGL2105T0108
Sequence	6
Direction	286

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

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

Description	SOL/FGSP	EOL/LGSP
SP	3103	3493
Date MM/DD/YY	07/21/21	07/22/21
Time UTC	06:05	12:51
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	SW 11 kts	S 20 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	920 m	2801 m

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

[illegible]

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	

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Vessel	Marcus G. Langseth
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Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00	
Science Officer	Todd Jensvold		
Acquisition	Klayton Curtis	Gilles Guerin	
Navigation	Cody Bahlau	Victor Ubaru	

	SOL	EOL
Tape #	NA	NA
SP #	3681	5151

Line	MGL2105PO08
Sequence	7
Direction	066

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

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

Description	SOL/FGSP	EOL/LGSP
SP	3681	5151
Date MM/DD/YY	07/22/21	07/23/21
Time UTC	13:05	13:25
Volume (cu in.)	6240 in3	6600 in3
Wind (kts)	S 20 kts	SE 20 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	2802 m	121 m

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

[illegible]

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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
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Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	NA	NA
SP #	5292	5784

Line	MGL2105PO03
Sequence	8
Direction	236

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

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

Description	SOL/FGSP	EOL/LGSP
SP	5292	5784
Date MM/DD/YY	07/24/21	07/24/21
Time UTC	15:03	23:20
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 4 kts	NW 3 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1473 m	2650 m

Cable	Dead Channels
1	
2	
3	
4	

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Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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
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Area	Queen Charlotte Fault
Job Number	MGL2105

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Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	1	4
SP #	5885	7339

Line	MGL2105PM03
Sequence	09
Direction	55.6

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	5885	7339
Date MM/DD/YY	07/25/21	07/26/21
Time UTC	17:50	04:18
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SE 8 kts	NW 3 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	2710 m	2620 m

Cable	Dead Channels
1	
2	
3	13, 24, 56, 301, 519, 529, 541,549, 813, 829, 861, 877, 885, 886
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
Spectra Ref. 6501
Line started while sailing with a ~90deg heading towards the preplot line
First shot inline with correct course ~ SP 6200. Turn noise after, while streamer was getting online

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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

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Job Number	MGL2105

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Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	5	6
SP #	7548	8138

Line	MGL2105PM03A
Sequence	010
Direction	50

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	7548	8138
Date MM/DD/YY	07/26/21	07/26/21
Time UTC	04:22	08:14
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 3 kts	N 4 kts
Sea State (m)	0.5 m	1 m
Water Depth (m)	2480 m	1134 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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
Continuation of sequence 9, MGLPM03, after a slight change in heading
SP 8100 Streamer moved 5 meters aft to accomidate turning off the line (CS - CNG now 225)
From SP 8100 to 8138 Turning off line and recording on run out SPs, turn noise on head of streamer.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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

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Client	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	7	10
SP #	8321	10130

Line	MGL2105T0316
Sequence	011
Direction	245

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	8321	10130
Date MM/DD/YY	07/26/21	07/26/21
Time UTC	08:59	20:10
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 2 kts	SW 13 kts
Sea State (m)	1 m	1 m
Water Depth (m)	1421 m	2400 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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
From SP 8321 to ~8700 Turn noise in streamer, starting at the head moving to the tail.
From SP 10100 - lead in moved aft ~3m to accommodate guns during turn

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	11	13
SP #	10300	11367

Line	MGL2105PM16
Sequence	012
Direction	055

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	10300	11343
Date MM/DD/YY	07/26/21	07/27/21
Time UTC	21:24	03:59
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 14 kts	SW 12 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2670 m	2875 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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 at start
Line aborted after PSO sighting
Last good SP was 11343. All shots/files after were acquired with source inactive

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	14	14
SP #	11552	11925

Line	MGL2105T1616A
Sequence	013
Direction	234

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	11552	11925
Date MM/DD/YY	07/27/21	07/27/21
Time UTC	06:58	09:15
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 10 kts	SW 10 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2810 m	2922 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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 line to return to where sequence 12 was interrupted
Significant turn noise at start of line moving aft on the streamer until SP 11760
Noise from astern as a constant reflector on the tail of the streamer at 14 to 16 seconds, SP 11850 to EOL
File 5298 was recorded after the end of line, without header, d/t nav system error and should be ignored

