

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>1</b>	<b>8</b>
<b>SP #</b>	<b>962</b>	<b>4988</b>

<b>Line</b>	<b>MGL2104PD09</b>
<b>Sequence</b>	<b>01</b>
<b>Direction</b>	<b>259.4</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	962	4988
Date MM/DD/YY	06/04/21	06/05/21
Time UTC	04:34	00:01
Volume (cu in.)	6600 in3	6060 in3
Wind (kts)	N 19.2 kts	sw 24.4 kts
Sea State (m)	1.5m m	1.5m m
Water Depth (m)	130 m	2701.1 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Turn noise at EOL
Due to configuration error, SEGDP recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>9</b>	<b>11</b>
<b>SP #</b>	<b>5017</b>	<b>6144</b>

<b>Line</b>	<b>MGL2104TD09D10</b>
<b>Sequence</b>	<b>02</b>
<b>Direction</b>	<b>174.3</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	5017	6144
Date MM/DD/YY	06/05/21	06/05/21
Time UTC	00:15	05:45
Volume (cu in.)	6060 in3	6060 in3
Wind (kts)	SW 24 kts	W13 kts
Sea State (m)	1.5 m	2M m
Water Depth (m)	2709 m	2670.2 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Files 4028 & 4029 were generated during the line change and discarded
Due to configuration error, SEG D recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>12</b>	<b>19</b>
<b>SP #</b>	<b>6211</b>	<b>10368</b>

<b>Line</b>	<b>MGL2104PD10</b>
<b>Sequence</b>	<b>03</b>
<b>Direction</b>	<b>083.007</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	6211	10368
Date MM/DD/YY	06/05/21	06/05/21
Time UTC	05:54	02:24
Volume (cu in.)	6060 in3	6060 in3
Wind (kts)	NW 11 kts	NW 11 kts
Sea State (m)	2 m	2 m
Water Depth (m)	2678.3 m	146 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
EOL early due to PSO detection
Due to configuration error, SEGDP recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>20</b>	<b>22</b>
<b>SP #</b>	<b>10509</b>	<b>11611</b>

<b>Line</b>	<b>MGL2104TD10D11</b>
<b>Sequence</b>	<b>04</b>
<b>Direction</b>	<b>161.6</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	10509	11611
Date MM/DD/YY	06/06/21	06/06/21
Time UTC	03:32	08:47
Volume (cu in.)	6060 in3	6060 in3
Wind (kts)	NW 11 kts	NW 9 kts
Sea State (m)	2 m	2 m
Water Depth (m)	134.3 m	113 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Streamer at 14m to prevent it from surfacing again with the swell and currents
Due to configuration error, SEG D recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>23</b>	<b>30</b>
<b>SP #</b>	<b>11752</b>	<b>15977</b>

<b>Line</b>	<b>MGL2104PD11</b>
<b>Sequence</b>	<b>05</b>
<b>Direction</b>	<b>265</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	11752	15977
Date MM/DD/YY	06/06/21	06/07/21
Time UTC	08:55	07:23
Volume (cu in.)	6060 in3	6060 in3
Wind (kts)	NW 9 kts	NW 20 kts
Sea State (m)	2 m	3 m
Water Depth (m)	120 m	2650 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Streamer at 14m at the start - back to 12m at SP11877
Swell noise throughout the line
Streamer depths erratic due to speed control caused by weather
Due to configuration error, SEGDP recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>31</b>	<b>32</b>
<b>SP #</b>	<b>16145</b>	<b>17152</b>

<b>Line</b>	<b>MGL2104TD11D12</b>
<b>Sequence</b>	<b>06</b>
<b>Direction</b>	<b>191</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	16145	17152
Date MM/DD/YY	06/07/21	06/07/21
Time UTC	07:27	12:19
Volume (cu in.)	6060 in3	5700 in3
Wind (kts)	NW20 kts	SW 6 kts
Sea State (m)	3 m	2 m
Water Depth (m)	2660 m	2750 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Due to configuration error, SEG D recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>33</b>	<b>41</b>
<b>SP #</b>	<b>17351</b>	<b>21804</b>

<b>Line</b>	<b>MGL2104PD12</b>
<b>Sequence</b>	<b>07</b>
<b>Direction</b>	<b>89.45</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	17351	21804
Date MM/DD/YY	06/07/21	06/08/21
Time UTC	12:22	09:18
Volume (cu in.)	5700 in3	5700 in3
Wind (kts)	SW 6 kts	SE 8 kts
Sea State (m)	2 m	2 m
Water Depth (m)	2750 m	110 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Due to configuration error, SEG D recording starts 50ms early

