

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus		
Science Officer	Todd Jensvold		
Acquisition Leader	Gilles Guerin 12:00-00:00	Todd Jensvold 00:00-12:00	
Navigation Leader	Alan Thompson 12:00-00:00	Ambrose Mavor-Parker 00:00-12:00	

	SOL	EOL
Tape #	na	NA
SP #	937	1546

Line	MGL1708OBS02
Sequence	01
Direction	130

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

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9.0
Sub-array Separation	6 m
COS to COS	Single Source

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

Description	SOL/FGSP	EOL/LGSP
SP	937	1546
Date MM/DD/YY	11/01/17	11/02/17
Time UTC	17:23	04:16
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE 10-15m	NE 18kts
Sea State (m)	1m	1-2kts
Water Depth (m)	340.25m	45m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
DigiShot lockup for three sps.
DigiShot lockup for 2 sps/ then sync errors next 3sps
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

Observers Log	
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Navigation Leader	Alan Thompson 12:00-00:00	Ambrose Mavor-Parker 00:00-12:00	

	SOL	EOL
Tape #	na	NA
SP #	1710	2395

Line	MGL1708OB02
Sequence	02
Direction	211

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

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9.0
Sub-array Separation	6 m
COS to COS	Single Source

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

Description	SOL/FGSP	EOL/LGSP
SP	1710	2395
Date MM/DD/YY	11/02/17	11/03/17
Time UTC	17:23	05:55
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N 20m	N 16kts
Sea State (m)	1m	1.5m
Water Depth (m)	1096.3m	85m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments	
SOL NOISY CHANNELS	
EOL NOISY CHANNELS	

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

Observers Log	
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Chief Science Officer	Robert Steinhaus		
Science Officer	Todd Jensvold		
Acquisition Leader	Gilles Guerin 12:00-00:00	Todd Jensvold 00:00-12:00	
Navigation Leader	Alan Thompson 12:00-00:00	Ambrose Mavor-Parker 00:00-12:00	

Line	MGL1708OB09
Sequence	03
Direction	129

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9.0
Sub-array Separation	6 m
COS to COS	Single Source

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

Cable	Dead Channels
1	
2	
3	
4	

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

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

Time UTC	SP	Description
06:47	2450	SOL MGL1708OB09 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)
07:33	2494	Crossed OBS 110
08:34	2554	Crossed OBS 111
09:16	2595	XBT-T7 Seq003
09:36	2615	Crossed OBS 112
10:38	2675	Crossed OBS 113
11:39	2735	Crossed OBS 114
12:42	2795	Crossed OBS 115
13:42	2855	Crossed OBS 116
14:44	2915	Crossed OBS 117
15:46	2975	Crossed OBS 118
16:47	3035	Crossed OBS 119
17:48	3095	Crossed OBS 120
18:49	3155	Crossed OBS 121
19:50	3215	Crossed OBS 122
20:51	3275	Crossed OBS 123
21:52	3335	Crossed OBS 124
22:52	3395	Crossed OBS 125
23:54	3455	Crossed OBS 126
00:55	3515	Crossed OBS 127
01:34	3553	EOL MGL1708OB09 6600in3 (S1G5, S2G5, S3G5, & S4G5 Spares)

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Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	1	8
SP #	3582	7164

Line	MGL1708MC10
Sequence	04
Direction	307.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1050			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	3582	7164
Date MM/DD/YY	11/04/17	11/05/17
Time UTC	21:18	19:00
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NW 12kts	NW 14kts
Sea State (m)	1.5m	0-1m
Water Depth (m)	3649.6m	70.1m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
File 1 on tape 1 not valid
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261

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

EOL NOISY CHANNELS

<i>NDR - No Data Recorded</i>

<i>ITB - Internal Time Break</i>

<i>N.T.B.P. - Not To Be Processed</i>

Time UTC	FILE	SP	Tape	Description
21:18	2	3582	1	SOL MGL1708MC10 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)
00:37	500	4080	1	EOT #1
00:38	501	4081	2	BOT #2
03:40	1000	4580	2	EOT #2
03:41	1001	4581	3	BOT #3
06:36	1500	5080	3	EOT #3
06:37	1501	5081	4	BOT #4
09:36	2000	5580	4	EOT #4
09:36	2001	5581	5	BOT #5
12:37	2500	6080	5	EOT #5
12:37	2501	6081	6	BOT #6
15:32	3000	6580	6	EOT #6
15:32	3001	6581	7	BOT #7
17:33	3347	6927	7	Turning 20 degrees to avoid rock obstruction. Turn noise on cable.
18:10	3451	7031	7	Turn noise NLV
18:30	3500	7081	7	EOT #7
18:30	3501	7082	8	BOT #8
19:00	3584	7164	8	EOL MGL1708MC10 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)

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Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	9	9
SP #	7219	7569

Line	MGL1708MC11
Sequence	05
Direction	45.2

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1050			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	7219	7569
Date MM/DD/YY	11/05/17	11/05/17
Time UTC	19:24	21:28
Volume (cu in.)	6600in3	6600in3
Wind (kts)	W 14kts	NW 14kts
Sea State (m)	0-1m	0-1m
Water Depth (m)	70.4m	89.19m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise in the cable at BOL
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261

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

EOL NOISY CHANNELS

<i>NDR - No Data Recorded</i>

<i>ITB - Internal Time Break</i>

<i>N.T.B.P. - Not To Be Processed</i>

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Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	10	27
SP #	7628	16440

Line	MGL1708MC12
Sequence	06
Direction	211.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1050			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	7628	16440
Date MM/DD/YY	11/05/17	11/08/17
Time UTC	23:32	09:21
Volume (cu in.)	6600in3	6440in3
Wind (kts)	S 12kts	NNE15kts
Sea State (m)	0-1m	1.5m
Water Depth (m)	118m	2530m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise in the cable at BOL
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261
S3G2 Displays No Fire error. Gun volume is reported as 6240ci. There were timing errors on S3G2 from 15:38 to 21:36
S1G2, S1G7 and S3G10 display delta timing errors on occasions after SP 15000
Swell noise visible sps ~12500-thru-14000
Swell noise significant ~14000-thru-