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	15	16
SP #	13020	13882

Line	MGL2105PM16A
Sequence	014
Direction	055

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	13020	13882
Date MM/DD/YY	07/27/21	07/27/21
Time UTC	10:05	15:11
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 11 kts	SE 15 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2920 m	1478 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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 on streamer from SOL to SP 13360, starting from head and moving to tail.
Streamer straight at SP 13360.
Line ended early because of PSO detection
Files 6162-6176 recorded after the end of line while deciding course of action. Discard

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	17	19
SP #	14127	15410

Line	MGL2105T16A01B
Sequence	015
Direction	145

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	14163	15410
Date MM/DD/YY	07/27/21	07/28/21
Time UTC	16:40	00:30
Volume (cu in.)	6600 in3	4950 in3
Wind (kts)	SE 8 kts	SW 2 kts
Sea State (m)	1 m	1 m
Water Depth (m)	1086 m	2050 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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
From SOL, turn noise starting from head and moving to tail.
Line started with soft start at SP 14217. FGSP at full volume: 14163
Shut down for protected species between SP 14230 and 14469 - back to full volume SP 14522

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	20	20
SP #	15701	16148

Line	MGL2105PM01B
Sequence	016
Direction	326

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	15701	16148
Date MM/DD/YY	07/28/21	07/28/21
Time UTC	02:19	05:06
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 2 kts	N 4 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	2270 m	2035 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,541,549,813,829,861,877,885,886
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
From SOL, turn noise starting from head and moving to tail.
Line stopped because of PSO shutdown

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	21	21
SP #	16536	17014

Line	MGL2105PM01B1
Sequence	017
Direction	326

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	16536	17014
Date MM/DD/YY	07/28/21	07/28/21
Time UTC	13:34	16:26
Volume (cu in.)	40 in3	6600 in3
Wind (kts)	E 5 kts	E 4 kts
Sea State (m)	0 m	0 m
Water Depth (m)	2070 m	1789 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,541,549,813,829,861,877,885,886
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
Line interrupted because of shutdownn for PSO
Two files (8388,8389) were created after the shutdown with source inactive - should be discarded

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	22	22
SP #	17288	17500

Line	MGL2105T1B11B2
Sequence	018
Direction	145

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	17288	17500
Date MM/DD/YY	07/28/21	07/28/21
Time UTC	18:48	20:11
Volume (cu in.)	40 in3	6600 in3
Wind (kts)	SE 7 kts	SE 6 kts
Sea State (m)	0 m	0.5 m
Water Depth (m)	1622 m	2060 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,541,549,813,829,861,877,885,886
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 line to return to line PM01B after shutdown
Line start with ramp up - 1 gun, 40in3
First shot at full volume, 36 guns, 6600in3: SP17347

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	23	29
SP #	17730	20971

Line	MGL2105PM01B2
Sequence	019
Direction	326

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	17730	20971
Date MM/DD/YY	07/28/21	07/29/21
Time UTC	21:12	17:50
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 5 kts	E 10 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1880 m	1579 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519,529,541,549,813,829,861,877,885,886
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
Continuation of line M01B, sequences 16 and 17.
Quite noticeable noise turn at start
Shutdown for PSO at SP 17987. Stopped recording with Seal after file 8880 and resumed at start of ramp-up

