

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	1	3
SP #	21	950

Line	MGL1307OBS1
Sequence	01
Direction	088

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	12.0	12.0	12.0	12.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Source Separation	100
COS to COS	

Recording Parameters	
Record Length	15360ms
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FQCSP	EOL/LQCSP
SP	21	950
Date MM/DD/YY	06/05/13	06/06/13
Time UTC	2331	0353
Volume (cu in.)	3300in3	3300in3
Wind (kts)	2	14
Sea State (m)	.5m	.5m
Water Depth (m)	5338m	5332m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
SYNTRAK red flag for shot point number, SYNTRAK is one off expected shot point number Speed over ground too fast 4.4 MAX
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	David Martinson		
Science Officer	Bern McKiernan		
Acquisition Leader	Bern McKiernan 12:00-24:00	Klayton Curtis 00:00-12:00	
Navigation Leader	Nigel Crane 12:00-24:00	Mike Martello 00:00-12:00	

	SOL	EOL
Tape #	4	6
SP #	1003	1940

Line	MGL1307OBS2
Sequence	02
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	12.0	12.0	12.0	12.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300i n3
Work Pressure	1950psi +/- 100psi
Dual Source	Port Only
Depth	9
Source Separation	100m
COS to COS	

Recording Parameters	
Record Length	15360ms
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FQCSP	EOL/LQCSP
SP	1003	1940
Date MM/DD/YY	06/06/13	06/06/13
Time UTC	0409	1245
Volume (cu in.)	3300in3	3300in3
Wind (kts)	14	NW 14
Sea State (m)	.5m	1m
Water Depth (m)	5335m	5327m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
Starboard source disabled to creat 150 m shot point interval for OBS2 line. This gives ~60 seconds between shots
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	7	12
SP #	5023	6814

Line	MGL13071172
Sequence	03
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	12.0	12.0	12.0	12.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5023	6814
Date MM/DD/YY	06/06/13	06/06/13
Time UTC	1313	2146
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 14	NW 16
Sea State (m)	1m	1m
Water Depth (m)	5329m	4232m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	13	18
SP #	6920	4841

Line	MGL13071060
Sequence	04
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6920	4841
Date MM/DD/YY	06/07/13	06/07/13
Time UTC	0220	1222
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 25	N 22
Sea State (m)	2m	3m
Water Depth (m)	4063m	5333m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	20	21
SP #	4922	5593

Line	MGL13071164
Sequence	05
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4922	5593
Date MM/DD/YY	06/07/13	06/07/13
Time UTC	1345	1659
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNW 24	NW 20
Sea State (m)	3m	2m
Water Depth (m)	5329m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Line aborted due to Navigation Crash
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	22	25
SP #	5605	6814

Line	MGL13071164A
Sequence	06
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5605	6814
Date MM/DD/YY	06/07/13	06/07/13
Time UTC	1702	2247
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 20	NW 9
Sea State (m)	2m	1m
Water Depth (m)	5285m	4145m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	26	26
SP #	6956	6741

Line	MGL13071052
Sequence	07
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6956	6741
Date MM/DD/YY	06/07/13	06/07/13
Time UTC	0046	0147
Volume (cu in.)	3300in3	3300in3
Wind (kts)	16 NW	16 NW
Sea State (m)	1.5m	1.5m
Water Depth (m)	4072m	4700m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
Power failure to rack data watcher trickled to shutdown of spectra, digishot. Etc ended line early due to failures and reboots.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	27	32
SP #	6651	4895

Line	MGL13071052A
Sequence	08
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6651	4895
Date MM/DD/YY	06/07/13	06/07/13
Time UTC	0213	1037
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 16	NW 15
Sea State (m)	1.5m	1m
Water Depth (m)	4795m	5328m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
Reboot of systems after power failure in rack.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	33	38
SP #	4830	6868

Line	MGL13071156
Sequence	09
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4830 / 4853	6868
Date MM/DD/YY	06/08/13	06/08/13
Time UTC	12:40 /	2220
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 5-10	NW 12
Sea State (m)	1-2m	1-2m
Water Depth (m)	5328m	4041m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
SP 4830 -4835 Navigatiron Reset - SP 4836 - 4852 Missed every even shot point one due to Vessel Speed
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	39	41
SP #	6798	6080

Line	MGL13071044
Sequence	010
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6798	6080
Date MM/DD/YY	06/08/13	06/08/13
Time UTC	2344	0307
Volume (cu in.)	3300in3	3300in3
Wind (kts)	16 NW	8 SE
Sea State (m)	1m	1m
Water Depth (m)	4190m	5197m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
Ended line early fdue to telemetry errors on streamer 4.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	44	46
SP #	5900	6868

Line	MGL13071148
Sequence	011
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5900	6868
Date MM/DD/YY	06/10/13	06/10/13
Time UTC	0142	0619
Volume (cu in.)	3300in3	3300in3
Wind (kts)	9 SW	14SW
Sea State (m)	1m	1m
Water Depth (m)	5214m	4067m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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
Failed RTNu GPS caused delay in start of line. Issue resolved by mid point of line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	47	52
SP #	6828	4841

Line	MGL13071036
Sequence	012
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6828	4841
Date MM/DD/YY	06/10/13	06/10/13
Time UTC	0748	1722
Volume (cu in.)	3300in3	3300in3
Wind (kts)	17 SW	26 SSW
Sea State (m)	1m	3.5m
Water Depth (m)	4048m	5331m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	53	58
SP #	4903	6868

Line	MGL13071140
Sequence	013
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4903	6868
Date MM/DD/YY	06/10/13	06/11/13
Time UTC	1829	0354
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 18	SSW 6
Sea State (m)	2m	1m
Water Depth (m)	5342m	4046m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	59	64
SP #	6870	4841

Line	MGL13071028
Sequence	014
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6870	4841
Date MM/DD/YY	06/11/13	06/11/13
Time UTC	0522	1505
Volume (cu in.)	40in3	3300in3
Wind (kts)	SSW 12	SW 18
Sea State (m)	1m	1.5m
Water Depth (m)	4207m	5331m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
Ramp up into line
EOL NOISY CHANNELS

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

Time UTC	FILE	SP	Tape	Description
0522	1	6870	59	SOL MGL13071028 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0533		6830	59	dropped shot due to speed
0535	48	6822	59	S4G4 DT 2.3 ms
0537	54	6816	59	S3G04 DT 3.0 ms
0540	67	6803	59	S2G09 DT 3.2 ms
0541	69	6801	59	S2G09 DT .2.4 ms
0543	78	6792	59	S3G09 DT 4.0 ms
0544	80	6790	59	S3G09 DT -3.1 ms
0547	90	6780	59	S4G01 DT 3.0 ms
0547	91	6779	59	S2G01 DT 2.1 ms
0547	92	6778	59	S4G01 DT -2.6 ms
0549	97	6773	59	S1G02 DT 3.9 ms
0549	99	6771	59	S1G02 DT -2.3 ms
0550	102	6768	59	S3G01 DT 3.2 ms
0551	103	6767	59	S1G01 DT 2.5 ms
0551	104	6766	59	S3G01 DT -2.2 ms
0552	107	6763	59	<b>Full gun volume. Shot ramp-up complete.</b>
0628	231	6639	59	S3G06 Auto Fire reported @ 298.2 ms
0652	313	6557	59	S3G06 Auto Fire reported @ 300.1 ms
0700	341	6529	59	S3G06 Auto Fire reported @ 302.1 ms
0703	349	6521	60	EOT reel 59
0703	350	6520	60	SOT reel 60
0820	625	6245	60	S3G06 Auto Fire reported @ 301.0ms
0842	698	6172	60	EOT reel 60
0843	699	6171	61	SOT reel 61
0843	699	6171	61	S3G06 Auto Fire reported @ 306.5 ms
0847	713	6157	61	S3G06 Auto Fire reported @ 302.6 ms
0912	799	6071	61	S3G06 Auto Fire reported @ 306.5 ms
0915	808	6062	61	S2G09 Auto Fire reported @ 700.8ms
0933	873	5997	61	S3G06 Auto Fire reported @ 303.9 ms
1011	1005	5865	61	S2G03 Comm Error
1023	1047	5823	61	EOT reel 61
1023	1048	5822	62	SOT reel 62
1025	1055	5815	62	S2G09, S2G10 Comm Error
1205	1397	5473	62	EOT reel 62
1205	1398	5472	63	SOT reel 63
1247	1548	5322	63	S2G09 Auto Fire reported @ 690.1ms
1344	1745	5125	63	EOT reel 63
1344	1746	5124	64	SOT reel 64
1503	2023	4847	64	S2G06 DT 8.0 ms
1504	2025	4845	64	S2G06 DT -6.0 ms
1505	2029	4841	64	EOL