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

EOL NOISY CHANNELS

<i>NDR - No Data Recorded</i>

<i>ITB - Internal Time Break</i>

<i>N.T.B.P. - Not To Be Processed</i>

Time UTC	FILE	SP	Tape	Description
23:32:52	3936	7628	10	SOL MGL1708MC12 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)
00:38:46	4117	7809	10	SEAL streamer telemetry error - first shot with error - only half of traces seem recorded
00:45:46	4136	7828	10	turning off streamer 2 and powering it back up - last shot
		7829-7834	10	missed shots
00:48:19	4137	7835	10	first good shot with streamer back online
01:46			10	initiating port side turn to avoid shallows
02:14			10	starting turn to starboard (211) to resume course
02:54			10	resuming original line course
02:41:18	4435	8133	10	EOT #10
02:41:40	4436	8134	11	BOT #11
05:39:04	4935	8633	11	EOT #11
05:39:24	4936	8634	12	BOT #12
07:12			12	initiating port side turn to avoid shallow waters
08:33:55	5435	9133	12	EOT #12
08:34:18	5436	9134	13	BOT #13
11:16			13	initiating stbd turn to resume line course
12:17			13	back on line
11:48	5935	9633	13	EOT #13
11:49	5936	9634	14	BOT #14
15:09	6435	10133	14	EOT #14
15:09	6436	10134	15	BOT #15
15:38		10214	15	S3G2 Displays No Fire error. Gun volume is reported as 6240ci. There were timing errors on S3G2
18:12	6935	10633	15	EOT #15
18:13	6936	10634	16	BOT #16
21:20	7435	11133	16	EOT #16
21:20	7436	11134	17	BOT #17
21:36	7389	11187	17	Disabled S3G2, Enabled S3G5; New Gun Volume: 6420ci
00:07:16	7935	11633	17	EOT #17
00:07:36	7936	11634	18	BOT #18
02:53:31	8435	12133	18	EOT #18
02:53:51	8436	12134	19	BOT #19
03:21		12217	19	missed shot 12217 because of speed (although time between shots was 20 seconds)

03:30		12244	19	missed shot 12244 because of speed (although time between shots was 20 seconds)
05:29		12591	19	missed shot 12591 because of speed (although time between shots was 20 seconds)
05:44:38	8935	12636	19	EOT #19
05:44:58	8936	12637	20	BOT #20
05:49		12651	20	missed shot 12651 because of speed (although time between shots was 20 seconds)
08:15		~13044	20	S1G7 displays auto fire error at ~08:15 - i.e. SP ~13044
08:50:48	9435	13137	20	EOT #20
08:51:11	9436	13138	21	BOT #21
09:28		13234	21	S1G7 displays auto fire error at ~09:28 - i.e. SP ~13234
09:35		13252	21	S1G7 displays auto fire error at ~09:35 - i.e. SP ~13252
09:46		13281	21	S3G10 displays auto fire error at ~09:46 - i.e. SP ~13281
12:11	9935	13637	21	EOT #21
12:11	9936	13638	22	BOT #22
15:21	10435	14137	22	EOT #22
15:21	10436	14138	23	BOT #23
18:36	10935	14637	23	EOT #23
18:37	10936	14638	24	BOT #24
22:31	11435	15137	24	EOT #24
22:32	11436	15138	25	BOT #25
22:51		15172-15173	25	Missed sps 15172, 15173 because of navigation problems
02:07			25	several shots with delta timing error on S1G7
02:16			25	several shots with delta timing error on S1G2
02:23			25	several shots with delta timing error on S3G10
02:35			25	several shots with auto fire error on S3G10
02:43			25	several shots with auto fire error on S3G10
02:55			25	several shots with delta timing error on S1G2 & S3G10
03:01:16	11935	15639	25	EOT #25
03:01:50	11936	15640	26	BOT #26
05:32:24	12197	15901	26	Spared S1G2, S1-4G3, S1,2,4G5 on - New volume 6440 in3, 32 guns
07:02:49	12389	16093	26	Last full volume sp, power down d/t seal sighting
07:03		16094	26	Missed SP d/t reconfiguring source
07:03:44	12390	16095	26	first shot point on mitigation gun
07:20		16135-16137	26	missed shots 16135-16137 while configuring ramp up
07:22			26	Beginning of soft start

[illegible]

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Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	28	28
SP #	16543	16896

Line	MGL1708MC14
Sequence	07
Direction	330.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	75			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1050			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	16546	16896
Date MM/DD/YY	11/8/17	11/8/17
Time UTC	9:33	12:19
Volume (cu in.)	6520in3	6520in3
Wind (kts)	NE 15kts	N 15kts
Sea State (m)	3m	4.5m
Water Depth (m)	2530m	1036m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise in the cable at BOL
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261
Shot point interval 75 m
Swell and turn noise significant throughout

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

EOL NOISY CHANNELS

<i>NDR - No Data Recorded</i>

<i>ITB - Internal Time Break</i>

<i>N.T.B.P. - Not To Be Processed</i>

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	29	30
SP #	17027	17725

Line	MGL1708MC15
Sequence	08
Direction	49.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1050			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	17027	17725
Date MM/DD/YY	11/08/17	11/08/17
Time UTC	12:31	16:49
Volume (cu in.)	3260in3	6600in3
Wind (kts)	N15kts	NW 16kts
Sea State (m)	1.5m	1.5m
Water Depth (m)	1207m	827m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise in the cable at BOL
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261
Shot point interval 50 m
Multiple Gun Volumes
Swell and turn noise significant throughout