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
12:22	15652	17351	33	SOL MGL2104PD12 - S3G2,S4G1,S4G4 disabled, 5700 in3, 33 Guns
12:37	15702	17401	33	Disabling arrays 2 and 3 to bring them in and separate them. New vol: 2760 in3; 16 Guns.
14:03	16011	17710	33	Arrays 2 and 3back in position and enabled. 5700 in3, 33 Guns
14:54	16197	17896	34	BOT #34
17:19	16742	18441	35	BOT #35
17:34		18501	35	Missed SP 18501 d/t speed
18:52	17099	18799	35	array 2 disabled to improve spacing; 4040 in3; 24 Guns.
19:10	17167	18867	35	array 2 enabled, array 3 disnbled ; 4410 in3; 25 Guns.
19:27	17233	18933	35	array 3 reenabled - 5700 in3, 33 Guns
19:42	17287	18987	36	BOT #36
21:20	17655	19355	36	Marine Mammal Sighting, all guns disabled
		19844	36	Missed sp d/t reconfiguring GL2K
21:55	17784	19485	36	Begin ramp up in external mode
22:08	17832	19533	37	BOT #37
22:17	17865	19566	37	Ramp up complete, S4G1,S4G4 disabled, 6060 in3, 34 guns
23:59	18231	19933	37	Midnight Shot point
00:40	18377	20078	38	BOT #38
03:18	18922	20623	39	BOT #39
03:20	18931	20632	39	Gun 3-2 Failure, disabled - 5700in3 33 guns
06:05	19467	21168	40	BOT #40
08:51	20012	21713	41	BOT #41
09:18	20103	21804	41	EOL MGL2104PD12 - S3G2,S4G1,S4G4 disabled, 5700 in3, 33 Guns

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>42</b>	<b>43</b>
<b>SP #</b>	<b>22097</b>	<b>22782</b>

<b>Line</b>	<b>MGL2104TD12S01</b>
<b>Sequence</b>	<b>08</b>
<b>Direction</b>	<b>238</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	22097	22782
Date MM/DD/YY	06/08/21	06/08/21
Time UTC	10:25	13:45
Volume (cu in.)	5340 in3	4980 in3
Wind (kts)	S 7 kts	S 6 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	110 m	215 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
4 guns disabled at start of line - vol = 5340in3
5 guns disabled at start of line - vol = 4980in3 - gun maintenance starting at end of line
Due to configuration error, SEG D recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>44</b>	<b>46</b>
<b>SP #</b>	<b>33201</b>	<b>34553</b>

<b>Line</b>	<b>MGL2104PS01A</b>
<b>Sequence</b>	<b>09</b>
<b>Direction</b>	<b>154</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	33201	34546
Date MM/DD/YY	06/08/21	06/08/21
Time UTC	13:51	19:48
Volume (cu in.)	2400 in3	1110 in3
Wind (kts)	S 5 kts	SW 9 kts
Sea State (m)	1.5 m	1.5 m m
Water Depth (m)	210 m	100 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
2	
3	
4	

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

General / Line Comments
Turn noise at SOL
Arrays 1 and 2 recovered at beginning of line for maintenance. Only arrays 3 & 4 active - 2400 in3
High tension, while birds 15-25 deep and birds 28-35 near surface for most of time.
Line aborted early to recover cable - end of line while shut down for PSO detection
LGSP was 34546. FFID 22132/SP34547-34553 recorded with source inactive.
Due to configuration error, SEGDP recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>47</b>	<b>47</b>
<b>SP #</b>	<b>34582</b>	<b>34840</b>

<b>Line</b>	<b>MGL2104Test2</b>
<b>Sequence</b>	<b>010</b>
<b>Direction</b>	<b>1.3</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	34586	34840
Date MM/DD/YY	06/10/21	06/10/21
Time UTC	05:27	06:43
Volume (cu in.)	4950 in3	4950 in3
Wind (kts)	7.3N kts	NW 8 kts
Sea State (m)	1 m	1 m
Water Depth (m)	89.7 m	122 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
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
Test line after streamer and source maintenance
Only gun arrays 1,2,4 active, 4950 in3
SP 34582-34585 not recorded by Seal - 34586 first GSP
Due to configuration error, SEGDP recording starts 50ms early

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>48</b>	<b>60</b>
<b>SP #</b>	<b>35931</b>	<b>42747</b>

<b>Line</b>	<b>MGL2104PS01B</b>
<b>Sequence</b>	<b>011</b>
<b>Direction</b>	<b>189</b>

Streamer Parameters				
	1	2	3	4
Length (m)	15000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
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	15 s
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	35931	42732
Date MM/DD/YY	06/10/21	06/11/21
Time UTC	09:01	18:37
Volume (cu in.)	4230 in3	4620 in3
Wind (kts)	N 10 kts	S 40 kts
Sea State (m)	1.5 m	3 m
Water Depth (m)	110 m	600 m

Cable	Dead Channels
1	1, 9, 13, 33, 81, 735, 745, 757, 765, 789, 837, 853, 861
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 while still working on gun array 3 - only arrays 1,2,4 enabled - S1G2,S4G1 not working - vol 4230in3
noise turn at start
line PS01B is a continuation of PS01A which was interrupted because of streamer issues
line aborted after streamer broke off. Last good SP 42732, file 29195. Files 29196-29209 are invalid
Due to configuration error, SEGDP recording starts 50ms early

