

Observers Log

Vessel	Marcus G. Langseth
Client	Stephen Jones
Area	IMPULSE OBS & MCS
Job Number	MGL2408

Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408001OPFe1
SEQUENCE	1
DIRECTION	96.0

	SP#
SOL	1012
EOL	1073

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	60s			
Offset COS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Description	SOL/FGSP	EOL/LGSP
SP	1012	1073
Date	08/07/24	08/07/24
Time UTC	16:44	17:45
Volume	4950 in3	3300 in3
Wind	S 7 kts	S 5 kts
Sea State	1 m	1 m
Water Depth	1431 m	1189 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

General / Line Comments
Array 3 disabled at start of line - 27 guns - 4950 in3
Bad Pressure DT and PT readings on strings 3 & 4. Corrected during the line.
Early end of line to correct some gun issues.

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Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408003OPFw1
SEQUENCE	3
DIRECTION	93.0

	SP#
SOL	4018
EOL	5771

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	60s			
Offset COS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Description	SOL/FGSP	EOL/LGSP
SP	4018	5771
Date	08/12/24	08/14/24
Time UTC	22:33:59	03:46:59
Volume	6600 in3	6240 in3 in3
Wind	S 6 kts	SW 11 kts
Sea State	1.5 m	1.5 m
Water Depth	2460 m	1510 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

General / Line Comments
S2G1 disabled after SP 4981 because of intermittent double pops. New Volume for the rest of the line: 35 guns - 6240 in3

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Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408004OPA1
SEQUENCE	4
DIRECTION	35.0

	SP#
SOL	6000
EOL	6144

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	60s			
Offset COS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Description	SOL/FGSP	EOL/LGSP
SP	6000	6144
Date	08/20/24	08/20/24
Time UTC	13:18:54	15:42:54
Volume	6600 in3	6600 in3
Wind	SW 26.6 kts	W 30 kts
Sea State	2.5 m	3 m
Water Depth	2637.8 m	2340 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

General / Line Comments
SP 6072 Disabled String 3 d/t broken soft tow, recovering to repair 27 guns 4950 in3
SP 6087 Enabled String 3 following repair 36 guns 6600 in3
SP 6107 Disabled String 2 to fix tow rope - 27 guns 4950 in3
SP 6125 Enabled array 2. Full Volume 6600 in3
Early end of line because of loose OBS rising to surface

Time UTC	SP	Description
13:18:54	6000	SOL MGL2408004OPA1 - 36 guns - 6600 in3
14:30:54	6072	Disabled String 3 d/t broken soft tow, recovering to repair
14:45:54	6087	Enabled String 3 following repair 36 guns 6600 in3
15:05:54	6107	Disabled array 2 due to the front tow rope: Volume 4950 in3
15:23:54	6125	Enabled array 2. Full Volume 6600 in3
15:42:54	6144	EOL MGL2408004OPA1 - 36 guns - 6600 in3
		Early EOL d/t loose OBS rising in water

Observers Log

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Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408005OPA2
SEQUENCE	5
DIRECTION	35.0

	SP#
SOL	7106
EOL	9631

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	60s			
Offset COS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Description	SOL/FGSP	EOL/LGSP
SP	7106	9631
Date	08/20/24	08/22/24
Time UTC	18:16:18	12:21:18
Volume	6600 in3	4590 in3
Wind	W 26 kts	NW 20 kts
Sea State	3 m	2 m
Water Depth	2180 m	955 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

General / Line Comments
This line is a continuation, with ~5k overlap, of sequence 4 MGL2408004OPA1
SP 7231 All Guns missed firing
S1G1 disabled at SP 7302. Maximum volume hereafter: 35 guns, 6240 in3
SP: 8519 Disabled Array 3 due to broken separation rope - 27 guns, 4590 in3
SP: 8543 Enabled Array 3: back to 35 guns, 6240 in3
Early end of line after gun S2G4 started autofiring

Observers Log

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Job Number	MGL2408

Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408006OPA3
SEQUENCE	6
DIRECTION	35.0