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

EOL NOISY CHANNELS

<i>NDR - No Data Recorded</i>

<i>ITB - Internal Time Break</i>

<i>N.T.B.P. - Not To Be Processed</i>

Time UTC	FILE	SP	Tape	Description
12:31	13073	17027	29	SOL MGL1708MC15 - Volume 3260 in3 (S1G2, S1G3 spared. S3 and S4 spared for recovery/maint.)
12:31				String 3 in progress of being recovered at SOL
12:40				String 3 onboard, begin recovery string 4
13:00				String 4 onboard
13:34				Maint. complete, deploying S4
13:51				S4 in position, deploying S3
14:10	17270		29	SP 17270 last SP at 3260 in3. Reconfiguring for testing
	17271		29	Missed SP 17271 while reconfiguring
14:10	17272		29	Testing all strings, vol 6560 in3 (S1G2 S1G3 S3G5 S4G5 spared)
14:13	17280		29	String 3 and 4 tested good, strings 1 and 2 spared for recovery/maint. Vol 3300 in3
14:14				Begin recovery string 2
14:30				Begin recovery string 1
14:57				Strings 1 and 2 onboard
15:22				Missed SP 17477 d/t current speed swings
15:26				Deploying string 1
15:28				Missed SP 17496 d/t current speed swings (slowed down)
15:35				String 1 in position. Deploying string 2
15:35				Missed SP 17519 d/t current speed swings
15:40				Missed SP 17532 d/t current speed swings (slowed down again)
15:48				All strings deployed
15:49		17557	29	Last SP at 3300 in3
15:49		17558		Missed SP 17558 while reconfig
15:50		17559	29	First SP at full volume 6600 in3. (S1G5, S2G5, S3G5, & S4G5 Spares)
15:56		17578		Missed SP 17578 d/t current speed swings
16:04		17600		O69
16:49	13763	17725	30	EOL MGL1708MC15 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)

Observers Log

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Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	31	33
SP #	17804	18995

Line	MGL1708OB16
Sequence	09
Direction	129.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	150			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	17804	18995
Date MM/DD/YY	11/08/17	11/09/17
Time UTC	16:54	13:56
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NW 15kts	NW 16kts
Sea State (m)	1.5m	15m
Water Depth (m)	933m	2384.4m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise in the cable at BOL
Noisy traces: 941
Quiet traces: 24, 60, 69, 120, 142, 144, 237, 240, 262, 300, 333
Dead traces: 13, 21, 45, 93, 117, 141, 189, 261
Shot point interval 150 m

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
16:54	13764	17804	31	SOL MGL1708OB16 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)
17:08	13779	17817	31	Disabled S3G10, Enabled S3G5 New Gun Volume 6560; Multiple delta errors on S3G10 from SOL
19:29			31	Disabled S4G10, S4G3, S3G6; Enabled S4G5, S2G5; New Gun Volume 6570 in3; Multiple errors on
20:13	13935	17973	31	Powerdown for seal; last good SP 17973
20:33		17988	31	Begin soft start
20:56	13981	18006	31	Back to Full Gun Volume 6600 in3. 35 Guns. (S1G5, S3G10, S3G8, S4G3, S4G10 spares)
22:16	14050	18071	31	Powerdown for seal; last good SP 18071
22:35	14064	18086	31	Begin soft start
22:57	14097	18104	31	Back to Full Gun Volume 6600 in3. 35 Guns. (S1G5, S3G10, S3G8, S4G3, S4G10 spares)
01:20	14215	18219	31	power down for seal - last shot at full volume 18219
01:21		18220	31	missed shot while powering down
01:38	14230	18235	31	start ramp up - first shot 18235
01:48	14245	18244	31	rampup interrupted for more seal - back to mitigation gun 40 in - last shot of rampup 18244 - 1420 in3
02:05		18620	31	start ramp up - first shot 18260
02:06	14263	18261	31	EOT #31
02:06	14264	18261	32	BOT #32
02:25:25	14296	18279	32	last shot of ramp up
02:25:59	14297	18280	32	first good SP after ramp up - back to 6600 in3 (S1G5, S3G10, S3G8, S4G3, S4G10 spare)
06:45	14549	18531	32	power down for seal - last shot at full volume 18531 - missed SP 18532
07:01	14563	18546	32	start ramp up
07:22:50	14599	18577	32	first good SP after ramp up - back to 6600 in3 (S1G5, S3G10, S3G8, S4G3, S4G10 spare)
09:58	14763	18731	32	EOT #32
09:59	14764	18732	33	BOT #33
14:56	15027	18995	33	EOL MGL1708OB16 - Gun Volume 6600 in3. 35 Guns. (S1G5, S3G10, S3G8, S4G3, S4G10 spares)

Observers Log	
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Chief Science Officer	Robert Steinhaus		
Science Officer	Todd Jensvold		
Acquisition Leader	Gilles Guerin 12:00-00:00	Todd Jensvold 00:00-12:00	
Navigation Leader	Alan Thompson 12:00-00:00	Ambrose Mavor-Parker 00:00-12:00	

Line	MGL1708OB18
Sequence	010
Direction	034

Source Parameters	
Total Volume	6600 in3
Work Pressure	1950psi +/- 100psi
Dual Source	No
Depth	9.0
Sub-array Separation	6 m
COS to COS	Single Source

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

Cable	Dead Channels
1	
2	
3	
4	

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

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 - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	34	54
SP #	22190	31346

Line	MGL1708MC40
Sequence	011
Direction	211.7

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	22190	31346
Date MM/DD/YY	11/13/2017	11/15/2017
Time UTC	7:30	13:13
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S13kts	N 12kts
Sea State (m)	1.5m	1m
Water Depth (m)	3583m	1334.12m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
Tapes 34-36 have 4032 channels per file - good channels (streamer 2) are 2017-3024
1