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

	SOL	EOL
Tape #	65	70
SP #	4867	6868

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	4867	6868
Date MM/DD/YY	06/11/13	06/12/13
Time UTC	1624	0159
Volume (cu in.)	3300in3	3300in3in3
Wind (kts)	SW 16	SSW 16
Sea State (m)	1m	1m
Water Depth (m)	5330m	4028m

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

Line	MGL13071132
Sequence	015
Direction	087

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	Tape	Description
1624	1	4867	65	SOL MGL13071132 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
1637	45	4911	65	S2G09,S2G10;Comm Error
1701	127	4993	65	S2G03;Comm Error
1706	147	5013	65	S2G08;Comm Error
1712	167	5033	65	S2G08;Comm Error
1713	171	5037	65	S2G03,S2G05; Comm Error
1714	175	5041	65	S2G04,S2G07;Comm Error
1715	177	5043	65	S2G03,S2G04;Comm Error
1717	184	5050	65	S2G09 Autofired at 677.0ms
1805	349	5215	65	EOT, Reel 65
1805	350	5216	66	SOT, Reel 66
1905	561	5427	66	S2G07,S2G08;Comm Error
1906	563	5429	66	S2G05,S2G10,Comm Error
1910	579	5445	66	S2G09,Comm Error
1911	581	5447	66	S2G07,S2G08,S2G09, Comm Error
1913	589	5455	66	S2G08,S2G09;Comm Error
1914	593	5459	66	S2G07, Comm Error
1917	601	5467	66	S2G09, Comm Error
1920	611	5477	66	S2G09,S2G10;Comm Error
1921	615	5481	66	S2,G05;Comm Error
1929	645	5511	66	S2G07,S2G08,S2G09;Comm Error
1945	698	5564	66	EOT Reel 66
1945	699	5565	67	BOT Reel 67
2001	755	5621	67	S2G03;Comm Error
2108	987	5853	67	S2G03;Comm Error
2126	1047	5913	67	EOT Reel 67
2126	1048	5914	68	BOT Reel 68
2135	1081	5947	68	S2,G10;Comm Error
2207	1193	6059	68	S2G09,10 comm error
2229	1269	6135	68	S2G05 comm error
2236	1295	6161	68	S2G10 comm error
2243	1320	6186	68	S2G09 Autofired at 681.4ms
2305	1397	6263	68	EOT reel 68
2305	1398	6264	69	SOT reel 69
2354	1569	6435	69	S02G007 Comm error
2355	1571	6437	69	S002G009 Comm error
0019	1654	6520	69	S02G09 Autofired at 682.8ms
0024	1672	6538	69	S02G09 Autofired at 677.8ms
0028	1688	6554	69	S02G09 Autofired at 687.5ms
0034	1707	6573	69	S02G07 Comm error
0035	1711	6577	69	S02G10 Comm error
0036	1717	6583	69	S02 Comm error
0038	1723	6589	69	S02 Comm error
0039	1725	6591	69	S02 Comm error
0045	1945	6811	69	S02 Comm error
0045	1745	6611	69	EOT Reel 69
0045	1746	6612	70	BOT Reel 70
0108	1827	6693	70	S02G03 Comm error
0112	1839	6705	70	S02G04 Comm error

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	71	73
SP #	6769	6001

Line	MGL13071020
Sequence	016
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6769	6003
Date MM/DD/YY	06/12/13	06/12/13
Time UTC	0342	0729
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 20	SSW 20
Sea State (m)	1.5m	1.5m
Water Depth (m)	4154m	5205m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels Spectra issues at SOL not issuing triggers caused delay in SOL.
Gun Array 2 producing regular comm errors throughout line, manual observation of gun signatures
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	74	77
SP #	5980	4895

Line	MGL13071020A
Sequence	017
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5980	4895
Date MM/DD/YY	06/12/13	06/12/13
Time UTC	0731	1243
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 22	SW 13
Sea State (m)	2m	1m
Water Depth (m)	5222m	5331m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Gun Array 2 producing regular comm errors throughout line, manual observation of gun signatures
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	78	83
SP #	4840	6868

Line	MGL13071124
Sequence	018
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4840	6868
Date MM/DD/YY	06/12/13	06/12/13
Time UTC	1408	2351
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WSW 12	NE 12
Sea State (m)	1m	1m
Water Depth (m)	5326m	4003m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Repeated Parity errors on Streamer 3, channel 643 M39
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	84	89
SP #	6842	4834

Line	MGL13071012
Sequence	019
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6842	4834
Date MM/DD/YY	06/13/13	06/13/13
Time UTC	0155	1044
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 9	N 5
Sea State (m)	1m	1.5m
Water Depth (m)	4263m	5330m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Repeated Parity errors on Streamer 3, channel 643 M39 every shot has passive parity errors
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>90</b>	<b>95</b>
<b>SP #</b>	<b>4868</b>	<b>6868</b>

<b>Line</b>	<b>MGL13071116</b>
<b>Sequence</b>	<b>020</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4868	6868
Date MM/DD/YY	06/13/13	06/13/13
Time UTC	1151	2138
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNW 8	N 5
Sea State (m)	2m	1m
Water Depth (m)	5328m	4011m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>96</b>	<b>101</b>
<b>SP #</b>	<b>6840</b>	<b>4834</b>

<b>Line</b>	<b>MGL13071004</b>
<b>Sequence</b>	<b>021</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6840	4834
Date MM/DD/YY	06/13/13	06/14/13
Time UTC	2233	0813
Volume (cu in.)	3300in3	3300in3
Wind (kts)	1	20 SW
Sea State (m)	1m	1.5m
Water Depth (m)	4284m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40. 150. 247. 306. 314. 363. 462. 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>102</b>	<b>106</b>
<b>SP #</b>	<b>4865</b>	<b>6356</b>

<b>Line</b>	<b>MGL13071148A</b>
<b>Sequence</b>	<b>022</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4865	6356
Date MM/DD/YY	06/14/13	06/14/13
Time UTC	0932	1640
Volume (cu in.)	3300in3	3300in3
Wind (kts)	21 SW	14 W
Sea State (m)	2m	2m
Water Depth (m)	5322m	5005m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>107</b>	<b>111</b>
<b>SP #</b>	<b>6343</b>	<b>4834</b>