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
09:01	22394	35931	48	SOL MGL2104PS01B - S3, S1G2,S4G1 disabled - 4230in3; 25 guns
09:23	22465	36002	48	Array 3 online - new volume: 5880in3; 34 guns
11:34	22939	36476	49	BOT #49
13:20	23335	36872	49	Approximate start of autofire from S2G1
13:25	23353	36890	49	Array 2 disabled to drop pressure and stop S2G1 from firing. Vol 4230 in3, 25 guns
13:27	23360	36897	49	First SP after autofire stopped
13:29	23368	36905	49	First SP after bringing Array 2 back online. S2G1-2 disabled: 5160in3, 32 guns.
13:59	23484	37021	50	BOT #50
16:35	24029	37566	51	BOT #51
19:11	24574	38111	52	BOT #52
21:42	25119	38656	53	BOT #53
23:59	25628	39165	53	Last shot of the day
00:09	25664	39201	54	BOT #54
02:37	26209	39746	55	BOT #55
05:12	26754	40291	56	BOT #56
07:52	27299	40836	57	BOT #57
10:31	27844	41381	58	BOT #58
11:53	28100	41637	58	S2G4 disabled after multiple errors over time. 4980 in3; 31 guns.
13:27	28389	41926	59	BOT #59
16:59	28934	42471	60	BOT #60
17:10	28965	42502	60	S1G1 disabled; new volume 4620 in3; 30 guns.
17:17		42519	60	Missed Shot 42519 d/t speed
18:37	29194	42732	60	Last SP with complete traces
18:37	29195	42733	60	EOL MGL2104PS01B - S1G1-2; S2G1,2,4; S4G1 disabled - 4620in3; 30 guns - last shot point with data
				line aborted after losing streamer. No data in FFID 29196-29209/SP 42734-42747 recorded while assessing situation

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>61</b>	<b>71</b>
<b>SP #</b>	<b>44502</b>	<b>51632</b>

<b>Line</b>	<b>MGL2104PS03</b>
<b>Sequence</b>	<b>012</b>
<b>Direction</b>	<b>175.6</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	44502	51632
Date MM/DD/YY	21/06/15	21/06/17
Time UTC	21:35	05:41
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	W 13.7 kts	N 31.5 kts
Sea State (m)	1 m	2.5 m
Water Depth (m)	2899 m	3088.7 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Due to configuration error, SEGDP recording starts 50ms early

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]



<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>72</b>	<b>74</b>
<b>SP #</b>	<b>52074</b>	<b>53677</b>

<b>Line</b>	<b>MGL2104TS03D19</b>
<b>Sequence</b>	<b>013</b>
<b>Direction</b>	<b>280</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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	52074	53437
Date MM/DD/YY	06/17/21	6/17/21
Time UTC	06:02	13:23
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 31.9 kts	NE 26.7 kts
Sea State (m)	2.5 m	2.0 m
Water Depth (m)	3087.6 m	2722.2 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>75</b>	<b>79</b>
<b>SP #</b>	<b>54007</b>	<b>57200</b>

<b>Line</b>	<b>MGL2104PD19</b>
<b>Sequence</b>	<b>014</b>
<b>Direction</b>	<b>89</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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	54007	57200
Date MM/DD/YY	06/17/21	06/18/21
Time UTC	14:07	05:04
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	N 23 kts	N39 kts
Sea State (m)	2.5 m	3 m
Water Depth (m)	2760 m	313 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>80</b>	<b>82</b>
<b>SP #</b>	<b>57298</b>	<b>58844</b>

<b>Line</b>	<b>MGL2104TD19D18</b>
<b>Sequence</b>	<b>015</b>
<b>Direction</b>	<b>348.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	57298	58844
Date MM/DD/YY	06/18/21	06/18/21
Time UTC	05:41	14:32
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	N39 kts	N 30 kts
Sea State (m)	3 m	2.5 m
Water Depth (m)	237.2 m	500 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>83</b>	<b>86</b>
<b>SP #</b>	<b>58967</b>	<b>61524</b>

<b>Line</b>	<b>MGL2104PD18</b>
<b>Sequence</b>	<b>016</b>
<b>Direction</b>	<b>258.5</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	58967	61524
Date MM/DD/YY	06/18/21	06/19/21
Time UTC	14:36	02:37
Volume (cu in.)	6240 in3	4950 in3
Wind (kts)	N 30 kts	ne35.5 kts
Sea State (m)	2.5 m	4 m
Water Depth (m)	510 m	2611.5 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Gun array 1 disabled after SP 59101 because S1G1 was autofiring

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>87</b>	<b>87</b>
<b>SP #</b>	<b>61687</b>	<b>61934</b>

<b>Line</b>	<b>MGL2104TD18D17</b>
<b>Sequence</b>	<b>017</b>
<b>Direction</b>	<b>342°</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	61687	61934
Date MM/DD/YY	06/19/21	06/19/21
Time UTC	03:20	04:57
Volume (cu in.)	4950 in3	4950 in3
Wind (kts)	NE 31.1 kts	NE 32.7 kts
Sea State (m)	4 m	4 m
Water Depth (m)	3483 m	2318.6 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Segd files all have wrong sequence number (16) in header
Array #1 off and can not be recovered due to weather conditions
Ligne aborted early because of failure by the Spectra navigation system

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>88</b>	<b>89</b>
<b>SP #</b>	<b>62000</b>	<b>62423</b>