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

Time UTC	Time UTC	Time UTC	Time UTC	Description
07:30	15028	22190	34	SOL MGL1708MC40 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)
07:31	15030	22192	34	EOT #34 after crash from the Seisnet tape emulator
07:31	15031	22193	35	New tape number after restarting tape emulator - no data lost
07:38		22214	35	Missed SP 22214
07:48		22243	35	Missed SP 22243
07:55	15099	22263	35	EOT #35 - LMP error - data not exported anymore
07:55-08:00		22263-22276	36	BOT #36 - SP 22263-22276 were recorded during failure and exported to tape 36
	15113-15116	22277-22357	36	Missed SP 22277-22357 - no FFID 15113-15116
08:27		22358	36	First shot point after restoring acquisition
08:36		22384	36	Missed SP 22384
08:46		22413	36	Missed SP 22413
08:59		22451	36	Missed SP 22451
09:06		22474	36	Missed SP 22474
09:14		22497	36	Missed SP 22497
09:18		22510	36	Missed SP 22510
09:20	15269	22516	36	EOT #36 -Last file with 4032 channels
		22517-22521		missed shots 22517-22521 while reconfiguring streamer
09:22	17270	22522	37	First shot with 1008 channels
09:27		22536	37	Missed SP 22536
09:32		22550	37	Missed SP 22550
09:36		22563	37	Missed SP 22563
09:40		22576	37	Missed SP 22576
09:43		22585	37	Missed SP 22585
09:47		22596	37	Missed SP 22596
09:53		22615	37	Missed SP 22615
09:57		22627	37	Missed SP 22627
10:03		22644	37	Missed SP 22644
10:07		22656	37	Missed SP 22656
10:11		22668	37	Missed SP 22668
10:16		22682	37	Missed SP 22682
10:22		22702	37	Missed SP 22702
10:29		22721	37	Missed SP 22721
10:38		22750	37	Missed SP 22750
10:51		22788	37	Missed SP 22788
11:04		22827	37	Missed SP 22827
11:28		22898	37	Missed SP 22898
12:17	15770	23040	38	BOT #38
12:31		23080	38	Missed SP 23080

12:48		23132	38	Missed SP 23132
13:06		23183	38	Missed SP 23183
13:33		23260	38	Missed SP 23260
13:39		23280	38	Missed SP 23280
13:57		23330	38	Missed SP 23330
15:15		23546	38	Missed SP 23546
15:15	16270	23547	39	BOT #39
15:23		23571	39	Missed SP 23571
15:33		23598	39	Missed SP 23598
15:41		23620	39	Missed SP 23620
18:12		24047	39	Missed SP 24047
18:13	16770	24501	40	BOT #40
18:20		24070	40	Missed SP 24070
18:34		24110	40	Missed SP 24110
19:02		24189	40	Missed SP 24189
19:40		24297	40	Missed SP 24297
21:13	17270	24557	41	BOT #41
22:57		24847	41	Missed SP 24847
23:03		24864	41	Missed SP 24864
23:12	16270	24889	41	Missed SP 24889
23:17		24905	41	Missed SP 24905
00:13	17770	25061	42	BOT #42
03:11	18270	25561	43	BOT #43
06:07	18770	26061	44	BOT #44
06:55		26199	44	Missed SP 26199
09:04	19270	26562	45	BOT #45
12:02	19770	27062	46	BOT #46
15:01	20270	27562	47	BOT #47
21:01	20770	28062	48	BOT #48
20:59	21270	28562	49	BOT #49
23:55	21770	29062	50	BOT #50
02:53	22270	29562	51	BOT #51
05:49	22770	30062	52	BOT #52
08:44	23270	30562	53	BOT #53
09:58		30777	53	Missed SP 30777
10:05		30799	53	Missed SP 30799
10:14		30824	53	Missed SP 30824
10:23		30852	53	Missed SP 30852
10:31		30876	53	Missed SP 30876
10:42		30908	53	Missed SP 30908

10:54		30942	53	Missed SP 30942
11:00		30960	53	Missed SP 30960
11:06		30979	53	Missed SP 30979
11:13		30999	53	Missed SP 30999
11:20		31021	53	Missed SP 31021
11:26		31038	53	Missed SP 31038
11:34		31063	53	Missed SP 31063
11:38		31075	54	BOT #54
12:13		31179	54	Missed SP 31079
13:13	24035	31346	54	EOL MGL1708MC40 - Volume 6600 in3 (S1G5, S2G5, S3G5, & S4G5 Spares)

Observers Log

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Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	55	58
SP #	31352	33486

Line	MGL1708MC41
Sequence	012
Direction	24.0

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	31352	33486
Date MM/DD/YY	11/15/2017	11/16/2017
Time UTC	14:39	04:20
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N 7kts	N20kts
Sea State (m)	1m	1m
Water Depth (m)	1790.15m	2860m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
1

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	59	63
SP #	33683	36098

Line	MGL1708MC44
Sequence	013
Direction	305.8

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	226			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	33683	36098
Date MM/DD/YY	11/16/2017	11/16/2017
Time UTC	5:28	20:40
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N25kts	NE20kts
Sea State (m)	1.5m	1m
Water Depth (m)	2880m	88.1m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise at start of line
Noisy traces:
Weak traces:
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
1

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	64	65
SP #	36244	36895

Line	MGL1708MC43
Sequence	014
Direction	30.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	36244	36895
Date MM/DD/YY	11/16/2017	11/17/2017
Time UTC	20:57	00:45
Volume (cu in.)	6600in3	6600in3
Wind (kts)	W13kts	SE9kts
Sea State (m)	1m	1m
Water Depth (m)	81m	88m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Turn noise at start of line
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
File 28362 at the beginnig of tape 64 is not valid
1

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	66	72
SP #	36925	40020

Line	MGL1708MC42
Sequence	015
Direction	125.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	36925	40020
Date MM/DD/YY	11/17/2017	11/17/2017
Time UTC	1:23	19:50
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE11kts	S20kts
Sea State (m)	1m	1-2m
Water Depth (m)	145m	2947.5m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significan Turn noise at start of line
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
File 28362 at the beginnig of tape 64 is not valid
1

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	73	74
SP #	40131	40805

Line	MGL1708MC45
Sequence	016
Direction	51.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	40131	40805
Date MM/DD/YY	11/17/2017	11/18/2017
Time UTC	20:02	00:18
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE11kts	SE15kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	2948.9m	3200m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significan Turn noise at start of line
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
File 28362 at the beginnig of tape 64 is not valid