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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
21:12	8603	17730	23	SOL MGL2105PM01B2,36 guns, 6600 in3
22:56	8860	17987	23	Shut down for whale - last shot at full volume
23:05	8880	18007	23	Acquisition stopped on seal - files 8861-8880 recorded while sources disabled
23:58				Shutdown extended by one hour because of one more sighting
01:04	8881	18259	23	Start of ramp-up - 1 gun, 40 in3
01:24	8928	18306	23	Ramp-up complete - full volume 6600 in3, 36 guns
02:24	9084	18462	24	BOT #24
02:26	9089	18467	24	Starting filling gap left at end of Seq 2 - MGL2105PO01B1
04:59	9470	18848	24	End of the gap between sequences 2 and 3
05:36	9565	18943	25	BOT #25
06:34	9718-9719	19096-19097	25	very noisy event - possibly earthquake, propagating southwardly
08:32	10064	19442	26	BOT #26
10:20	10344	19722	26	Large noise seen on streamer data, from the side.
10:30	10371	19749	26	Large noise seen on streamer data, from the side.
11:26	10527	19905	27	BOT # 27
12:26	10701	20079	27	Tailbuoy turned off to avoid electrical faulting. It was drawing 500 mA
14:13	11008	20386	28	BOT #28
17:08	11489	20867	29	BOT #29
17:25			29	CS-CNG change from 220 to 225 to prepare for line change
17:50	11593	20971	29	EOL MGL2105PM01B2,36 guns, 6600 in3

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	30	34
SP #	21167	23358

Line	MGL2105PO01A
Sequence	020
Direction	334

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	21167	23358
Date MM/DD/YY	07/29/21	07/31/21
Time UTC	17:56	10:16
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	E 9 kts	W9 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1491 m	2089 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Line started as turning 8 degrees to starboard from the previous line (sequence 19).
This line is an OBS line, shot at 150m shot spacing.
Fist shots recorded with the lead-in moved aft by a few meters to accommodate guns during turn
Shutdown for PSO between SP 21312 and 21336 - back to full volume SP 21350
The very first file , FFID 11594, SP 20972, was created while source still inactive at the beginning of the line d/t navigation glitch. Discard.
SP 23261 started port turn to end line, turn noise visible on streamer moving from head to tail.
Line ended with Starboard turn for teardrop into next line.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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
17:56	11595	21167	30	SOL MGL2105PO01A - 6600 in3, 36 Guns
18:07	11603	21175	30	CS-CNG changed from 225 to 220 when turn finished.
20:51	11740	21312	30	Shutdown for purpose - last shot at full volume
20:56	11744	21316	30	gunlink disabled after this shot - no more files created
21:23	11745	21336	30	Start of ramp-up, 1 gun, 40 in3
21:44	11759	21350	30	First shot back at full volume 36 guns, 6600in3
23:59	11876	21467	30	last shot of the day
02:34	12016	21607	30	First shot in U.S. waters
03:49	12075	21666	31	BOT #31
12:00	12556	22147	32	BOT #32
14:57	12726	22317	32	Gun 1 on String 4 autofired a few times in the first 10 seconds after the shot.
14:58	12727	22318	32	Timing error on Gun 1 of string 4
14:59	12728	22319	32	Timing error on Gun 1 of string 4
15:00	12729	22320	32	Timing error on Gun 1 of string 4
15:02	12731	22322	32	Gun 1 on String 4 autofired a few times in the first 5 seconds after the shot.
15:02	12731	22322	32	Gun 1 on String 4 disabled d/t autofires - 6240 in3, 35 Guns
20:14	13037	22628	33	BOT #33
23:59	13257	22848	33	last shot of the day
02:24	13395	22986	33	Shutdown for whale - last shot at full volume, 6240in3, 35 guns
03:18	13431	23022	33	Start of ramp-up - 2 guns, 80 in3
03:39	13444	23035	33	End of ramp-up - 35 guns, 6240 in3
05:02	13518	23109	34	BOT #34
07:47	13670	23261	34	Started port turn to end line
10:16	13767	23358	34	EOL MGL2105PO01A - 6240 in3, 35 Guns