<b>Line</b>	<b>MGL13071044R</b>
<b>Sequence</b>	<b>023</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6343	4834
Date MM/DD/YY	06/14/13	06/15/13
Time UTC	1728	0043
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WNW 15	NW 8
Sea State (m)	1-2m	1-2m
Water Depth (m)	5018.6m	5328m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40. 150. 247. 306. 314. 363. 462. 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>112</b>	<b>117</b>
<b>SP #</b>	<b>4882</b>	<b>6869</b>

<b>Line</b>	<b>MGL13071180</b>
<b>Sequence</b>	<b>024</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4882	6869
Date MM/DD/YY	06/15/13	06/15/13
Time UTC	0212	1138
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 9	WSW 3
Sea State (m)	1-2m	0.5m
Water Depth (m)	5325m	4060m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277 ,332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40. 150. 247. 306. 314. 363. 462. 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>118</b>	<b>118</b>
<b>SP #</b>	<b>5002</b>	<b>5058</b>

<b>Line</b>	<b>MGL1307ARC1</b>
<b>Sequence</b>	<b>025</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5002	5058
Date MM/DD/YY	06/15/13	06/15/13
Time UTC	1141	1243
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WSW 3	SW 4
Sea State (m)	0.5m	0.5m
Water Depth (m)	4049.1m	3978.6m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>119</b>	<b>124</b>
<b>SP #</b>	<b>6823</b>	<b>4834</b>

<b>Line</b>	<b>MGL13071068</b>
<b>Sequence</b>	<b>026</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6823	4834
Date MM/DD/YY	06/15/13	06/15/13
Time UTC	1253	2226
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 4	SW13
Sea State (m)	0.5m	1m
Water Depth (m)	4010.6m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	125	130
SP #	4875	6868

Line	MGL13071188
Sequence	027
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4875	6868
Date MM/DD/YY	06/15/13	06/16/13
Time UTC	2342	0914
Volume (cu in.)	3300in3	3300in3
Wind (kts)	S 12	SW 13
Sea State (m)	1-2m	1-2m
Water Depth (m)	5325m	4050m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Intermittant comm errors on S3G09 and S3G10
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	Tape	Description
2341	1	4875	125	SOL MGL13071188 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0035	188	5062	125	S3G10 Comm Error
0116	332	5206	125	S3G10 Comm Error
0122	349	5223	125	EOT Reel 125
0122	350	5224	126	SOT Reel 126
0137	402	5276	126	S3G10 Comm Error
0150	448	5322	126	S3G9 Comm error
0258	686	5560	126	S3G9 Comm error
0302	698	5572	126	EOT Reel 126
0302	699	5573	127	BOT reel 127
0337	820	5694	127	S3G9 Comm error
0405	918	5792	127	S3G9 Comm error
0416	956	5830	127	S3G9 Comm error
0420	972	5846	127	S3G9 Comm error
0423	982	5856	127	S3G10 Comm Error
0431	1010	5884	127	S3G09 Comm error
0438	1034	5908	127	S3G10 Comm Error
0443	1048	5922	127	EOT reel 127
0443	1049	5923	128	SOT reel 128
0445	1056	5930	128	S3G10 Comm Error
0454	1090	5964	128	S3G10 Comm Error
0502	1116	5990	128	S3G10 Comm Error
0512	1150	6024	128	S3G10 Comm Error
0523		6059	128	dropped shot
0523		6061	128	dropped shot
0529	1208	6084	128	S3G09 Comm error
0530	1212	6088	128	S3G09 Comm error
0549	1640	6516	128	S3G09 Comm error
0602	1324	6200	128	S3G10 Comm Error
0607	1338	6214	128	S3G10 Comm Error
0614	1374	6250	128	S3G10 Comm Error
0623	1398	6274	128	EOT reel 128
0623	1399	6275	129	SOT reel 129
0646	1478	6354	129	S3G09 Comm error
0652	1498	6374	129	S3G10 Comm Error
0745	1680	6556	129	S3G09 Comm error
0745	1682	6558	129	S3G10 Comm Error last log entry of intermittant comm errors
0804	1748	6624	129	EOT reel 129
0804	1749	6625	130	SOT reel 130
0914	1992	6868	130	EOL

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	131	136
SP #	6894	4834

Line	MGL13071076
Sequence	028
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6894	4834
Date MM/DD/YY	06/16/13	06/16/13
Time UTC	1016	2026
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 19	NNW 19
Sea State (m)	1.5m	2m
Water Depth (m)	3973m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 failed at SP 6018, Recording with 3 streamers at SP 5858.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	137	141
SP #	4831	6868

Line	MGL13071196
Sequence	029
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4831	6868
Date MM/DD/YY	06/16/13	06/17/13
Time UTC	2130	0718
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WNW16	WNW22
Sea State (m)	2m	3-4m
Water Depth (m)	5326.4m	4019.3m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
***NO STREAMER 1 ON THIS LINE***
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>142</b>	<b>153</b>
<b>SP #</b>	<b>6901</b>	<b>4834</b>

<b>Line</b>	<b>MGL13071084</b>
<b>Sequence</b>	<b>030</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6901	4834
Date MM/DD/YY	06/19/13	06/19/13
Time UTC	0725	1716
Volume (cu in.)	3300in3	3300in3
Wind (kts)	N 14	NNW 15
Sea State (m)	1m	2m
Water Depth (m)	3965m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>154</b>	<b>154</b>
<b>SP #</b>	<b>5005</b>	<b>5058</b>

<b>Line</b>	<b>MGL1307ARC2</b>
<b>Sequence</b>	<b>031</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5005	5058
Date MM/DD/YY	06/19/13	16/19/13
Time UTC	1723	1811
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNW 15	NNW 21
Sea State (m)	2m	3m
Water Depth (m)	5322m	5324m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>155</b>	<b>160</b>
<b>SP #</b>	<b>4843</b>	<b>6814</b>

<b>Line</b>	<b>MGL13071204</b>
<b>Sequence</b>	<b>032</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4843	6814
Date MM/DD/YY	06/19/13	06/20/13
Time UTC	1815	0341
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNW 21	NW 1
Sea State (m)	3m	~1m
Water Depth (m)	5326m	4142m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40. 150. 247. 306. 314. 363. 462. 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>161</b>	<b>166</b>
<b>SP #</b>	<b>6766</b>	<b>4841</b>

<b>Line</b>	<b>MGL13071092</b>
<b>Sequence</b>	<b>033</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6766	4841
Date MM/DD/YY	06/20/13	06/20/13
Time UTC	0552	1503
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 12	WNW 17
Sea State (m)	1m	2m
Water Depth (m)	4325m	5322m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>167</b>	<b>172</b>
<b>SP #</b>	<b>4890</b>	<b>6868</b>

<b>Line</b>	<b>MGL13071204I</b>
<b>Sequence</b>	<b>034</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4890	6868
Date MM/DD/YY	06/20/13	06/21/13
Time UTC	1619	0148
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W 11	NW 9
Sea State (m)	1m	1m
Water Depth (m)	5325m	3985m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

Observers Log	
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<b>Vessel</b>	Marcus G. Langseth
<b>Client</b>	Dale Sawyer
<b>Area</b>	Galicía 3D
<b>Job Number</b>	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>173</b>	<b>180</b>
<b>SP #</b>	<b>6828</b>	<b>4841</b>