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	75	81
SP #	41201	44258

Line	MGL1708MC46
Sequence	017
Direction	304.4

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	41201	44258
Date MM/DD/YY	11/18/2017	11/18/2017
Time UTC	1:32	20:08
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE18kts	SE 15kts
Sea State (m)	1m	1-2m
Water Depth (m)	2980m	93.56m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significan Turn noise at start of line
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shot point interval 50 m
File 28362 at the beginnig of tape 64 is not valid

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	82	83
SP #	44339	45030

Line	MGL1708MC47
Sequence	018
Direction	40.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	44339	45030
Date MM/DD/YY	11/18/2017	11/19/2017
Time UTC	20:24	00:50
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE18kts	SE18kts
Sea State (m)	1-2m	1m
Water Depth (m)	90.29m	140m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	84	90
SP #	45087	48268

Line	MGL1708MC60
Sequence	019
Direction	124.7

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	45087	48268
Date MM/DD/YY	11/19/2017	11/19/2017
Time UTC	2:03	22:23
Volume (cu in.)	6600in3	6520in3
Wind (kts)	SE17kts	S 20kts
Sea State (m)	1.5m	3m
Water Depth (m)	320m	3127.7m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	91	91
SP #	49147	49643

Line	MGL1708MC59
Sequence	020
Direction	37.7

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	49147	49643
Date MM/DD/YY	11/19/2017	11/20/2017
Time UTC	23:35	02:51
Volume (cu in.)	3220in3	3660in3
Wind (kts)	S17kts	S16kts
Sea State (m)	2-3m	2m
Water Depth (m)	3140m	3180m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
SP49400-49556 noise propagating from front to end because of birds coming close to surface d/t swell
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	92	98
SP #	50199	53625

Line	MGL1708MC48
Sequence	021
Direction	325.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	50199	53625
Date MM/DD/YY	11/20/2017	11/21/2017
Time UTC	3:59	00:54
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S15kts	S18kts
Sea State (m)	1.5m	1m
Water Depth (m)	3175m	75m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	99	99
SP #	53825	54150

Line	MGL1708MC57
Sequence	022
Direction	31.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	53825	54150
Date MM/DD/YY	11/21/2017	11/21/2017
Time UTC	1:36	03:29
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S15kts	S18kts
Sea State (m)	1m	1m
Water Depth (m)	90m	110m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	100	107
SP #	54675	58255

Line	MGL1708MC58
Sequence	023
Direction	120.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	54675	58255
Date MM/DD/YY	11/21/2017	11/22/2017
Time UTC	4:33	01:56
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S20kts	S8kts
Sea State (m)	1.5m	1m
Water Depth (m)	180m	3220m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
04:33:31	43894	54675	100	SOL MGL1708MC58 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
06:23:04	44193	54974	100	Power down for whales - Single source 40 in3 - Last shot at full volume: 54974
06:23		54975	100	missed SP 54975 while powering down
06:42	44240	55024	100	start ramping up
				missed SP: 55022, 55023, 55025, 55028, 55031, 55034, 55037, 55040, 55043, 55046, 55049, 55052, 55055, 55058, 55061, 55063, 55064, 55067, 55070, 55073, 55076, 55078
				files without spectra header: 44266
07:02:51	44276	55079	100	ramp up complete - first SP back at full volume 6600in3: SP 55079
07:13:41	44303	55106	100	Power down for whales - Single source 40 in3 - Last shot at full volume: 55106
07:13		55107	100	
07:21	44324	55129	100	start ramping up
				missed SP: 55128, 55130, 55131, 55133, 55134, 55136, 55139, 55141, 55142, 55144, 55145, 55147, 55148, 55150, 55151, 55153, 55154, 55156, 55157, 55159, 55162, 55163, 55165, 55166, 55168, 55169, 55171, 55174, 55177, 55179, 55180, 55182, 55184
				files without spectra header: 44325, 44327, 44332, 44334, 44336, 44338, 44340, 44342, 44346, 44348, 44350, 44357
07:42:09	44360	55185	100	ramp up complete - first SP back at full volume 6600in3: SP 55185
10:50	44894	55719	102	BOT #102
13:56	45394	56219	103	BOT #103
16:58	45894	56719	104	BOT #104
19:54	46394	57219	105	BOT #105
22:48	46894	57719	106	BOT #106
01:43	47394	58219	107	BOT #107
01:56	47430	58255	107	EOL MGL1708MC58 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	108	108
SP #	58682	59166

Line	MGL1708MC49
Sequence	024
Direction	23.3

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	58682	59166
Date MM/DD/YY	11/22/2017	11/22/2017
Time UTC	3:01	05:55
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SSW13kts	SSW11kts
Sea State (m)	1m	1m
Water Depth (m)	3325m	3215m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	109	116
SP #	59513	63315

Line	MGL1708MC50
Sequence	025
Direction	300.4

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	59513	63315
Date MM/DD/YY	11/22/2017	11/23/2017
Time UTC	7:06	05:41
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S8kts	ESE5kts
Sea State (m)	1m	0.5m
Water Depth (m)	3260m	60m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Shots acquired during ramp-up were triggered internally by digishot and do not always match with spectra shot points.
SP 63316 (file 51694) was recorded after Spectra was stopped and has no navigation

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
07:06:04	47916	59513	109	SOL MGL1708MC50 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
10:04:29	48416	60013	110	BOT #110
13:00	48916	60513	111	BOT #111
15:57	49416	61013	112	BOT #112
19:06	49916	61513	113	BOT #113
22:06	50416	62013	114	BOT #114
23:41	50689	62286	114	Power down for whale - single source 40in3 - last shot at full volume: SP62286
23:58:10	50734	62333	114	start of ramp up
				missed shots durin power down and ramp up: 62287,62332,62334,62336,62337,62339,62342,62344,62345,62347,62350,62352,62355,62357,62358, 62360,62362,62363,62365,62368,62370,62371,62373,62376,62378,62379,62381,62384,6236,62387,6 2389,62391
				files with possibly invalid SP header values: 50736,50741,50749,50752,50757,50762,50767
00:18:53	50770	62392	114	End of ramp up - first shot back at full volume: SP 62392
01:10:08	50916	62538	115	BOT #115
04:04:29	51416	63038	116	BOT #116
05:41:01	51693	63315	116	EOL MGL1708MC50 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	117	117
SP #	63568	63790