	SP#
SOL	10540
EOL	12151

Streamer Parameters				
	1	2	3	4
Length (m)	NA			
Auxiliaries	NA			
Shotpoint Interval: (m)	60s			
Offset COS - CNG (m)	NA			
Group Interval: (m)	NA			
Number of channels	NA			
Streamer Depth (m)	NA			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Description	SOL/FGSP	EOL/LGSP
SP	10540	12151
Date	08/22/24	08/23/24
Time UTC	15:00:05	17:51:05
Volume	6240 in3	6240 in3
Wind	NW 22 kts	W 27 kts
Sea State	2.5 m	2.5 m
Water Depth	1232.3 m	560 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

General / Line Comments
This line is a continuation, with ~5k overlap, of sequence 5 MGL2408005OPA2
Gun S1G1 disabled before SOL - Max volume: 35 guns 6240 in3
LGSP d/t Whale in exclusion zone: SP 12151. Two additional shots were triggered and recorded by orca with sources disabled.

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Job Number	MGL2408

Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408007MPA1
SEQUENCE	7
DIRECTION	35.0

	SP#	FFID	Raw SegD
SOL	19247	1	NA
EOL	25820	6559	NA

Streamer Parameters				
	1	2	3	4
Length (m)	1500			
Auxiliaries	28			
Shotpoint Interval: (m)	50			
Offset COS - CNG (m)	178.2			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	15			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Recording Parameters	
Record Length	20 s
Total recording delay	0
Sample Rate	2 ms
Polarity	SEGD standard
Low-Cut	3Hz analog
Hi-Cut	200Hz, 270dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	19247	25820
Date	08/29/2024	08/31/2024
Time UTC	17:03	07:27
Volume	6600 in3	6380 in3
Wind	S 16 kts	S 24 kts
Sea State	1.5 m	2 m
Water Depth	1746.9 m	1350 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

Dead/bad channels
61,69,97,121,145,156,169,191,193,217,229,297,369,537,573,620,624, 776,837,853,885,1072,1076,1177,1185,1191

General / Line Comments
Sources disabled to address compressor failure: SP 22250-22282 and 22294-22303
Disabled S3G9 d/t sensor line leakage issues causing false autofires 35 guns 6380 in3 @ SP 22658
SP 23032 - Lost communications with tailbuoy; SP 23753 - Tail buoy Comms restored - Using the 4DX system
Line ended early to avoid incoming weather

Time UTC	FFID	SP	Description
17:03	1	19247	SOL MGL2408007MPA1 - 36 guns - 6600 in3
23:59	1182	20428	Last shot, 08/29
01:14		20650	Missed shot because of speed
01:16		20655	Missed shot because of speed
01:16		20657	Missed shot because of speed
05:40		21427	Missed shot because of speed
10:10	2960	22210	Compressor failure - pressure down to ~1500psi
10:23	3000	22250	All sources disabled to swap compressors - LGSP 22249
10:40	3033	22283	Back to full volume after restoring pressure. 36 guns - 6600 in3 - FGSP 22283
10:45	3044	22294	Pressure still not sorted - disabling all sources - LGSP 22293
10:50	3054	22304	Back to full volume. 36 guns - 6600 in3 - FGSP 22304
12:38	3360	22609	Inverted NFH 4-1
12:54	3408	22658	Disabled S3G9 d/t sensor line leakage causing false autofires - 35 guns 6380in3
15:05	3782	23032	Lost Comms to Tailbuoy
18:12	4324	23574	Tailbuoy Comms Restored using 4DX
22:27		24306	Missed shot because of speed
22:35		24330	Missed shot because of speed
22:48		24369	Missed shot because of speed
22:48		24371	Missed shot because of speed
22:49		24374	Missed shot because of speed
22:50		24377	Missed shot because of speed
22:51		24379	Missed shot because of speed
22:52		24381	Missed shot because of speed
22:52		24383	Missed shot because of speed
22:53		24385	Missed shot because of speed
22:54		24387	Missed shot because of speed
23:59	5317	24578	Last shot, 08/30
07:27	6559	25820	EOL MGL2408007MPA1 - S3G9 disabled - 35 guns - 6380 in3