<b>Line</b>	<b>MGL13071100</b>
<b>Sequence</b>	<b>035</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6828	4841
Date MM/DD/YY	06/21/13	06/21/13
Time UTC	03:05	1235
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 12	NE 14
Sea State (m)	1.0m	2m
Water Depth (m)	4101m	5322m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>181</b>	<b>181</b>
<b>SP #</b>	<b>5008</b>	<b>5061</b>

<b>Line</b>	<b>MGL1307ARC5</b>
<b>Sequence</b>	<b>036</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5008	5061
Date MM/DD/YY	06/21/13	06/21/13
Time UTC	1243	1342
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 14	NNW 14
Sea State (m)	2m	2m
Water Depth (m)	5324m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>182</b>	<b>187</b>
<b>SP #</b>	<b>4869</b>	<b>6868</b>

<b>Line</b>	<b>MGL13071212</b>
<b>Sequence</b>	<b>037</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4869	6868
Date MM/DD/YY	06/21/13	06/21/13
Time UTC	1351	2325
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 13	0
Sea State (m)	1m	1m
Water Depth (m)	5327m	3996m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>188</b>	<b>188</b>
<b>SP #</b>	<b>5008</b>	<b>5050</b>

<b>Line</b>	<b>MGL1307ARC6</b>
<b>Sequence</b>	<b>038</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5008	5050
Date MM/DD/YY	06/21/13	06/22/13
Time UTC	2334	0026
Volume (cu in.)	3300in3	3300in3
Wind (kts)	0	2
Sea State (m)	1m	1m
Water Depth (m)	3931m	3992m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>189</b>	<b>194</b>
<b>SP #</b>	<b>6814</b>	<b>4896</b>

<b>Line</b>	<b>MGL13071108</b>
<b>Sequence</b>	<b>039</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6814	4896
Date MM/DD/YY	06/22/13	06/22/13
Time UTC	0049	1000
Volume (cu in.)	3300in3	3300in3
Wind (kts)	14 W	NW 9
Sea State (m)	1.5m	1m
Water Depth (m)	4226m	5328m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	195	199
SP #	4761	6255

Line	MGL13071172R
Sequence	040
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4761	6255
Date MM/DD/YY	06/22/13	06/22/13
Time UTC	1145	1854
Volume (cu in.)	3300in3	3300/3210in3
Wind (kts)	NW 11	N 17
Sea State (m)	1m	2m
Water Depth (m)	5325m	5019m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
S2G06 Disabled at SP 5680
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	200	202
SP #	6257	5289

Line	MGL13071076R
Sequence	041
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	15360
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6257	5289
Date MM/DD/YY	06/22/13	06/23/13
Time UTC	1954	0035
Volume (cu in.)	5210/3300in <sup>3</sup>	5210/3300in <sup>3</sup>
Wind (kts)	N 17	N 16
Sea State (m)	2m	2m
Water Depth (m)	5104m	5294m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
S2G06 Disabled from SOL
Port engine down while on survey line.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>00203</b>	<b>204</b>
<b>SP #</b>	<b>3577</b>	<b>3670</b>

<b>Line</b>	<b>MGL13071220</b>
<b>Sequence</b>	<b>042</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	3577	3670
Date MM/DD/YY	07/16/13	07/16/13
Time UTC	2027	2036
Volume (cu in.)	3300in3	3300in3
Wind (kts)		
Sea State (m)		
Water Depth (m)		

Cable	Dead Channels
1	
1	
2	
3	
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
NTBP - Not To Be Processed due to lack of navigation data
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>205</b>	<b>210</b>
<b>SP #</b>	<b>5030</b>	<b>6069</b>

<b>Line</b>	<b>MGL1307T1</b>
<b>Sequence</b>	<b>043</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5030	6069
Date MM/DD/YY	07/16/13	07/17/13
Time UTC	2042	0112
Volume (cu in.)	3300in3	3300in3
Wind (kts)	ENE 14	ENE 13
Sea State (m)	2m	1m
Water Depth (m)	5339m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>211</b>	<b>216</b>
<b>SP #</b>	<b>4764</b>	<b>6838</b>

<b>Line</b>	<b>MGL13071220A</b>
<b>Sequence</b>	<b>044</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4764	6838
Date MM/DD/YY	07/17/13	07/17/13
Time UTC	0120	1103
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 13	ENE 18
Sea State (m)	1m	2m
Water Depth (m)	5327m	4108m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>217</b>	<b>217</b>
<b>SP #</b>	<b>5001</b>	<b>5037</b>

<b>Line</b>	<b>MGL1307ARC8</b>
<b>Sequence</b>	<b>045</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5037
Date MM/DD/YY	07/17/13	07/17/13
Time UTC	1109	1158
Volume (cu in.)	3300in3	3300in3
Wind (kts)	ENE 18	NE 17
Sea State (m)	2m	2m
Water Depth (m)	4039m	4073m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	218	222
SP #	6807	4871

Line	MGL13071324
Sequence	046
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6807	4871
Date MM/DD/YY	07/17/13	07/17/13
Time UTC	1212	2039
Volume (cu in.)	3300in3	3300/3260in <sup>3</sup>
Wind (kts)	NE 17	NE 15
Sea State (m)	2m	2m
Water Depth (m)	4263m	5321m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SP 5500 Starboard gun array volume changed to 3260 due to S2G9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

	SOL	EOL
Tape #	223	223
SP #	5001	5112

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	5001	5112
Date MM/DD/YY	07/17/13	07/17/13
Time UTC	2044	2141
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE15	NE16
Sea State (m)	2m	2m
Water Depth (m)	5323m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Port Source firing Only at 1 minute interval
SOL NOISY CHANNELS
EOL NOISY CHANNELS

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

Line	MGL1307ARC9
Sequence	047
Direction	087

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

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

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>224</b>	<b>228</b>
<b>SP #</b>	<b>4905</b>	<b>6838</b>

<b>Line</b>	<b>MGL13071228</b>
<b>Sequence</b>	<b>048</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4905	6838
Date MM/DD/YY	07/17/13	07/18/13
Time UTC	2156	0713
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE15	NN
Sea State (m)	2m	2m
Water Depth (m)	5325m	4827m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer	Jay Johnstone		
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>229</b>	<b>229</b>
<b>SP #</b>	<b>5001</b>	<b>5058</b>

<b>Line</b>	<b>MGL1307ARC10</b>
<b>Sequence</b>	<b>049</b>
<b>Direction</b>	<b>ARC</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5058
Date MM/DD/YY	07/18/13	07/18/13
Time UTC	0721	0819
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE 13	NNE13
Sea State (m)	2m	2m
Water Depth (m)	4072m	4268m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>230</b>	<b>234</b>
<b>SP #</b>	<b>6773</b>	<b>4871</b>

<b>Line</b>	<b>MGL13071332</b>
<b>Sequence</b>	<b>050</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6773	4871
Date MM/DD/YY	07/18/13	07/18/2013
Time UTC	0826	1641
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE14	NE12
Sea State (m)	2m	1m
Water Depth (m)	4596m	5324m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