Line	MGL1708MC52
Sequence	026
Direction	43.4

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	63568	63790
Date MM/DD/YY	11/23/2017	11/23/2017
Time UTC	6:44	08:01
Volume (cu in.)	6600in3	6600in3
Wind (kts)	E3kts	E3kts
Sea State (m)	0.5m	0.5m
Water Depth (m)	60m	63m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	118	
SP #	64314	

Line	MGL1708MC53
Sequence	027
Direction	121.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	64314	68077
Date MM/DD/YY	11/23/2017	11/24/2017
Time UTC	9:15	07:05
Volume (cu in.)	6600in3	6600in3
Wind (kts)	E6kts	N11kts
Sea State (m)	0.5m	1m
Water Depth (m)	70m	3161m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
09:15:44	51918	64314	118	SOL MGL1708MC53 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
12:11:16	52418	64814	119	BOT #119
15:07	52918	65314	120	BOT #120
18:01	53418	65814	121	BOT #121
20:54	53918	66314	122	BOT #122
23:48:28	54418	66814	123	BOT #123
02:40:25	54918	67314	124	BOT #124
03:40		67487	124	missed shot 67487 d/t speed
04:08		67569	124	missed shot 67569 d/t speed
04:31		67635	124	missed shot 67635 d/t speed
04:31		67780	124	missed shot 67780 d/t speed
05:18:40	55371		125	Seal export failure - Last file on tape #124
05:19:00	55372		125	BOT #125
06:02		67896	125	missed shot 67896 d/t speed
06:36		67993	125	missed shot 67993 d/t speed
07:05:57	55676	68077	125	EOL MGL1708MC53 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	126	126
SP #	68683	69060

Line	MGL1708MC54
Sequence	028
Direction	29.8

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	68683	69060
Date MM/DD/YY	11/24/2017	11/24/2017
Time UTC	8:11	10:22
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE14kts	N12kts
Sea State (m)	1m	1m
Water Depth (m)	3235m	3330m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Several shots missed because of speed in the current

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	127	132
SP #	69112	71727

Line	MGL1708MC55
Sequence	029
Direction	300.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	69112	71727
Date MM/DD/YY	11/24/2017	11/25/2017
Time UTC	11:22	02:58
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N15kts	SSW9kts
Sea State (m)	0-1m	1m
Water Depth (m)	3154.99m	150m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	133	133
SP #	72168	72653

Line	MGL1708MC56
Sequence	030
Direction	45.2

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	72168	72653
Date MM/DD/YY	11/25/2017	11/25/2017
Time UTC	4:03	07:03
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S12kts	S9kts
Sea State (m)	1m	1m
Water Depth (m)	315m	1547m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	134	138
SP #	72722	75124

Line	MGL1708MH63
Sequence	031
Direction	31.7

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	72722	75124
Date MM/DD/YY	11/25/2017	11/25/2017
Time UTC	7:21	18:24
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE10kts	SE 10kts
Sea State (m)	1m	1m
Water Depth (m)	1490m	1676.48m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
07:21	59153	72722	134	SOL MGL1708MH63 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
07:24		72734	134	missed shot 72734 d/t speed
07:29		72752	134	missed shot 72752 d/t speed
07:34		72770	134	missed shot 72770 d/t speed
07:38		72787	134	missed shot 72787 d/t speed
07:42		72802	134	missed shot 72802 d/t speed
07:46		72817	134	missed shot 72817 d/t speed
07:55		72849	134	missed shot 72849 d/t speed
08:03		72882	134	missed shot 72882 d/t speed
08:33		72990	134	missed shot 72990 d/t speed
09:38	59653	73231	135	BOT #135
10:18		73380	135	missed shot 73380 d/t speed
11:53	60153	73732	136	BOT #136

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	139	143
SP #	75368	77447

Line	MGL1708MH64
Sequence	032
Direction	209.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	75367	77447
Date MM/DD/YY	11/25/2017	11/26/2017
Time UTC	20:29	05:46
Volume (cu in.)	6600in3	6600in3
Wind (kts)	SE 5kts	NE11kts
Sea State (m)	1m	0.5m
Water Depth (m)	3096.82m	1420m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Several missed shots because of speed in strong current

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
20:29	61546	75367	139	SOL MGL1708MH64 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
20:31		75377	139	missed SP 75377 d/t speed
20:37		75397	139	missed SP 75397 d/t speed
20:44		75422	139	missed SP 75422 d/t speed
20:50		75445	139	missed SP 75445 d/t speed
20:57		75473	139	missed SP 75473 d/t speed
21:39		75628	139	missed SP 75628 d/t speed
21:49		75665	139	missed SP 75665 d/t speed
22:09		75741	139	missed SP 75741 d/t speed
22:25		75798	139	missed SP 75798 d/t speed
22:46	62046	75876	140	BOT #140
22:53		75904	140	missed SP 75904 d/t speed
23:17		75992	140	missed SP 75992 d/t speed
23:42		76084	140	missed SP 76084 d/t speed
23:48		76108	140	missed SP 76108 d/t speed
23:58		76146	140	missed SP 76146 d/t speed
00:06		76176	140	missed SP 76176 d/t speed
00:12		76199	140	missed SP 76199 d/t speed
00:17		76216	140	missed SP 76216 d/t speed
00:24		76246	140	missed SP 76246 d/t speed
01:01	62546	76385	141	BOT #141
03:14	63046	76885	142	BOT #142
04:52		77249	142	missed SP 77249 d/t speed
05:29	63546	77386	143	BOT #143
05:46	63607	77447	143	EOL MGL1708MH64 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	144	146
SP #	77679	79057