<b>Line</b>	<b>MGL2104TD18D17A</b>
<b>Sequence</b>	<b>018</b>
<b>Direction</b>	<b>342°</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	62000	62423
Date MM/DD/YY	06/19/21	06/19/21
Time UTC	05:00	07:50
Volume (cu in.)	4950 in3	4950 in3
Wind (kts)	NE34.7 kts	NE35 kts
Sea State (m)	4 m	3 m
Water Depth (m)	3443.5 m	2500 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Restarted Seal during line to correct sequence number - Files in tape 88 have the wrong sequence number (17)
Array #1 off and could not be recover due to weather conditions
Data noisy during all sequencew because of sea conditions

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>90</b>	<b>94</b>
<b>SP #</b>	<b>62550</b>	<b>65588</b>

<b>Line</b>	<b>MGL2104PD17</b>
<b>Sequence</b>	<b>019</b>
<b>Direction</b>	<b>79.6</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	62550	65588
Date MM/DD/YY	06/19/21	06/19/21
Time UTC	07:54	23:29
Volume (cu in.)	4950 in3	3300 in3
Wind (kts)	N 30 kts	NE 29.1 kts
Sea State (m)	3 m	3.5 m
Water Depth (m)	2550 m	127.1 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Array #1 off and could not be recovered due to weather conditions
Array #4 truned off after SP 65166 due to auto fire gun 4-1

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>95</b>	<b>96</b>
<b>SP #</b>	<b>66045</b>	<b>67030</b>

<b>Line</b>	<b>MGL2104TD17D16</b>
<b>Sequence</b>	<b>020</b>
<b>Direction</b>	<b>9.7</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	66045	67030
Date MM/DD/YY	06/19/21	06/20/21
Time UTC	23:47	05:48
Volume (cu in.)	3300 in3	4950 in3
Wind (kts)	NE 26.4 kts	N31 kts
Sea State (m)	3.5 m	3 m
Water Depth (m)	127.3 m	121.6 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Array 1 and 4 off at SOL; array 1 enabled after SP 66693
Array #2 turned off at SP 66168 for recovery. Back online after SP 66773
Array #4 off at SOL and could not be recovered due to ship crab angle

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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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>97</b>	<b>101</b>
<b>SP #</b>	<b>67178</b>	<b>70400</b>

Line	MGL2104PD16
Sequence	021
Direction	264.6

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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	67178	70400
Date MM/DD/YY	06/20/21	21:37
Time UTC	06:42	21:37
Volume (cu in.)	4950 in3	4950 in3
Wind (kts)	NE29.8 kts	NE 30 kts
Sea State (m)	3 m	3m m
Water Depth (m)	189 m	3016 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>102</b>	<b>103</b>
<b>SP #</b>	<b>70537</b>	<b>71834</b>

<b>Line</b>	<b>MGL2104TD16D15</b>
<b>Sequence</b>	<b>022</b>
<b>Direction</b>	<b>352.5</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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
<b>SP</b>	70537	71834
<b>Date MM/DD/YY</b>	06/21/21	06/21-21
<b>Time UTC</b>	22:15	04:46
<b>Volume (cu in.)</b>	4950 in3	4695 in3
<b>Wind (kts)</b>	N30 kts	N26.4 kts
<b>Sea State (m)</b>	3 m	3 m
<b>Water Depth (m)</b>	3019.2 m	3017.4 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>104</b>	<b>109</b>
<b>SP #</b>	<b>72047</b>	<b>75902</b>

<b>Line</b>	<b>MGL2104PD15</b>
<b>Sequence</b>	<b>023</b>
<b>Direction</b>	<b>89.7</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	72047	75902
Date MM/DD/YY	06/21/21	06/21/21
Time UTC	05:36	23:17
Volume (cu in.)	4950 in3	4730 in3
Wind (kts)	N 26.4 kts	N 8.1 kts
Sea State (m)	3 m	1 m
Water Depth (m)	3017.4 m	114.8 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Array #4 off at SOL and could not be recovered because of weather

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
05:36	54435	72047	104	SOL MGL2104PD15 - S4 disabled, 4950 in3; 27 guns
08:48	55116	72728	105	BOT #105
11:58	55797	73409	106	BOT #106
13:47	56188	73800	106	Disabled S3G9 after multiple failures; 4730 in3; 26 guns
15:07	56478	74090	107	BOT #107
18:09	57159	74771	108	BOT #108
19:38	57497	75109	108	Last full volume shot point, 4730 in3 26 guns
19:39	57498	75110	108	All guns disabled marine mammal sighting
19:45				Clear to ramp up
19:45		75134-75135		Missed shots while reconfiguring source controller
19:46	57522	75136	108	start soft start - in external mode
20:02	57583	75197	108	Last ramp up shot, another marine mammal sighting, 2570in3 17guns
		75198-75200	108	Missed shots while reconfiguring source controller
		75226		Missed shots while reconfiguring source controller
20:10	57609	75227	108	start soft start - in external mode
20:31	57684	75302	108	Ramp up complete, 4730in3 26guns
20:51	57754	75372	108	Last full volume shot point, 4730 in3 26 guns
20:52	57755	75373	108	Marine mammal shutdown
		75419-75420		Missed shots while reconfiguring source controller
21:05	57801	75421	108	start soft start - in external mode
21:15	57840	75460	109	BOT #109
21:25	57877	75497	109	Ramp up complete, 4730in3 26guns
21:50	57961	75581	109	Last full volume shot point, 4730 in3 26 guns
21:50	57962	75582	109	Marine mammal shutdown
21:56	57983	75603	109	start soft start - in external mode
22:17	58060	75680	109	Ramp up complete, 4730in3 26guns
23:17	58282	75902	109	EOL MGL2104PD15 - S4 and S3G9 disabled, 4730 in3; 26 guns