Time UTC	FILE	SP	Tape	Description
0826	1	6773	230	SOL MGL13071332 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0827	2	6772	230	Turn noise evident in record
0853	103	6671	230	Turn noise abated
		6423	230	Lost Shot
		6422	230	Lost Shot
1007	388	6384	230	EOT Reel 230
1007	389	6383	231	BOT Reel 231
1103		6168	231	Lost Shot
1103		6167	231	Lost Shot
1114		6127	231	Lost Shot
1123	679	6090	231	Begin Data Loss d/t Telemetry Errors on Streamer 3
1126	692	6077	231	End Data Loss d/t Telemetry Errors on Streamer 3
1147	776	5993	231	EOT Reel 231
1147	777	5992	232	BOT Reel 232
1153	799	5970	232	Begin Data Loss d/t Telemetry Errors on Streamer 3
1320	1128	5641	232	End Data Loss d/t Telemetry Errors on Streamer 3
1324		5625	232	Lost Shot
1324		5624	232	Lost Shot
			232	Lost Shot
			232	Lost Shot
1331	1164	5601	232	EOT Reel 232
1331	1165	5600	233	BOT Reel 233
1337	1189	5576	233	Begin Data Loss d/t Telemetry Errors on Streamer 3
1400		5488	233	Lost Shot
1400		5487	233	Lost Shot
1513	1552	5211	233	EOT Reel 233
1513	1553	5210	234	BOT Reel 234
1546		5084	234	Lost Shot
1546		5082	234	Lost Shot
1622	1811	4950	234	End Data Loss d/t Telemetry Errors on Streamer 3
1641	1890	4871	234	EOL

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>235</b>	<b>235</b>
<b>SP #</b>	<b>5001</b>	<b>5050</b>

<b>Line</b>	<b>MGL1307ARC11</b>
<b>Sequence</b>	<b>051</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5050
Date MM/DD/YY	07/18/13	07/18/2013
Time UTC	1652	1742
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE14	NNE16
Sea State (m)	2m	2.0m
Water Depth (m)	4596m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>236</b>	<b>241</b>
<b>SP #</b>	<b>4881</b>	<b>6838</b>

<b>Line</b>	<b>MGL13071236</b>
<b>Sequence</b>	<b>052</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4881	6838
Date MM/DD/YY	07/18/13	07/19/13
Time UTC	1748	0316
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE 16	NNE6
Sea State (m)	2m	2m
Water Depth (m)	5322m	4143m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>242</b>	<b>242</b>
<b>SP #</b>	<b>5001</b>	<b>5055</b>

<b>Line</b>	<b>MGL1307ARC12</b>
<b>Sequence</b>	<b>053</b>
<b>Direction</b>	<b>Arc</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5055
Date MM/DD/YY	07/19/13	7/19/13
Time UTC	0323	0417
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE 6	NNE
Sea State (m)	2m	1m
Water Depth (m)	4032m	4114m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>243</b>	<b>247</b>
<b>SP #</b>	<b>6766</b>	<b>4871</b>

<b>Line</b>	<b>MGL13071340</b>
<b>Sequence</b>	<b>054</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6766	4871
Date MM/DD/YY	07/19/13	07/19/13
Time UTC	0436	1348
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNE 4	NNW 9
Sea State (m)	1m	0.5m
Water Depth (m)	4304m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>248</b>	<b>248</b>
<b>SP #</b>	<b>5001</b>	<b>5050</b>

<b>Line</b>	<b>MGL1307ARC13</b>
<b>Sequence</b>	<b>055</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5050
Date MM/DD/YY	07/19/13	07/19/13
Time UTC	1356	1445
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NNW 9	NW 11
Sea State (m)	0.5m	1m
Water Depth (m)	5321m	5319m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>249</b>	<b>253</b>
<b>SP #</b>	<b>4888</b>	<b>6838</b>

<b>Line</b>	<b>MGL13071244</b>
<b>Sequence</b>	<b>056</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4888	6838
Date MM/DD/YY	07/19/13	07/19/13
Time UTC	1452	2332
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 11	NE 13
Sea State (m)	1m	1m
Water Depth (m)	5324m	4090m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>254</b>	<b>254</b>
<b>SP #</b>	<b>5001</b>	<b>5053</b>

<b>Line</b>	<b>MGL1307ARC14</b>
<b>Sequence</b>	<b>057</b>
<b>Direction</b>	<b>ARC</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5053
Date MM/DD/YY	07/19/13	07/20/13
Time UTC	2339	031
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 14	NE4
Sea State (m)	1m	1m
Water Depth (m)	3986m	4155m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40. 150. 247. 306. 314. 363. 462. 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

	SOL	EOL
Tape #	255	259
SP #	6812	4871

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	6812	4871
Date MM/DD/YY	07/20/13	07/20/13
Time UTC	0037	0909
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 3	NE8
Sea State (m)	1m	1m
Water Depth (m)	4214m	5320m

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

Line	MGL13071348
Sequence	058
Direction	267

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer #3 -intermittant telemetry errors please observe event log.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>260</b>	<b>260</b>
<b>SP #</b>	<b>5001</b>	<b>5053</b>

<b>Line</b>	<b>MGL1307ARC15</b>
<b>Sequence</b>	<b>059</b>
<b>Direction</b>	<b>ARC</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5053
Date MM/DD/YY	07/20/13	07/20/13
Time UTC	0915	1007
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE8	WNW 6
Sea State (m)	1m	0.5m
Water Depth (m)	5320m	5321m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	261	265
SP #	4883	6838

Line	MGL13071252
Sequence	060
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4883	6838
Date MM/DD/YY	07/20/13	07/20/13
Time UTC	1014	1839
Volume (cu in.)	3300in3	3300/3260in <sup>3</sup>
Wind (kts)	WNW 6	W5
Sea State (m)	0.5m	0.5m
Water Depth (m)	5325m	4011.9m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>267</b>	<b>267</b>
<b>SP #</b>	<b>5001</b>	<b>5120</b>

<b>Line</b>	<b>MGL1307ARC16</b>
<b>Sequence</b>	<b>061</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5120
Date MM/DD/YY	07/20/13	07/20/13
Time UTC	1845	1945
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W5	WNW6
Sea State (m)	0.5m	0.5m
Water Depth (m)	3957.7m	4173.9m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>268</b>	<b>272</b>
<b>SP #</b>	<b>6791</b>	<b>4871</b>

<b>Line</b>	<b>MGL13071356</b>
<b>Sequence</b>	<b>062</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6791	4871
Date MM/DD/YY	07/20/13	07/21/13
Time UTC	1959	0417
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW 7	NW3
Sea State (m)	1m	1m
Water Depth (m)	4301m	5321m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>273</b>	<b>273</b>
<b>SP #</b>	<b>5001</b>	<b>5046</b>

<b>Line</b>	<b>MGL1307ARC17</b>
<b>Sequence</b>	<b>063</b>
<b>Direction</b>	<b>ARC</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5046
Date MM/DD/YY	07/21/13	7/21/13
Time UTC	0423	0509
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NW5	NE1
Sea State (m)	1m	1m
Water Depth (m)	5321m	5323m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]

<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

<b>Chief Science Officer</b>	<b>Robert Steinhaus</b>		
<b>Science Officer</b>			
<b>Acquisition Leader</b>	<b>Klayton Curtis 12:00-24:00</b>	<b>Bern McKiernan 00:00-12:00</b>	
<b>Navigation Leader</b>	<b>Mike Martello12:00-24:00</b>	<b>Matt Grey 00:00-12:00</b>	

	SOL	EOL
<b>Tape #</b>	<b>274</b>	<b>278</b>
<b>SP #</b>	<b>4872</b>	<b>6802</b>

<b>Line</b>	<b>MGL13071260</b>
<b>Sequence</b>	<b>064</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4872	6802
Date MM/DD/YY	07/21/13	07/21/13
Time UTC	0516	1333
Volume (cu in.)	3300in3	3300in3
Wind (kts)	NE 1	W 5
Sea State (m)	1m	0.5m
Water Depth (m)	5325m	4109m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