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	35	38
SP #	23473	25250

Line	MGL2105PM01A1
Sequence	021
Direction	152.4

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	23473	25250
Date MM/DD/YY	07/31/21	07/31/21
Time UTC	10:59	22:01
Volume (cu in.)	6240 in3	3300 in3
Wind (kts)	W 11 kts	SW 8 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	1730 m	740 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Line started with Gun 1 on string 4 disabled d/t autofires on the last line.
Spectra Ref 23801
From SOL to SP 23783 Turn noise on streamer moving from head to tail.
After SP 24840, gun arrays 3 and 4 disabled and brought onboard - 3300 in3, 18 guns

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	39	42
SP #	25411	26872

Line	MGL2105T01A112
Sequence	022
Direction	214

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	25411	26872
Date MM/DD/YY	07/31/21	08/01/21
Time UTC	22:08	07:09
Volume (cu in.)	3300 in3	6600 in3
Wind (kts)	SW 9 kts	S 9 kts
Sea State (m)	1 m	1 m
Water Depth (m)	700 m	2774 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Line started with gun arrays 3 and 4 onboard for maintenance
Turn noise on streamer from sol, moving from head to tail.
SP 25493: Array 4 enabled, 27 guns, 4950 in3
SP 25729 Array 3 enabled, back to full volume, 36 guns, 6600in3

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	43	43
SP #	27149	27401

Line	MGL2105PO12
Sequence	023
Direction	54.3

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	27149	27395
Date MM/DD/YY	08/01/21	08/01/21
Time UTC	08:15	12:54
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 10 kts	S 6 kts
Sea State (m)	1 m	0.5 m
Water Depth (m)	2683 m	2554 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref 22701
From SOL to 27270 turn noise in streamer starting at head moving to tail.
Ended line d/t protected species
LGSP = 27395. Files 17255-17260 / SP 27396-27401 were recorded at the end while shut down.No source. Discard

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	44	45
SP #	27545	28155

Line	MGL2105PO12A
Sequence	024
Direction	54

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	27545	28155
Date MM/DD/YY	08/01/21	08/02/21
Time UTC	16:05	02:51
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 2 kts	W 5 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	2490 m	185 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 27401
From SOL to 27674 turn noise visible on streamer starting at head and moving to tail.
Last file (SP28155/FFID 17871) has 0 volume in GCS/spectra header, but it was actually at full volume (6600in3)

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	46	46
SP #	28204	28670

Line	MGL2105T12A14A
Sequence	025
Direction	295.5

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	28204	28670
Date MM/DD/YY	08/02/21	08/02/21
Time UTC	03:46	06:51
Volume (cu in.)	3300 in3	4950 in3
Wind (kts)	NW 6 kts	W 2 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	120 m	180 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Array 1 and 2 were recovered at the end of the previous sequence for maintenace. Line starts with only array 3 and 4 - 18 guns, 3300in3
Turn noise at start, propagating from front to back of streamer
Wrong line name originally in spectra headers (MGL2015 instead of MGL2105). Corrected in shotlog and P1/P2 files - still wrong name in segd headers
Array 1 deployed SP 28592 - 27 guns, 4950in3

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	47	48
SP #	28704	29512

Line	MGL2105T12A14B
Sequence	026
Direction	352

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	28704	29512
Date MM/DD/YY	08/02/21	08/02/21
Time UTC	06:55	12:34
Volume (cu in.)	4950 in3	6600 in3
Wind (kts)	N 2 kts	SE 2 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	180 m	149 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Array 2 onboard at SOL Line starts with 27 guns,4950 in3
Turn noise from SOL to SP 28846, propagating from front to back of streamer.
Turn noise from SP 29303 to EOL, propagating from front to back of streamer.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	49	52
SP #	29649	31429

Line	MGL2105PM14
Sequence	027
Direction	251

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	29649	31429
Date MM/DD/YY	08/02/21	08/03/21
Time UTC	12:50	00:12
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SE 3 kts	S 10 kts
Sea State (m)	0.5 m	0.5 m
Water Depth (m)	166 m	2540 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 29701
From SOL to SP 29980 turn noise visible on streamer, starting from head and moving to tail.
1 Shutdown for PSO: SP30952-31027 - ramp-up SP 31027-31072