Line	MGL1708MH36
Sequence	033
Direction	30.3

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	8.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	77679	79057
Date MM/DD/YY	11/26/2017	11/26/2017
Time UTC	9:07	15:30
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE4kts	N 12kts
Sea State (m)	0.5m	1m
Water Depth (m)	1350m	612.71m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	147	148
SP #	79186	80135

Line	MGL1708MH26
Sequence	034
Direction	210.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	8.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	79186	80135
Date MM/DD/YY	11/26/2017	11/26/2017
Time UTC	19:17	23:35
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N 12kts	NE14kts
Sea State (m)	1m	1m
Water Depth (m)	919.9m	770m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	149	149
SP #	80328	80655

Line	MGL1708MC27
Sequence	035
Direction	2.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	80328	80655
Date MM/DD/YY	11/27/2017	11/27/2017
Time UTC	1:39	03:37
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE17kts	NE15kts
Sea State (m)	1m	1m
Water Depth (m)	390m	110m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	150	156
SP #	80980	84400

Line	MGL1708MH24
Sequence	036
Direction	119.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	80980	84400
Date MM/DD/YY	11/27/2017	11/27/2017
Time UTC	5:23	21:02
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE15kts	N 10kts
Sea State (m)	1.5m	1m
Water Depth (m)	370m	3589.32m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
05:23	66256	80980	150	SOL MGL1708MH24 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
07:39	66756	81480	151	BOT #151
08:22		81683	151	missed SP 81683 d/t speed
09:38		81917	151	missed SP 81917 d/t speed
09:51		81967	151	missed SP 81967 d/t speed
09:56	67256	81983	152	BOT # 152
10:02		82005	152	missed SP 82005 d/t speed
10:24		82086	152	missed SP 82086 d/t speed
11:52		82409	152	missed SP 82409 d/t speed
11:59		82435	152	missed SP 82435 d/t speed
12:12	67756	82487	153	BOT # 153
13:37		82793	153	missed SP 82793 d/t speed
14:31	68256	82988	154	BOT # 154
15:54		83286	154	missed SP 83286 d/t speed
16:00		83308	154	missed SP 83308 d/t speed
16:08		83338	154	missed SP 83338 d/t speed
16:14		83359	154	missed SP 83359 d/t speed
16:30		83416	154	missed SP 83416 d/t speed
16:39		83453	154	missed SP 83453 d/t speed
16:51	68756	83494	155	BOT # 155
17:56		83729	155	missed SP 83729 d/t speed
19:09	69256	83996	156	BOT # 156
21:02	69660	84400	156	EOL MGL1708MH24 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	157	164
SP #	85078	88940

Line	MGL1708MH38
Sequence	037
Direction	300.0

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	85078	88940
Date MM/DD/YY	11/28/2017	11/28/2017
Time UTC	0:32	18:07
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N6kts	NW 5kts
Sea State (m)	1m	0-1m
Water Depth (m)	3600m	54.4m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Time UTC	FILE	SP	Tape	Description
00:32	69662	85078	157	SOL MGL1708MH38 - Volume 6600 in3 (S1-4G5 spares, 36 guns)
01:03		85192	157	missed SP 85192 d/t speed
01:48		85355	157	missed SP 85355 d/t speed
02:48	70162	85580	158	BOT #158
04:50		86024	158	missed SP 86024 d/t speed
04:59		86057	158	missed SP 86057 d/t speed
05:04		86076	158	missed SP 86076 d/t speed
05:06	70662	86083	159	BOT #159
05:17		86125		missed SP 86125 d/t speed
05:26		86156		missed SP 86156 d/t speed
07:23	71162	86585	160	BOT #160
07:24		86587		missed SP 86587 d/t speed
07:30		86610		missed SP 86610 d/t speed
07:35		86631		missed SP 86631 d/t speed
07:43		86659		missed SP 86659 d/t speed
07:72		86691		missed SP 86691 d/t speed
07:59		86719		missed SP 86719 d/t speed
08:11		86762		missed SP 86762 d/t speed
08:22		86803		missed SP 86803 d/t speed
08:43		86882		missed SP 86882 d/t speed
09:41	71662	87094	161	BOT #161
11:58	72162	87594	162	BOT #162
12:16		87661	162	missed SP 87661 d/t speed
14:15	72662	88096	163	BOT #163
16:32	73162	88596	164	BOT #164
18:07	73506	88940	164	EOL MGL1708MH38 - Volume 6600 in3 (S1-4G5 spares, 36 guns)

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	165	166
SP #	89138	89650

Line	MGL1708MC37
Sequence	038
Direction	186.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	89138	89650
Date MM/DD/YY	11/28/2017	11/28/2017
Time UTC	18:51	21:37
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N6kts	NW 5kts
Sea State (m)	0-1m	0-1m
Water Depth (m)	49.36m	65>48m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	167	171
SP #	89769	91970

Line	MGL1708MH28
Sequence	039
Direction	121.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	89769	91970
Date MM/DD/YY	11/28/2017	11/29/2017
Time UTC	21:47	07:43
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N6kts	N15kts
Sea State (m)	0-1m	1m
Water Depth (m)	60.42m	2900m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	172	175
SP #	92054	93734

Line	MGL1708MH30
Sequence	040
Direction	281.0

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	8.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	92054	93734
Date MM/DD/YY	11/29/2017	11/29/2017
Time UTC	10:39	18:17
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N14kts	SW 8kts
Sea State (m)	1m	1m
Water Depth (m)	3530m	134.4m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Streamer at 8 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
recurring deltat timing error on S2G6

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	176	179
SP #	77901	95966

Line	MGL1708MH62
Sequence	041
Direction	120.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, μ B				
EOL Cable Noise, μ B				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	77901	95966
Date MM/DD/YY	11/29/2017	11/30/2017
Time UTC	22:34	06:58
Volume (cu in.)	6600in3	6600in3
Wind (kts)	S10kts	E5kts
Sea State (m)	1m	1m
Water Depth (m)	495.5m	3480m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant Turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	180	183
SP #	96002	97883