Time UTC	FILE	SP	Tape	Description
0516	1	4872	274	SOL MGL13071260 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0516	1	4872	274	Begin Data Loss on Streamer 3 d/t Telemetry Errors
0530	46	4917	274	End Data Loss on Streamer 3 d/t Telemetry Errors
0536	101	4972	274	Begin Data Loss on Streamer 3 d/t Telemetry Errors
	144	5015	274	End Data Loss on Streamer 3 d/t Telemetry Errors
	174	5045	274	Begin Data Loss on Streamer 3 d/t Telemetry Errors
	194	5065	274	End Data Loss on Streamer 3 d/t Telemetry Errors
0629		5148	274	Dropped shot
0642		5199	274	Dropped shot
	202	5075	274	End Data Loss on Streamer 3 d/t Telemetry Errors
	395	5268	274	Begin Data Loss on Streamer 3 d/t Telemetry Errors
0700	396	5269	274	EOL reel 274
0700	397	5270	274	SOT reel 275
	515	5388	275	End Data Loss on Streamer 3 d/t Telemetry Errors
0754		5477	275	Dropped Shot
0754		5478	275	Dropped shot
	625	5500	275	Begin Data Loss on Streamer 3 d/t Telemetry Errors
	645	5520	275	End Data Loss on Streamer 3 d/t Telemetry Errors
0820		5581	275	Dropped shot
0820		5582	275	Dropped shot
	760	5637	275	Begin Data Loss on Streamer 3 d/t Telemetry Errors
0839	778	5655	275	EOT reel 275
0839	779	5656	276	BOT reel 276
0941		5895	276	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
?		?	?	Dropped shot
0959	1075	5960	276	End Data Loss on Streamer 3 d/t Telemetry Errors
1020	1160	6045	276	Begin Data Loss on Streamer 3 d/t Telemetry Errors
1022	1164	6049	276	EOL reel 276
1022	1165	6050	277	SOT reel 277
1057	1305	6190	277	End Data Loss on Streamer 3 d/t Telemetry Errors
1112	1359	6244	277	Dropped shot
1112	1360	6245	277	Dropped shot
?		?	277	Dropped shot
?		?	277	Dropped shot
1115	1376	6263	277	Dropped shot
1115	1377	6264	277	Dropped shot
1121	1390	6277	277	Begin Data Loss on Streamer 3 d/t Telemetry Errors
?		?	277	Dropped shot
?		?	277	Dropped shot
1136	1446	6335	277	End Data Loss on Streamer 3 d/t Telemetry Errors
1203	1552	6441	277	EOL reel 277
1203	1553	6442	278	SOT reel 278
1205	1561	6450	278	Begin Data Loss on Streamer 3 d/t Telemetry Errors

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicía 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>279</b>	<b>279</b>
<b>SP #</b>	<b>5001</b>	<b>5239</b>

<b>Line</b>	<b>MGL1307ARC18</b>
<b>Sequence</b>	<b>065</b>
<b>Direction</b>	<b>087</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5239
Date MM/DD/YY	07/21/13	07/21/13
Time UTC	1339	1539
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W 5	W 4
Sea State (m)	0.5m	.05m
Water Depth (m)	4050m	4034m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

<b>General / Line Comments</b>	
Channels 730, 1720, 1761: Noisy channels	
SOL NOISY CHANNELS	
EOL NOISY CHANNELS	

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

[illegible]

<b>Observers Log</b>
----------------------

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	eEOL
<b>Tape #</b>	<b>280</b>	<b>284</b>
<b>SP #</b>	<b>6840</b>	<b>4871</b>

<b>Line</b>	<b>MGL13071364</b>
<b>Sequence</b>	<b>066</b>
<b>Direction</b>	<b>267</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6840	4871
Date MM/DD/YY	07/21/13	07/22/13
Time UTC	1546	0015
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W 4	W 4
Sea State (m)	0.5m	.5m
Water Depth (m)	4110m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



<b>Observers Log</b>
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Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
<b>Tape #</b>	<b>286</b>	<b>286</b>
<b>SP #</b>	<b>5001</b>	<b>5051</b>

<b>Line</b>	<b>MGL1307ARC19</b>
<b>Sequence</b>	<b>067</b>
<b>Direction</b>	<b>ARC</b>

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, $\mu$ B				
EOL Cable Noise, $\mu$ B				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5051
Date MM/DD/YY	07/22/13	07/22/13
Time UTC	0021	0115
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W4	N2
Sea State (m)	.5m	.5m
Water Depth (m)	5321m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

[illegible]



# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

	SOL	EOL
Tape #	287	291
SP #	4908	6802

Streamer Parameters				
	1	2	3	4
Length (m)	5850	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	468	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Description	SOL/FGSP	EOL/LGSP
SP	4908	6802
Date MM/DD/YY	07/22/13	7/22/13
Time UTC	0119	0924
Volume (cu in.)	3300in3	3300in3
Wind (kts)	N2	S4
Sea State (m)	.5m	.5m
Water Depth (m)	5327m	3992m

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

Line	MGL13071268
Sequence	068
Direction	087

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Intermittant telemtry errors Streamer 1 and streamer 3
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	Tape	
				Missed shot due to recording system errors
0119	1	4908	287	SOL MGL13071268 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0119	1	4908	287	Begin Data Loss on Streamer 3 d/t Telemetry Errors
0215		5126	287	Missed shot due to recording system errors
0217		5134	287	Missed shot due to recording system errors
	200	5109	287	End Data Loss on Streamer 3 d/t Telemetry Errors
0218		5136	287	Missed shot due to recording system errors
0258	388	5298	287	EOT reel 287
0258	389	5299	288	SOT reel 288
	401	5311	288	Begin Data Loss on Streamer 3 d/t Telemetry Errors
		??	288	Missed shot due to recording system errors
		??	288	Missed shot due to recording system errors
0324		5388	288	Missed shot due to recording system errors
0401	622	5535	288	Missed shot due to recording system errors
0443	785	5698	288	EOT reel 288
0443	786	5699	289	SOT reel 289
0514		5816	289	Missed shot due to recording system errors
0526		5861	289	Missed shot due to recording system errors
0608		6025	289	Missed shot due to recording system errors
0626	1182	6098	289	EOT reel 289
0626	1183	6099	290	SOT reel 290
0636		6146	290	Missed shot due to recording system errors
0636		6148	290	Missed shot due to recording system errors
0654		6206	290	Missed shot due to recording system errors
06:54		6212	290	Missed shot due to recording system errors
0703		6250	290	Missed shot due to recording system errors
0704		6251	290	Missed shot due to recording system errors
0704	1332	6254	290	Streamer 1 Telemetry Issue Lost Ch 1-26 Streamer 1
0705		6255	290	Missed shot due to recording system errors
0709		6268	290	Missed shot due to recording system errors
0709		6269	290	Missed shot due to recording system errors
0714		6288	290	Missed shot due to recording system errors
0714		6289	290	Missed shot due to recording system errors
0714		6290	290	Missed shot due to recording system errors
0716		6297	290	Missed shot due to recording system errors
0716		6298	290	Missed shot due to recording system errors
0729		6355	290	Dropped Shot - Lost Ch 27-106 Streamer 1
0729		6356	290	Missed shot due to recording system errors
0730		6357	290	Missed shot due to recording system errors
0732		6366	290	Missed shot due to recording system errors
0732		6367	290	Missed shot due to recording system errors
0733		6368	290	Missed shot due to recording system errors
0751		6432	290	Missed shot due to recording system errors
0751		6433	290	Missed shot due to recording system errors
0751		6434	290	Missed shot due to recording system errors
0753		6443	290	Missed shots due to speed
0753		6445	290	Missed shots due to speed
0754		6448	290	Missed shots due to speed
0755		6451	290	Missed shots due to speed
0755		6453	290	Missed shots due to speed