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>110</b>	<b>110</b>
<b>SP #</b>	<b>76040</b>	<b>76624</b>

<b>Line</b>	<b>MGL2104TD15D14</b>
<b>Sequence</b>	<b>024</b>
<b>Direction</b>	<b>1.583</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	76040	76624
Date MM/DD/YY	06/21/21	6/22/21
Time UTC	23:30	02:12
Volume (cu in.)	3300 in3	3300 in3
Wind (kts)	N 6.8 kts	N 6.2 kts
Sea State (m)	1 m	1 m
Water Depth (m)	111.3 m	114.3 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Array #3 and 4 off at SOL for recovery and maintenance
Only arrays 1 and 2 for the entire 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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>111</b>	<b>112</b>
<b>SP #</b>	<b>76795</b>	<b>77886</b>

<b>Line</b>	<b>MGL2104TD15D14A</b>
<b>Sequence</b>	<b>025</b>
<b>Direction</b>	<b>299.791</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	76795	77886
Date MM/DD/YY	06/22/21	06/22/21
Time UTC	02:15	07:28
Volume (cu in.)	3300 in3	6600 in3
Wind (kts)	N 6.2 kts	N 7 kts
Sea State (m)	1 m	1 m
Water Depth (m)	114.1 m	110 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Array #3 and 4 off at SOL for maintenance
Back to full volume after SP 77251

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	



<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>113</b>	<b>117</b>
<b>SP #</b>	<b>79238</b>	<b>82095</b>

<b>Line</b>	<b>MGL2104PD14</b>
<b>Sequence</b>	<b>026</b>
<b>Direction</b>	<b>270.5</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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
<b>SP</b>	79238	82095
<b>Date MM/DD/YY</b>	06/22/21	06/22/21
<b>Time UTC</b>	07:32	20:36
<b>Volume (cu in.)</b>	6600 in3	6600 in3
<b>Wind (kts)</b>	N 7 kts	N18.5 kts
<b>Sea State (m)</b>	1 m	1 m
<b>Water Depth (m)</b>	110 m	2959.1 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>118</b>	<b>119</b>
<b>SP #</b>	<b>82991</b>	<b>84106</b>

<b>Line</b>	<b>MGL2104TD14D13</b>
<b>Sequence</b>	<b>027</b>
<b>Direction</b>	<b>10.03</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	82991	84106
Date MM/DD/YY	06/22/21	06/23/21
Time UTC	21:04	02:09
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N16 kts	N17.7 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2956.7 m	2892.3 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>120</b>	<b>124</b>
<b>SP #</b>	<b>84151</b>	<b>87536</b>

Line	MGL2104PD13
Sequence	028
Direction	95.6

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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	84151	87536
Date MM/DD/YY	06/23/21	06/23/21
Time UTC	02:32	18:22
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N16.7 kts	N 10 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2909.2 m	90 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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	

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>125</b>	<b>135</b>
<b>SP #</b>	<b>94967</b>	<b>102340</b>

<b>Line</b>	<b>MGL2104PS01C</b>
<b>Sequence</b>	<b>029</b>
<b>Direction</b>	<b>355.2</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	94967	102340
Date MM/DD/YY	06/23/21	06/25/21
Time UTC	18:27	04:45
Volume (cu in.)	6600 in3	6240 in3
Wind (kts)	N 10 kts	N 10.0 kts
Sea State (m)	1 m	0.5 m
Water Depth (m)	90 m	139.3 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
EOL due to daylight shooting as per permit requirements

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
18:27	67317	94967	125	SOL MGL2104PS01C - 6600 in3; 36guns
21:32	67998	95648	126	BOT #126
21:55	68058	95708	126	Shut down for Marine Mammals
22:07	68101	95751	126	Begin Ramp up
22:28	68176	95826	126	Ramp up complete - 6600 in3; 36guns
23:59	68493	96143	126	Last shotpoint of the day
00:54	68679	96329	127	BOT #127
04:08	69360	97010	128	BOT #128
07:22	70041	97691	129	BOT #129
10:35	70722	98372	130	BOT #130
13:47	71403	99053	131	BOT #131
15:22		99402	131	Missed shot 99402 because of turn in line
16:55	72084	99735	132	BOT #132
19:02	72541	100192	132	Disabled gun 2-2 6240in3 - 35 guns
20:00	72753	100404	132	veering to port to avoid crab pot
20:03	72765	100416	133	BOT #133
20:03	72765	100416	133	Bridge notified main lab of small craft crossing 2miles behind stern
23:08	73446	101097	134	BOT #134
23:59	73638	101289	134	Midnight Shotpoint
02:15	74127	101778	135	BOT #135
03:56	74506	102157	135	Shut down for Marine Mammals, last full volume shot
04:03		102184	135	Missed shot while reconfiguring source
04:04	74533	102185	135	Start ramp up
04:24	74611	102263	135	Ramp up complete - 6240 in3; 35guns
04:45	74688	102340	135	EOL MGL2104PS01C - S2G2 disabled, 6240 in3 - 35 guns
				Line ended due to daylight only shooting as per permit requirements

# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>136</b>	<b>138</b>
<b>SP #</b>	<b>104161</b>	<b>105936</b>

<b>Line</b>	<b>MGL2104PS01D</b>
<b>Sequence</b>	<b>030</b>
<b>Direction</b>	<b>355.2</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	104237	105936
Date MM/DD/YY	06/25/21	6/25/21
Time UTC	12:58	20:48
Volume (cu in.)	6600 in3	3720 in3
Wind (kts)	SE 3 kts	NW 6.6 kts
Sea State (m)	1 m	1 m
Water Depth (m)	150 m	727.1 m

Cable	Dead Channels
1	1,9,13,24,56,81,519,529,541,549,573,589,621,637,645,646
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
Channels 278 and 282 noisy, dt to CRC trouble with LAUM 1748 and/or SSAS 1399
Line started at the beginning of ramp-up. First SP 104161 - 1 gun; vol = 40in3 - FGSP 104237 - 36 Guns 6600 in3
Streamer leakage failure after SP 105936, unable to get it powered back up, line aborted for streamer recovery
Last three files recorded (FFID 105934-105936) have only dead 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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>139</b>	<b>148</b>
<b>SP #</b>	<b>107361</b>	<b>113984</b>

<b>Line</b>	<b>MGL2104PS05</b>
<b>Sequence</b>	<b>031</b>
<b>Direction</b>	<b>341.8</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	107437	113984
Date MM/DD/YY	06/27/21	06/28/22
Time UTC	09:39	14:34
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 12 kts	N 15 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2300 m	2340 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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 at the beginning of ramp-up. First SP 107361 - 1 gun; vol = 40in3 - FGSP 107437 - 36 Guns 6600 in3

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	



<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>149</b>	<b>152</b>
<b>SP #</b>	<b>114186</b>	<b>116807</b>

<b>Line</b>	<b>MGL2104PD02</b>
<b>Sequence</b>	<b>032</b>
<b>Direction</b>	<b>48.0</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	12.0			
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ 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	15 s
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	114186	116807
Date MM/DD/YY	06/28/21	6/29/21
Time UTC	17:08	04:55
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	N 10 kts	NW 16.3 kts
Sea State (m)	1 m	0.5 m
Water Depth (m)	2350 m	103 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	





# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>153</b>	<b>154</b>
<b>SP #</b>	<b>117890</b>	<b>119052</b>

<b>Line</b>	<b>MGL2104PS02</b>
<b>Sequence</b>	<b>033</b>
<b>Direction</b>	<b>131</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	117968	119052
Date MM/DD/YY	06/29/21	06/30/21
Time UTC	19:18	00:19
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SE 12 kts	SW 8.8 kts
Sea State (m)	1 m	0.5 m
Water Depth (m)	150 m	127.8 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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 at the beginning of ramp-up. First SP 117890 - 1 gun; vol = 40in3 - FGSP 117968 - 36 Guns 6600 in3

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>155</b>	<b>160</b>
<b>SP #</b>	<b>119240</b>	<b>123000</b>

<b>Line</b>	<b>MGL2104PD03</b>
<b>Sequence</b>	<b>034</b>
<b>Direction</b>	<b>250.6</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	119240	123000
Date MM/DD/YY	06/30/21	06/30/21
Time UTC	00:28	17:38
Volume (cu in.)	6600 in3	6600 in3
Wind (kts)	SW 8.8 kts	N 35 kts
Sea State (m)	0.5 m	2 m
Water Depth (m)	123.3 m	2500 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise 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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>161</b>	<b>164</b>
<b>SP #</b>	<b>123387</b>	<b>125717</b>

<b>Line</b>	<b>MGL2104TD03D04</b>
<b>Sequence</b>	<b>035</b>
<b>Direction</b>	<b>142.6</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	14s
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	123387	125717
Date MM/DD/YY	06/30/21	07/01/21
Time UTC	20:19	07:12
Volume (cu in.)	4590 in3	4590 in3
Wind (kts)	N18.6 kts	N 20 kts
Sea State (m)	3 m	2.5 m
Water Depth (m)	2490.9 m	2600 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise at start
For this sequence, record length shortened to 14 seconds
Array #2 and gun 1-2 disabled at SOL
Streamer depth set to 13m due to weather conditions

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>165</b>	<b>170</b>
<b>SP #</b>	<b>125969</b>	<b>129520</b>