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Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408008MPFew1
SEQUENCE	8
DIRECTION	93.5

	SP#	FFID	Raw SegD
SOL	29400	6560	NA
EOL	37950	15095	NA

Streamer Parameters				
	1	2	3	4
Length (m)	1500			
Auxiliaries	28			
Shotpoint Interval: (m)	50			
Offset COS - CNG (m)	178.2			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	15			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Recording Parameters	
Record Length	20 s
Total recording delay	0
Sample Rate	2 ms
Polarity	SEGD standard
Low-Cut	3Hz analog
Hi-Cut	200Hz, 270dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	29400	37950
Date	09/02/24	09/05/24
Time UTC	21:19	02:21
Volume	6600 in3	6540 in3
Wind	W 7.3 kts	SW 31 kts
Sea State	2 m	2.5 m
Water Depth	2613.3 m	2270 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

Dead/bad channels
61,69,97,121,145, 146, 156,163, 169,191,193,194, 217,229,271, 297,338, 369,397, 537,573,620,624,776, 837, 853, 885, 1072, 1076, 1177, 1185, 1191

General / Line Comments
Occasional timing errors on S3G4, S4G1, S4G7. Multiple apparent no firing on S3G7
Reduced Volume from SP 33116 to 33166 (18 guns 3300 in3) to fix tow rope failure
Recording system glitch: SP 33129-33138 (FFID 10287-10296) - only every other trace in SEG D
Shooting gap to swap S3G7 channels - SP 35787 - 35801 No guns fired
Disabled S3G7 d/t No fires @ SP 36335 - 35 guns 6540 in3 until end of line

Time UTC	FFID	SP	Description
21:19	6579	29398	SOL MGL2408008MPFew1 - 36 guns - 6600 in3
23:59	6984	29824	Last shot of the day, 09/02
02:17	7334	30174	No navigation message (external header) received from Orca - apparent timing error
08:16		31139	Missed shot because of speed
14:25	8182	32182	Disabled S3G7 for troubleshooting - 35 guns 6540 in3
14:25	8183	32183	S3G7 re-enabled 36 guns 6600 in3
18:48		32942	Missed shot because of speed
19:51	10274	33117	Strings 3 & 4 disabled to repair broken tow rope - 18 guns 3300 in3
19:56-20:00	10287-10296	33129-33138	Seal recording system glitch - bad SPs - every other trace null
20:01		33139	Missed shot while restarting acquisition on Seal
20:14	10324	33167	Strings 3 & 4 enabled following repair - 36 guns 6600 in3
23:59	10942	33785	Last shot of the day, 09/03
12:28	12943	35786	LSP before disabling shooting to swap S3G7 channels - no guns firing
12:33	12944-12946	35799-35801	Shooting enabled without sources - invalid shots
12:34	12947	35802	FGSP after reneabling sources - 36 Guns 6600 in3
15:56	13481	36335	Disabled S3G7 d/t no fires - 35 guns 6540 in3
23:59	14699	37554	Last shot of the day, 09/04
02:21	15095	37950	EOL MGL2408008MPFew1 - S3G7 disabled - 35 guns - 6540 in3

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Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408009MPT12
SEQUENCE	9
DIRECTION	191.0

	SP#	FFID	Raw SegD
SOL	39016	15096	NA
EOL	39390	15470	NA

Streamer Parameters				
	1	2	3	4
Length (m)	1500			
Auxiliaries	28			
Shotpoint Interval: (m)	50			
Offset COS - CNG (m)	178.2			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	20			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Recording Parameters	
Record Length	20 s
Total recording delay	0
Sample Rate	2 ms
Polarity	SEGD standard
Low-Cut	3Hz analog
Hi-Cut	200Hz, 270dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	39016	39390
Date	09/05/24	09/05/24
Time UTC	03:10	05:43
Volume	6540 in3	6540 in3
Wind	SW 32 kts	SW 30 kts
Sea State	2.5 m	2.5 m
Water Depth	2300 m	2340 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