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	53	53
SP #	31529	31810

Line	MGL2105T1415
Sequence	028
Direction	320.9

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	31529	31810
Date MM/DD/YY	08/03/21	08/03/21
Time UTC	00:40	02:27
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 7 kts	S 10 kts
Sea State (m)	0.5 m	1 m
Water Depth (m)	2560 m	2600 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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 at start, propagating from front to end of streamer along line
Streamer never fully straight - this is a turn line between primary lines PM14 and PM15

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	54	57
SP #	32001	33765

Line	MGL2105PM15
Sequence	029
Direction	65.4

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	32001	33765
Date MM/DD/YY	08/03/21	08/03/21
Time UTC	02:55	13:41
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 14 kts	NE 6 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2570 m	118 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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 at start, propagating from front to end of streamer along line
From SP 33730 to EOL, turn noise propagating from head to tail.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	58	59
SP #	33802	34405

Line	MGL2105T1502
Sequence	030
Direction	253.5

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	33802	34405
Date MM/DD/YY	08/03/21	08/03/21
Time UTC	14:13	17:59
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	NE 5 kts	E 13 kts
Sea State (m)	1 m	1 m
Water Depth (m)	112 m	208 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref.33801
Turn noise at SOL to SP 34175, propagating from front to end of streamer along line

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	60	60
SP #	34553	34645

Line	MGL2105PO02
Sequence	031
Direction	152

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	34553	34645
Date MM/DD/YY	08/03/21	08/03/21
Time UTC	18:26	20:13
Volume (cu in.)	3300 in3	3300 in3
Wind (kts)	E 10 kts	E 15 kts
Sea State (m)	1 m	1 m
Water Depth (m)	224 m	210 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 34601
Line started with gun strings 3 and 4 disabled d/t repairs on gun 4-1.
Sequence ended to restart with full volume for the full OBS line
First file on tape (FFID 23579) was generated by navigation fluke - invalid shot point number or gun GCS infos - discard

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	61	65
SP #	34766	37090

Line	MGL2105PO02A
Sequence	032
Direction	152.4

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	34766	37090
Date MM/DD/YY	08/03/21	08/05/21
Time UTC	23:11	19:14
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SE 17 kts	W 24 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	240 m	450 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 34601
SP 34815 - lost communication with half of the streamer
Shots 34816-34828 missed while restarting streamer
SP 36655 - 16705 turn noise on streamer moving from head to tail.
Random swell bursts affecting 10% of traces from SP 36720 to EOL.
SP 36850 - 36895 turn noise on streamer moving from head to tail.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	66	69
SP #	37533	39386

Line	MGL2105T0204
Sequence	033
Direction	208

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	37533	39386
Date MM/DD/YY	08/05/21	08/06/21
Time UTC	19:25	07:31
Volume (cu in.)	6600 in3	6380 in3
Wind (kts)	W 22 kts	W17 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	505 m	2797 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
GunLink shutdown from SP 39311-39322, no shots fired or recorded.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	70	70
SP #	39457	39791

Line	MGL2105PM04
Sequence	034
Direction	057

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	39457	39754
Date MM/DD/YY	08/06/21	08/06/21
Time UTC	08:39	10:35
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 10 kts	SW 8 kts
Sea State (m)	2 m	2 m
Water Depth (m)	2800 m	2891 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 39801
Turn noise from SOL, moving from head to tail of streamer
Line ended d/t Gun 4-1 autofiring uncontrollably. 360 in3 firing after line shutdown.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	71	73
SP #	39937	41370

Line	MGL2105PM04A
Sequence	035
Direction	57

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	39937	41370
Date MM/DD/YY	08/06/21	08/07/21
Time UTC	15:38	00:21
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 7 kts	S 10 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2831 m	480 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 40101
Turn noise visible on streamer from SOL to 40170, moving from head to tail.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	74	77
SP #	41429	43080