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	292	296
SP #	6904	4907

Line	MGL13071316
Sequence	069
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6904	4907
Date MM/DD/YY	07/22/13	07/22/13
Time UTC	1131	2012
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 5	SSW9
Sea State (m)	0.5m	0.5m
Water Depth (m)	3984m	5331m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	297	301
SP #	4865	6802

Line	MGL13071276
Sequence	070
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4865	6802
Date MM/DD/YY	07/22/13	07/23/13
Time UTC	2221	0643
Volume (cu in.)	3300in3	3300in3
Wind (kts)	S 8	S9
Sea State (m)	1m	1m
Water Depth (m)	5315m	4064m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	302	302
SP #	5001	5128

Line	MGL1307ARC20
Sequence	071
Direction	ARC

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5128
Date MM/DD/YY	07/23/13	07/23/13
Time UTC	0648	0802
Volume (cu in.)	3300in3	3300in3
Wind (kts)	S7	S8
Sea State (m)	1m	1m
Water Depth (m)	4021m	3861m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
Port Source Only due to Maintenance on Stbd Sub-Array 1
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	303	307
SP #	6817	4871

Line	MGL13071364i
Sequence	072
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6817	4871
Date MM/DD/YY	7/23/13	7/23/13
Time UTC	0827	1655
Volume (cu in.)	3300in3	3300in3
Wind (kts)	E 0-5	SSW10
Sea State (m)	<1m	0.5m
Water Depth (m)	4217m	5328m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	308	308
SP #	5001	5051

Line	MGL1307ARC21
Sequence	073
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5051
Date MM/DD/YY	07/23/13	07/23/13
Time UTC	1704	1754
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 10	SW10
Sea State (m)	0.5m	0.5m
Water Depth (m)	5321.6m	5236.7m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	309	313
SP #	4955	6838

Line	MGL13071284
Sequence	074
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4955	6838
Date MM/DD/YY	07/23/13	7/24/13
Time UTC	1805	0213
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW10	SW 8
Sea State (m)	0.5m	1.0 mm
Water Depth (m)	5321m	4024m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	314	314
SP #	5001	5040

Line	MGL1307ARC22
Sequence	075
Direction	ARC

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5040
Date MM/DD/YY	7/24/13	7/24/13
Time UTC	0220	0258
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW8	SW9
Sea State (m)	1m	1m
Water Depth (m)	4029m	3993m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	315	319
SP #	6809	4907

Line	MGL13071356i
Sequence	076
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6809	4907
Date MM/DD/YY	07/24/13	07/24/13
Time UTC	0315	1136
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW8	SW 14
Sea State (m)	1m	2m
Water Depth (m)	4266m	5320m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - 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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	320	320
SP #	5001	5121

Line	MGL1307ARC23
Sequence	077
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5121
Date MM/DD/YY	07/24/13	07/24/13
Time UTC	1142	1242
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 14	W 13
Sea State (m)	2m	1m
Water Depth (m)	5323m	5324m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - 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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	321	325
SP #	4876	6838

Line	MGL13071244i
Sequence	078
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4876	6838
Date MM/DD/YY	07/24/13	07/24/13
Time UTC	1253	2127
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W 13	WNW 6
Sea State (m)	1m	0.5m
Water Depth (m)	5321m	4094m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	326	330
SP #	6918	4907

Line	MGL13071308
Sequence	079
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6918	4907
Date MM/DD/YY	07/24/13	7/25/13
Time UTC	2314	0801
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W4	W10
Sea State (m)	1m	1m
Water Depth (m)	3989m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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





# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	331	335
SP #	4863	6838

Line	MGL13071236i
Sequence	080
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4863	6838
Date MM/DD/YY	07/25/13	07/25/13
Time UTC	0933	1816
Volume (cu in.)	3300in3	3300in3
Wind (kts)	N4	W 10
Sea State (m)	1m	0.5m
Water Depth (m)	5324m	4146m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - 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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	336	336
SP #	5001	5054

Line	MGL1307ARC1A
Sequence	081
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5054
Date MM/DD/YY	07/25/13	07/25/13
Time UTC	1824	1917
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W 10	WNW 12
Sea State (m)	0.5m	1.0m
Water Depth (m)	4036m	4005.2m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
This line is also known as ARC 24
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	FFSP - 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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	337	341
SP #	6805	4907

Line	MGL13071340i
Sequence	082
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6805	4907
Date MM/DD/YY	07/25/13	07/26
Time UTC	1932	13
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W10	W8
Sea State (m)	0.5m	1m
Water Depth (m)	4236.7m	5325m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	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	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	342	347
SP #	4747	6838

Line	MGL13071292
Sequence	083
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4747	6838
Date MM/DD/YY	07/26/13	07/26/13
Time UTC	0613	1534
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W10	SW 13
Sea State (m)	1m	1m
Water Depth (m)	5328m	4056m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	348	348
SP #	5001	5113

Line	MGL1307ARC25
Sequence	084
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5113
Date MM/DD/YY	07/26/13	07/26/13
Time UTC	1541	1733
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 13	SW 17
Sea State (m)	1m	2m
Water Depth (m)	4005m	4082m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	349	353
SP #	6841	4907

Line	MGL13071052R
Sequence	085
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6841	4907
Date MM/DD/YY	07/26/13	07/27/13
Time UTC	1742	0237
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 17	SW21
Sea State (m)	2m	3m
Water Depth (m)	4012m	5328m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	354	354
SP #	5001	5210

Line	MGL1307ARC26
Sequence	086
Direction	ARC

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5210
Date MM/DD/YY	07/27/13	07/27/13
Time UTC	0242	0426
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW21	SW20
Sea State (m)	2.5m	2.5m
Water Depth (m)	5333m	5329m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	355	359
SP #	4918	6802

Line	MGL13071300
Sequence	087
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4918	6802
Date MM/DD/YY	07/27/13	07/27/13
Time UTC	0454	1307
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 18	SW 20
Sea State (m)	2.5m	2m
Water Depth (m)	5326m	4155m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	360	360
SP #	7026	6858

Line	MGL13071348i
Sequence	088
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	7026	6858
Date MM/DD/YY	07/27/13	07/27/13
Time UTC	1500	1557
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SSW 23	SSW19
Sea State (m)	3m	2mm
Water Depth (m)	3195m	4070m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
Do Not Process - Line aborted due to broken separation rope between Str-1 & Str-2.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	361	361
SP #	5272	4871

Line	MGL13071348J
Sequence	089
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5272	4871
Date MM/DD/YY	07/28/13	07/28/13
Time UTC	0028	0219
Volume (cu in.)	3300in3	3300in3
Wind (kts)	W22	W18
Sea State (m)	3m	2.5m
Water Depth (m)	5303m	5326m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	362	362
SP #	5001	5040