Line	MGL1708MH61
Sequence	042
Direction	300.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	96002	97883
Date MM/DD/YY	11/30/2017	11/30/2017
Time UTC	11:11	20:04
Volume (cu in.)	6600in3	6600in3
Wind (kts)	E4kts	S 3kts
Sea State (m)	1m	0.5m
Water Depth (m)	3400m	45.3m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Slight turn noise at start and end of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
Airleak on Gunstring #4

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	184	189
SP #	98005	100678

Line	MGL1708MH34
Sequence	043
Direction	120.9

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	98005	100678
Date MM/DD/YY	1/12/2017	1/12/2017
Time UTC	0:10	12:19
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N13kts	N13kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	111.8m	3442.7m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
50 meter shotpoints

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

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	190	190
SP #	100768	101005

Line	MGL1708MC33
Sequence	044
Direction	206.3

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	100768	101005
Date MM/DD/YY	1/12/2017	1/12/2017
Time UTC	14:19	15:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N13kts	N13kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	3292.2m	3239.6m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
50 meter shotpoints

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	191	196
SP #	101157	103960

Line	MGL1708MH32
Sequence	045
Direction	328.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	37.5			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	8.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	14
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	101157	103960
Date MM/DD/YY	12/1/12017	12/2/12017
Time UTC	11:38	06:46
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N12kts	NE26kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	3396.1m	120m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<i>NDR - No Data Recorded</i>	<i>ITB - Internal Time Break</i>
	<i>N.T.B.P. - Not To Be Processed</i>	

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	197	200
SP #	104000	105877

Line	MGL1708MC07
Sequence	046
Direction	31.5

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	104000	105877
Date MM/DD/YY	12/02/2017	12/02/2017
Time UTC	7:19	18:34
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NE21kts	NW 14kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	90m	701.7m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	201	204
SP #	106086	107650

Line	MGL1708MC20
Sequence	047
Direction	120.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	106086	107650
Date MM/DD/YY	12/02/2017	12/03/2017
Time UTC	21:42	06:57
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N10kts	N19kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	553.3m	2570m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	205	205
SP #	107742	108140

Line	MGL1708MC19
Sequence	048
Direction	157.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	107742	108140
Date MM/DD/YY	12/03/2017	12/03/2017
Time UTC	7:11	09:32
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N19kts	N20kts
Sea State (m)	1-2m	1-2m
Water Depth (m)	2200m	3610m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

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Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	206	209
SP #	108554	110275

Line	MGL1708MC22
Sequence	049
Direction	300.2

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	108554	110275
Date MM/DD/YY	12/03/2017	12/03/2017
Time UTC	11:04	21:09
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N18kts	N 7kts
Sea State (m)	1-2m	2m
Water Depth (m)	3580.6m	169.3m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

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Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	210	212
SP #	110568	111685

Line	MGL1708MC06
Sequence	050
Direction	329.6

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	110568	111685
Date MM/DD/YY	12/04/2017	12/04/2017
Time UTC	2:00	08:30
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N13kts	N14kts
Sea State (m)	1m	1m
Water Depth (m)	550m	110m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
after SP111300 - noise from ship?

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	213	215
SP #	111721	112737

Line	MGL1708MC05
Sequence	051
Direction	297.8

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	111721	112737
Date MM/DD/YY	12/04/2017	12/04/2017
Time UTC	8:37	16:24
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N14kts	N 5kts
Sea State (m)	1m	1m
Water Depth (m)	100m	538.6m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
strong current - bend noise propagating from front to end of streamer until streamer fully aligned

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

[illegible]

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	216	219
SP #	112814	114498

Line	MGL1708MC04
Sequence	052
Direction	234.1

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	112814	114498
Date MM/DD/YY	12/04/2017	12/05/2017
Time UTC	16:27	02:58
Volume (cu in.)	6600in3	6600in3
Wind (kts)	N 5kts	N7kts
Sea State (m)	1m	0.5-1m
Water Depth (m)	537.7m	60m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

Observers Log

Vessel	Marcus G. Langseth
Client	NSF - McIntosh, Bangs, Avendonk
Area	New Zealand - SHIRE
Job Number	MGL1708

Chief Science Officer	Robert Steinhaus	
Science Officer	Todd Jensvold	
Acquisition Leader	Gilles Guerin 12:00-24:00	Todd Jensvold 24:00-12:00
Navigation Leader	Alan Thompson 12:00-24:00	Ambrose Mavor-Parker 24:00-12:00

	SOL	EOL
Tape #	220	223
SP #	114772	116401

Line	MGL1708MC03
Sequence	053
Direction	309.2

Streamer Parameters				
	1	2	3	4
Length (m)	12600			
Auxiliaries	n/a			
Shotpoint Interval: (m)	50			
Offset CS - CNG (m)	187.7			
Group Interval: (m)	12.5			
Number of channels	1008			
Streamer Depth (m)	10.0			
SOL Cable Noise, µB				
EOL Cable Noise, µB				

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

Recording Parameters	
Record Length	18
Total recording delay	-160ms
Sample Rate	2ms
Polarity	SEGD standard
Low-Cut	3Hz digital, 4.5Hz total
Hi-Cut	200Hz, 370dB/octave
File Format	SEGD

Description	SOL/FGSP	EOL/LGSP
SP	114772	116401
Date MM/DD/YY	12/05/2017	12/05/2017
Time UTC	5:59	15:50
Volume (cu in.)	6600in3	6600in3
Wind (kts)	NW3kts	N 5kts
Sea State (m)	0.5-1m	1-2m
Water Depth (m)	60m	187>52m

Cable	Dead Channels
1	
2	
3	
4	

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

General / Line Comments
Significant turn noise at start of line
Streamer at 10 m below sea surface
Noisy traces: 142, 143, 144, 153, 718, 940, 1004
Weak traces: 60, 69, 120, 237, 240, 300, 333, 450
Dead traces: 13, 21, 45, 93, 109, 117, 141, 189, 261
LAST SEQUENCE!

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

	<div> <div>NDR - No Data Recorded</div> <div>ITB - Internal Time Break</div> </div>
	<div> <div>N.T.B.P. - Not To Be Processed</div> </div>

[illegible]