Line	MGL2105T0405
Sequence	036
Direction	247

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	41429	43080
Date MM/DD/YY	08/07/21	08/07/21
Time UTC	01:23	11:29
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 6 kts	NW 12 kts
Sea State (m)	1 m	1 m
Water Depth (m)	640 m	2875 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 41401
Turn noise visible on streamer from SOL, moving from head to tail.
Tail of streamer deep (up to 30 m) at start

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	78	81
SP #	43176	44683

Line	MGL2105PM05
Sequence	037
Direction	059

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	43176	44683
Date MM/DD/YY	08/07/21	08/07/21
Time UTC	13:13	22:18
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 5 kts	NW 20 kts
Sea State (m)	1 m	1.5 m
Water Depth (m)	2847 m	260 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 43401
Turn noise visible on streamer from SOL, moving from head to tail.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	82	84
SP #	44942	46271

Line	MGL2105T0506
Sequence	038
Direction	258

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	45000	46271
Date MM/DD/YY	08/08/21	08/08/21
Time UTC	00:46	08:39
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 20 kts	NW 17 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	650 m	2800 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 44701
Line started with ramp-up at 00:25, after silencing the guns while in water depth less than 200m
Files 32755-32757 generated at the start of ramp-up because of observer error - discard
First shot at full volume (FGSP) at 00:46: SP 45000
Shutdown for PSO between SP 45531 and 45711.
Random swell burst noise affecting about 10% of traces from SP 46000 to EOL

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	85	87
SP #	46523	47800

Line	MGL2105PM06
Sequence	039
Direction	57.6

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	46523	47800
Date MM/DD/YY	08/08/21	08/08/21
Time UTC	11:33	20:04
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 14 kts	W 10 kts
Sea State (m)	2 m	1.5 m
Water Depth (m)	2882 m	210 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 46601
Turn noise visible in streamer from SOL to 46589, moving from mid streamer to tail.
Random swell bursts affecting 20% of traces from SOL to EOL.
Line ended before entering 200m water depth

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	88	91
SP #	48005	49470

Line	MGL2105T0607
Sequence	040
Direction	246.3

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	48236	49470
Date MM/DD/YY	08/08/21	08/09/21
Time UTC	23:00	06:43
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 7 kts	SW 20 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	910 m	2890 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 48001
Line started with ramp-up, interrupted by PSO detection.
Arrays 3 and 4 were recovered for maintenance (air leak in array 4) during shutdown. Starting with arrays 1 & 2 (18 guns, 3300 in3)
FGSP is at end of complete ramp-up SP 48236

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	92	94
SP #	49933	51129

Line	MGL2105PM07
Sequence	041
Direction	059

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	49933	51129
Date MM/DD/YY	08/09/21	08/09/21
Time UTC	09:27	17:21
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 14 kts	NW 8 kts
Sea State (m)	2 m	2 m
Water Depth (m)	2873 m	200 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 50001
Line ended at 200 meter depth.
SP 51130,51131/ FFID 38026,38027 recorded at end of line with no shot fired.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	95	98
SP #	51536	53100

Line	MGL2105T0708
Sequence	042
Direction	269.6

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	51589	53100
Date MM/DD/YY	08/09/21	08/10/21
Time UTC	20:43	06:35
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 12 kts	SW 30 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	990 m	2750 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 51201
Line started with ramp-up, 1 gun 40 in3, SP 51536 @ 20:22
FGSP (end of ramp-up,full volume): SP 51589

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	99	102
SP #	53430	55317

Line	MGL2105PM08
Sequence	043
Direction	067

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	53430	55317
Date MM/DD/YY	08/10/21	08/10/21
Time UTC	09:19	21:12
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 25 kts	W 16 kts
Sea State (m)	2.5 m	2 m
Water Depth (m)	2803 m	450 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 53501
Swell noise on up to 80% of traces from SOL to EOL

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	103	104
SP #	55406	55970

Line	MGL2105T0809
Sequence	044
Direction	067

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	16.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	55406	55970
Date MM/DD/YY	08/10/21	08/11/21
Time UTC	21:20	00:55
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 14 kts	W 14 kts
Sea State (m)	2.5 m	2 m
Water Depth (m)	450 m	330 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 55401
Birds set to 16 m depth, because of concern about currents and traffic inside the Dixon entrance