<b>Line</b>	<b>MGL2104PD04</b>
<b>Sequence</b>	<b>036</b>
<b>Direction</b>	<b>54.5</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	125969	129520
Date MM/DD/YY	07/01/21	07/02/21
Time UTC	07:36	00:26
Volume (cu in.)	4590 in3	6240 in3
Wind (kts)	N 25 kts	NW 18.8 kts
Sea State (m)	2.5 m	2 m
Water Depth (m)	2600 m	225.4 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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 a turn in the streamer. Birds near surface in middle of streamer during turn
Array #2 and gun 1-2 disabled at SOL. First SP at full volume 126048 (Array2 enabled, S1G2 still disabled, 6240in3, 35 guns)
Streamer depth at 13m due to weather conditions
EOL Early due to 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	





# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>171</b>	<b>176</b>
<b>SP #</b>	<b>129879</b>	<b>133513</b>

<b>Line</b>	<b>MGL2104PS07</b>
<b>Sequence</b>	<b>037</b>
<b>Direction</b>	<b>315.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	129879	133513
Date MM/DD/YY	07/02/21	07/02/21
Time UTC	00:46	22:32
Volume (cu in.)	6240 in3	4590 in3
Wind (kts)	NW 19.4 kts	N34 kts
Sea State (m)	3 m	3 m
Water Depth (m)	333.5 m	597.2 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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 a turn in the streamer.
Streamer front end and tail deep due to turn at start of line
Streamer kept at 13m because of sea conditions

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>177</b>	<b>179</b>
<b>SP #</b>	<b>134737</b>	<b>136280</b>

<b>Line</b>	<b>MGL2104RD02A</b>
<b>Sequence</b>	<b>038</b>
<b>Direction</b>	<b>232.8</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	134737	136280
Date MM/DD/YY	07/03/21	07/03/21
Time UTC	00:55	08:17
Volume (cu in.)	4590 in3	6240 in3
Wind (kts)	N35.8 kts	N 27 kts
Sea State (m)	3 m	2 m
Water Depth (m)	1810.7 m	2350 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Reshoot of line D02 to acquire missing shotpoints caused by marine mammal shutdown
Turn in streamer at SOL
Array #3 on deck at SOL - 02:05 SP 134997 we were back to 6240in3 35guns

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>180</b>	<b>182</b>
<b>SP #</b>	<b>137030</b>	<b>138552</b>

<b>Line</b>	<b>MGL2104TD02S04</b>
<b>Sequence</b>	<b>039</b>
<b>Direction</b>	<b>41.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	137030	138552
Date MM/DD/YY	07/03/21	07/03/21
Time UTC	09:27	17:27
Volume (cu in.)	6240 in3	4590 in3
Wind (kts)	N 25 kts	NW 25 kts
Sea State (m)	2.5 m	2.5 m
Water Depth (m)	2340 m	1900 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise and front birds deep (20 m) at SOL
Array 3 disabled after SP 137448 because of leak; 26 guns, 4590in3 for rest of the line
Streamer at 13m because of bad sea conditions

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>183</b>	<b>190</b>
<b>SP #</b>	<b>138756</b>	<b>143746</b>

<b>Line</b>	<b>MGL2104PS04</b>
<b>Sequence</b>	<b>040</b>
<b>Direction</b>	<b>172.1</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	138756	143746
Date MM/DD/YY	07/03/21	07/04/21
Time UTC	18:12	16:36
Volume (cu in.)	4590 in3	6240 in3
Wind (kts)	NW 30 kts	NW 25 kts
Sea State (m)	2.5 m	2.5 m
Water Depth (m)	2100 m	2650 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise and front birds deep (20 m) at SOL
Array 3 onboard at SOL: 26 guns, 4590in3 for start of the line
Array 3 deployed and all guns enabled at Shotpoint 139333 - 35 guns 6240in3
Streamer at 13m because of poor sea conditions

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





# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>191</b>	<b>192</b>
<b>SP #</b>	<b>143822</b>	<b>144816</b>

<b>Line</b>	<b>MGL2104TS04D05</b>
<b>Sequence</b>	<b>041</b>
<b>Direction</b>	<b>149.5</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
Streamer Depth (m)	13.0			
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	15 s
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	143822	144816
Date MM/DD/YY	07/04/21	07/04/21
Time UTC	16:43	21:36
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	NW 25 kts	NW 18.9 kts
Sea State (m)	2.5 m	2.5 m
Water Depth (m)	2622 m	2620 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
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
S1G2 disabled; 35 guns, 6240 in3
Array 3 disabled after SP 144226 because of autofire.
Array 3 back online after SP 144502
Streamer depth kept at 13m because of poor sea conditions

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



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>193</b>	<b>197</b>
<b>SP #</b>	<b>144892</b>	<b>147980</b>

<b>Line</b>	<b>MGL2104PD05</b>
<b>Sequence</b>	<b>042</b>
<b>Direction</b>	<b>58.8</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	144892	147980
Date MM/DD/YY	07/04/21	07/05/21
Time UTC	22:13	12:14
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	NW18.1 kts	NW 15 kts
Sea State (m)	2.5 m	1.5 m
Water Depth (m)	2608.8 m	572 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn in streamer at SOL
Streamer depth back to 12m

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>198</b>	<b>203</b>
<b>SP #</b>	<b>148115</b>	<b>151581</b>