Dead/bad channels
61,69,97,121,145, 146, 156,163, 169,191,193,194, 217,229,271, 297,338, 369,397, 537,573,620,624,776, 837, 853, 885, 1072, 1076, 1177, 1185, 1191

General / Line Comments
Transit line between lines PF and PD7
S3G7 disabled - 35 guns - 6540 in3
Streamer at 20 m to deal with current and wind
Turn noise propagating down the streamer

Observers Log

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Shift	00:00-12:00	12:00-24:00
Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408010MPD71
SEQUENCE	10
DIRECTION	279.0

	SP#	FFID	Raw SegD
SOL	40680	15471	NA
EOL	44862	19653	NA

Streamer Parameters				
	1	2	3	4
Length (m)	1500			
Auxiliaries	28			
Shotpoint Interval: (m)	50			
Offset COS - CNG (m)	178.2			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	15			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Recording Parameters	
Record Length	18
Total recording delay	0
Sample Rate	2 ms
Polarity	SEGD standard
Low-Cut	3Hz analog
Hi-Cut	200Hz, 270dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	40680	44862
Date	09/05/24	09/06/24
Time UTC	07:15	12:56
Volume	6540 in3	6540 in3
Wind	SW 28 kts	SW 29.4 kts
Sea State	2.5 m	2.5 m
Water Depth	2380 m	1070.5 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

Dead/bad channels
61,69,97,121,145, 146, 156,163, 169,191,193,194, 217,229,271, 297,338, 369,397, 537,573,620,624,776, 837, 853, 885, 1072, 1076, 1177, 1185, 1191

General / Line Comments
Record length reduced to 18 s to allow more flexibility with speed
S3G7 disabled through entire sequence. Starting source: 35 guns - 6540 in3
Front half of streamer deep at SOL (~17 m) - then deeper in the middle section. Streamer was fully at 15m after 10:30am - i.e. SP ~41141
Turn noise and swell noise at start of line. Swell noise throughout line.
Turn noise @ EOL from SP 44830

Observers Log

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Science Officer	Cody Bahlau	
Acquisition	Gilles Guérin	Riley Lopez
Navigation	Koray Ergun	Cody Bahlau

LINE	MGL2408011MPA2
SEQUENCE	11
DIRECTION	34.4

	SP#	FFID	Raw SegD
SOL	46177	19654	NA
EOL	47797	21274	NA

Streamer Parameters				
	1	2	3	4
Length (m)	1500			
Auxiliaries	28			
Shotpoint Interval: (m)	50			
Offset COS - CNG (m)	178.2			
Group Interval: (m)	12.5			
Number of channels	1200			
Streamer Depth (m)	15			

Source Parameters	
Total Volume	Bolt Guns 6600 in3
Work Pressure	1900psi +/- 100psi
Dual Source	no
Depth	12
Sub-array Separation	6
COS to COS	Single Source

Recording Parameters	
Record Length	18
Total recording delay	0
Sample Rate	2 ms
Polarity	SEGD standard
Low-Cut	3Hz analog
Hi-Cut	200Hz, 270dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	46177	47797
Date	09/06/24	09/07/24
Time UTC	13:45	00:05
Volume	6540 in3	4890 in3
Wind	S 27 kts	SW 25 kts
Sea State	2.5 m	3 m
Water Depth	1004.5 m	585 m

Abbreviations
SOL/EOL: Start/End of Line
FGSP/LGSP: First/Last Good SP
SnGm: array/string n, gun m

Dead/bad channels
61,69,97,121,145, 146, 156,163, 169,191,193,194, 217,229,271, 297,338, 369,397, 537,573,620,624,776, 837, 853, 885, 1072, 1076, 1177, 1185, 1191

General / Line Comments
Record length reduced to 18 s to allow more flexibility with speed
S3G7 disabled through entire sequence. Starting source: 35 guns - 6540 in3
Middle 1/3 of streamer deep at SOL (~25 m) - Streamer all in spec @ SP 46283
Turn noise and swell noise at start of line. Swell noise throughout line.
Array 2 disabled because of autofire - final volume 26 guns - 4890 in3 - starting SP 47017 - no autofire signature after SP 47032