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	105	109
SP #	56119	58129

Line	MGL2105PM09
Sequence	045
Direction	243

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	16.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	56119	58129
Date MM/DD/YY	08/11/21	08/11/21
Time UTC	01:07	14:45
Volume (cu in.)	6600 in3	6420 in3
Wind (kts)	W 15 kts	W 8 kts
Sea State (m)	2.5 m	3 m
Water Depth (m)	341 m	2713 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 56401
Birds set to 16 m depth . Sharp turn, current pushing from SE - streamer at ~right angle and front birds at 20m during entire approach
Files 42043-42047 were created by error at the start of line and were discarded
SP 57120 to 57337 birds 6 through 18 at 16 to 20 m.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	110	111
SP #	58285	59175

Line	MGL2105T0910
Sequence	046
Direction	271

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	16.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	58343	59175
Date MM/DD/YY	08/12/21	08/12/21
Time UTC	04:56	10:48
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 12 kts	SW 11 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	2700 m	3125 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 56501
Line started with ramp-up, using gun arrays 1 and 2, while array 4 was being put in position and we were given clearance before more fog
FGSP (all arrays, 36 guns, 6600 in3): SP 58343 @ 04:56
Swell noise from SOL to EOL

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	112	120
SP #	59234	63188

Line	MGL2105PM10
Sequence	047
Direction	071

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	59324	63188
Date MM/DD/YY	08/12/21	08/13/21
Time UTC	13:31	13:36
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	SW 4 kts	S 8 kts
Sea State (m)	2 m	2 m
Water Depth (m)	2993 m	163 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 59501
Turn Noise mid streamer, moving to tail, SOL to SP 59555.
Streamer at 14m because of swell

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	121	121
SP #	63232	63700

Line	MGL2105T1011
Sequence	048
Direction	354

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	63232	63700
Date MM/DD/YY	08/13/21	08/13/21
Time UTC	14:40	17:45
Volume (cu in.)	6240 in3	6600 in3
Wind (kts)	S 10 kts	S 16 kts
Sea State (m)	2 m	2 m
Water Depth (m)	140 m	144 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 63201
Turn noise at mid streamer at SOL

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	122	129
SP #	64033	67521

Line	MGL2105PM11
Sequence	049
Direction	251

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	64033	67521
Date MM/DD/YY	08/13/21	08/14/21
Time UTC	18:28	19:21
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 17 kts	SW 5 kts
Sea State (m)	2 m	1 m
Water Depth (m)	160 m	2880 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 63801
Turn noise mid streamer moving aft from SOL
Earthquake noise from M6.9 Perryville aftershock seen on data, SP 66561 to 66565
Ship noise seen from astern SP 67260 to 67337

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	130	131
SP #	67700	68220

Line	MGL2105T1112
Sequence	050
Direction	338.5

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	67700	68220
Date MM/DD/YY	08/14/21	08/14/21
Time UTC	20:14	23:26
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 5 kts	S 10 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2730 m	2840 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 67601

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	132	138
SP #	68301	71600

Line	MGL2105PM12
Sequence	051
Direction	53.8

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	68301	71600
Date MM/DD/YY	08/14/21	08/15/21
Time UTC	23:39	20:32
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	S 12 kts	NW 20 kts
Sea State (m)	1 m	2 m
Water Depth (m)	2840 m	205 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 68601
SP 70800 to EOL, swell noise effecting up to 20% of traces.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jenvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	139	142
SP #	71800	73655

Line	MGL2105T1213
Sequence	052
Direction	249.6

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	71800	73655
Date MM/DD/YY	08/15/21	08/16/21
Time UTC	22:11	09:46
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 10 kts	N 10 kts
Sea State (m)	2 m	1.5 m
Water Depth (m)	205 m	2787 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 71701