<b>Line</b>	<b>MGL2104TD05D07</b>
<b>Sequence</b>	<b>043</b>
<b>Direction</b>	<b>149.0</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	148115	151581
Date MM/DD/YY	07/05/21	07/06/21
Time UTC	12:56	04:22
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	NW 16 kts	N19.4 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	450 m	518 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL

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



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>204</b>	<b>208</b>
<b>SP #</b>	<b>152155</b>	<b>155555</b>

<b>Line</b>	<b>MGL2104PD07</b>
<b>Sequence</b>	<b>044</b>
<b>Direction</b>	<b>265.8</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	152155	155555
Date MM/DD/YY	07/06/21	07/06/21
Time UTC	05:11	20:19
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	N 20 kts	N 20.6 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	1022.6 m	2600 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Birds #1 & # 2 deep at SOL
Missed a series of shots between SP 153862 and 153933 while speeding up to prevent a tanker from crossing the streamer

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

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>209</b>	<b>209</b>
<b>SP #</b>	<b>155631</b>	<b>156149</b>

<b>Line</b>	<b>MGL2104TD07D08</b>
<b>Sequence</b>	<b>045</b>
<b>Direction</b>	<b>166.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	155631	156149
Date MM/DD/YY	07/06/21	07/06/21
Time UTC	20:58	23:21
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	N 17.7 kts	NW 18 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	2609.5 m	2628.8 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Birds #1 & # 2 deep 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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>210</b>	<b>214</b>
<b>SP #</b>	<b>156538</b>	<b>159847</b>

<b>Line</b>	<b>MGL2104PD08</b>
<b>Sequence</b>	<b>046</b>
<b>Direction</b>	<b>82.3</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	156538	159847
Date MM/DD/YY	07/07/21	07/07/21
Time UTC	00:00	14:59
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	N 20 kts	NW 10 kts
Sea State (m)	1.5 m	1.5 m
Water Depth (m)	2625 m	580 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Birds #1 & # 2 deep 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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>215</b>	<b>218</b>
<b>SP #</b>	<b>160102</b>	<b>162730</b>

<b>Line</b>	<b>MGL2104TD08D06</b>
<b>Sequence</b>	<b>047</b>
<b>Direction</b>	<b>351.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	160102	162730
Date MM/DD/YY	07/07/21	07/08/21
Time UTC	15:27	03:42
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	NW 8 kts	NW 3.7 kts
Sea State (m)	1.5 m	1 m
Water Depth (m)	1000 m	471 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Front birds deep 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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



# Observers Log

Vessel	Marcus G. Langseth
Client	NSF - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>219</b>	<b>223</b>
<b>SP #</b>	<b>162951</b>	<b>166116</b>

<b>Line</b>	<b>MGL2104PD06</b>
<b>Sequence</b>	<b>048</b>
<b>Direction</b>	<b>255.3</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	162951	166116
Date MM/DD/YY	07/08/21	07/08/21
Time UTC	04:37	18:34
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	NW 5.6 kts	N 17 kts kts
Sea State (m)	1 m	1.5 m
Water Depth (m)	665.5 m	2450 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL

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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>224</b>	<b>226</b>
<b>SP #</b>	<b>166525</b>	<b>168549</b>

<b>Line</b>	<b>MGL2104PD06B</b>
<b>Sequence</b>	<b>049</b>
<b>Direction</b>	<b>74.08</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	166525	168549
Date MM/DD/YY	07/08/21	07/09/21
Time UTC	21:07	06:25
Volume (cu in.)	6240 in3	6240 in3
Wind (kts)	N 8.6 kts	N 12.6 kts
Sea State (m)	1 m	1 m
Water Depth (m)	2461.2 m	1450.7 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Front birds deep due to turn 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 - Carbotte
Area	Cascadia
Job Number	MGL2104

Shift	00:00-12:00	00:00-12:00	06:00-18:00
Science Officer		Shaun Shaver	
Acquisition	Gilles Guerin	Shaun Shaver	
Navigation	Cody Bahlau	Alan Thompson	

	<b>SOL</b>	<b>EOL</b>
<b>Tape #</b>	<b>227</b>	<b>233</b>
<b>SP #</b>	<b>168994</b>	<b>173217</b>

<b>Line</b>	<b>MGL2104PS06</b>
<b>Sequence</b>	<b>050</b>
<b>Direction</b>	<b>331.9</b>

Streamer Parameters				
	1	2	3	4
Length (m)	12000			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	190			
Group Interval: (m)	12.5			
Number of channels	960			
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	15 s
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	168994	173213
Date MM/DD/YY	07/09/21	07/10/21
Time UTC	06:57	01:30
Volume (cu in.)	6240 in3	5880 in3
Wind (kts)	N 10 kts	NW 17.3 kts
Sea State (m)	1 m	1 m
Water Depth (m)	1390 m	1359 m

Cable	Dead Channels
1	1,9,13,24,56,301,519,529,541,549,573,589,621,637,645,646
2	
3	
4	

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

General / Line Comments
Turn noise in streamer at SOL
Front birds deep due to turn at SOL
Last good SP was 173213 - the last four shots (SP173214-173217; FFID 134987-134990) were recorded during shutdown
Last sequence of MGL2104

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]