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	143	146
SP #	73828	75462

Line	MGL2105PM13
Sequence	053
Direction	61

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	73828	75462
Date MM/DD/YY	08/16/21	08/16/21
Time UTC	11:45	21:49
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 9 kts	NW 14 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	2744 m	165 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 74001
Streamer depth was brought back to 12m for this sequence

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	147	148
SP #	75600	76329

Line	MGL2105T1301A2A
Sequence	054
Direction	259.2

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	75600	76329
Date MM/DD/YY	08/16/21	08/17/21
Time UTC	23:30	04:13
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 20 kts	NW 20 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	110 m	715 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 75501
Significant turn noise at start of line

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	149	157
SP #	76471	80466

Line	MGL2105PM01A2A
Sequence	055
Direction	152.9

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	76471	80466
Date MM/DD/YY	08/17/21	08/18/21
Time UTC	05:14	04:28
Volume (cu in.)	6600 in3	6540 in3
Wind (kts)	NW 15 kts	SW 27 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	1050 m	1250 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 76801
Started recording shortly after getting online to maximize overlap with Seq 21 - MGL2105PM01A1A. Strong turn noise
S3G7 disabled shortly after start of line (SP 76609) because of firing error. 6540in3, 35 guns for most of the line
Line interrupted at SP 80466 to reshoot line PM09

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	158	160
SP #	80599	81920

Line	MGL2105RM09
Sequence	056
Direction	61.7

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	14/16			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	80599	81920
Date MM/DD/YY	08/18/21	08/18/21
Time UTC	13:20	21:46
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 17 kts	W 13 kts
Sea State (m)	2.5 m	2 m
Water Depth (m)	2727 m	220 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 80601
Reshoot of sequence 45, line MGL2105PM09
Swell noise from SOL to EOL
SP 80734 - streamer moved to 14 m d/t swell noise.
SP 80778 - streamer moved to 16 m d/t swell noise.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	161	164
SP #	82130	83783

Line	MGL2105PM01A2B
Sequence	057
Direction	153

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	16.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	82130	83783
Date MM/DD/YY	08/19/21	08/19/21
Time UTC	04:12	13:55
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	NW 17 kts	NW 10 kts
Sea State (m)	2 m	2 m
Water Depth (m)	1380 m	2070 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra Ref. 78801
Continuation of sequence 55 - PM01A2A - starting with a 17km run-in from where the sequence ended
Streamer depth at 16m at start of line because of swell noise.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jenvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	165	167
SP #	83920	84944

Line	MGL2105RM16
Sequence	058
Direction	55.1

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	83920	84944
Date MM/DD/YY	08/20/21	08/20/21
Time UTC	04:25	10:32
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 17 kts	NW 14 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	2900 m	844 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra reference: 84201
Streamer depth set to 12 m at beginning of line
SP 84910 started turn to starboard.

Abbreviations	
SOL/EOL - Start/End of Line	LGSP - Last Good SP
FGSP- First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	NSF - Worthington
Area	Queen Charlotte Fault
Job Number	MGL2105

Shift	00:00-12:00	00:00-12:00
Science Officer	Todd Jensvold	
Acquisition	Klayton Curtis	Gilles Guerin
Navigation	Cody Bahlau	Victor Ubaru

	SOL	EOL
Tape #	168	170
SP #	85536	86530

Line	MGL2105RM01B
Sequence	059
Direction	144.8

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	220			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	12.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	17
Total recording delay	0
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.7Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	FGSP	EOL/LGSP
SP	85583	86530
Date MM/DD/YY	08/20/21	08/21/21
Time UTC	19:42	01:19
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 19 kts	N 30 kts
Sea State (m)	1.5 m	2 m
Water Depth (m)	1200 m	2050 m

Cable	Dead Channels
1	
2	
3	13,24,56,301,519, 529,541,549,813,829,861,877,885,886
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
Spectra reference: 83000
Line started with ramp-up - 1 gun, 40in3
FGSP (full volume, 6600 in3) 85583

Abbreviations	
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FGSP - First Good SP	LCSP - Last Chargeable SP
FCSP - First Chargeable 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	