Line	MGL1307ARC27
Sequence	090
Direction	ARC

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5040
Date MM/DD/YY	07/28/13	7/28/13
Time UTC	0227	0306
Volume (cu in.)	3300in3	3300in3
Wind (kts)	18 W	18W
Sea State (m)	3m	2.5m
Water Depth (m)	5320m	5321m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	363	367
SP #	4899	6803

Line	MGL13071252i
Sequence	091
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4899	6803
Date MM/DD/YY	07/28/13	07/28/13
Time UTC	0317	1134
Volume (cu in.)	3300in3	3300in3
Wind (kts)	18W	WSW 19
Sea State (m)	2.5m	2m
Water Depth (m)	5325m	4118m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	368	368
SP #	5001	5086

Line	MGL1307ARC28
Sequence	092
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5086
Date MM/DD/YY	07/28/13	07/28/13
Time UTC	1139	1304
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WSW 19	WSW 17
Sea State (m)	2m	2m
Water Depth (m)	4082m	3962m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	369	373
SP #	1657	4871

Line	MGL13071348K
Sequence	093
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	1657	4871
Date MM/DD/YY	07/28/13	07/28/13
Time UTC	1317	2216
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WSW 17	W16
Sea State (m)	2m	2m
Water Depth (m)	4105m	5324m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	LFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	374	378
SP #	4773	6838

Line	MGL13071260i
Sequence	094
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4773	6838
Date MM/DD/YY	07/28/13	7/29/13
Time UTC	2348	0846
Volume (cu in.)	3300in3	3300in3
Wind (kts)	16W	11S
Sea State (m)	2m	2m
Water Depth (m)	5324m	3966m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

Time UTC	FILE	SP	Tape	Description
2348	1	4773	374	SOL MGL13071260i3300 in3 S1G05, S2G05, S3G05, S4G05 spared
2359		4810	374	Missed recorded shot due to speed
2359		4811	374	Missed recorded shot due to speed
0003	57	4831	374	S2G4 DT -5.6 ms
0003	59	4833	374	S2G4 DT -5.4 ms
0004	61	4835	374	S2G4 DT -10.9 ms
0005	65	4839	374	S2G4 DT 9.8 ms
0005	67	4841	374	S2G4 DT -8.5 ms
0034		4951	374	Missed recorded shot due to speed
0034		4952	374	Missed recorded shot due to speed
0043		4989	374	Missed recorded shot due to buffer
0043		4990	374	Missed recorded shot due to buffer
0136		5188	374	Missed recorded shot due to buffer
0136		5189	374	Missed recorded shot due to buffer
0137	418	5198	374	EOT reel 374
0138	419	5199	375	SOT reel 375
0218	569	5349	375	S2G4 DT 10.4 ms
0219	571	5351	375	S2G4 DT 3.8 ms
0220	572	5352	375	Spared 2G4 enabled S2G5 same volume 3300
0220	575	5355	375	S2G5 DT -8.2 ms
0220	575	5355	375	S2G5 DT 5.1 ms
0247		5458	375	Missed recorded shot due to buffer
0247		5459	375	Missed recorded shot due to buffer
0252		5478	375	Missed recorded shot due to buffer
0253		5479	375	Missed recorded shot due to buffer
0328	831	5615	375	EOT reel 375
0328	832	5616	376	SOT reel 376
0334		5637	376	Missed recorded shot due to buffer
0334		5638	376	Missed recorded shot due to buffer
0347		5688	376	Missed recorded shot due to buffer
0347		5689	376	Missed recorded shot due to buffer
0402		5744	376	Missed recorded shot due to speed
0501		5972	376	Missed recorded shot due to buffer
0501		5973	376	Missed recorded shot due to buffer
0517	1247	6038	376	EOT reel 376
0517	1248	6039	376	SOT reel 377
0523		6057	377	Missed recorded shot due to buffer
0523		6058	377	Missed recorded shot due to buffer
0547		6146	377	Missed recorded shot due to buffer
0547		6147	377	Missed recorded shot due to buffer
0559		6193	377	Missed recorded shot due to buffer
0559		6194	377	Missed recorded shot due to buffer
0707	1660	6457	377	EOT reel 377
0708	1661	6458	378	SOT reel 378
0708		6459	378	Missed recorded shot due to buffer
0709		6460	378	Missed recorded shot due to buffer
0846	2036	6838	378	EOL

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	379	379
SP #	5001	5056

Line	MGL1307ARC29
Sequence	095
Direction	ARC

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5056
Date MM/DD/YY	07/29/13	7/29/13
Time UTC	0852	0947
Volume (cu in.)	3300in3	3300in3
Wind (kts)	S11	SW 14
Sea State (m)	2m	2m
Water Depth (m)	3929m	4038m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 730, 1720, 1761: Noisy channels
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	380	384
SP #	6823	4907

Line	MGL13071372
Sequence	096
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6823	4907
Date MM/DD/YY	07/29/13	07/29/2013
Time UTC	0956	1833
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 14	SW17
Sea State (m)	2m	2.0m
Water Depth (m)	4130m	5325.5m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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

Time UTC	FILE	SP	Tape	Description
0956	1	6823	380	SOL MGL13071372 3300 in3 S1G05, S2G05, S3G05, S4G05 spared
0956	1	6823	380	Noise d/t turn on all streamers
1009	51	6773	380	End noise d/t turn on all streamers
		?	380	Dropped Shot
		?	380	Dropped Shot
1039	162	6660	380	S3G1 Delta Timing at 4.2 ms
1150	412	6410	380	EOT Reel 380
1150	413	6409	381	BOT Reel 381
1158	442	6380	381	S3G1 Delta Timing at 2.2 ms
1245	618	6204	381	S3G1 Delta Timing at 5.2 ms
1246	620	6202	381	S3G1 Delta Timing at -4.2 ms
1247	622	6200	381	S3G1 Delta Timing at 4.7 ms
1247	624	6198	381	S3G1 Delta Timing at 3.8 ms
1257	662	6160	381	S3G1 Delta Timing at 3.0 ms
1257	664	6158	381	S3G1 Delta Timing at -3.0 ms
1303	686	6136	381	S3G1 Delta Timing at 4.8 ms
1304	688	6134	381	S3G1 Delta Timing at -3.7 ms
1309	708	6114	381	S3G1 Delta Timing at 4.5 ms
1309	710	6112	381	S3G1 Delta Timing at -3.1 ms
1321	754	6068	381	S3G1 Delta Timing at 4.6 ms
1321	756	6066	381	S3G1 Delta Timing at -3.4 ms
1341	824	5998	381	EOT Reel 381
1341	825	5997	382	BOT Reel 382
		?		Dropped Shot
1352	871	5950	382	S3G1 Delta Timing at 4.2 ms
1353	873	5948	382	S3G1 Delta Timing at -3.0 ms
		?		Dropped Shot
		?		Dropped Shot
1510	1157	5662	382	S3G1 Delta Timing at 3.4ms
1511	1159	5660	382	S3G1 Delta Timing at -2.5ms
1531	1236	5583	382	EOT Reel 382
1531	1237	5582	383	BOT Reel 383
1550	1313	5506	383	S3G1 Delta Timing at 3.7 ms
1559		5472	383	Dropped Shot
1559		5471	383	Dropped Shot
1613	1399	5418	383	S3G1 Delta Timing at 3.7 ms
1613	1401	5416	383	S3G1 Delta Timing at -2.5ms
1709	1399	5418	383	S3G1 Delta Timing at -3.1ms
1710	1611	5206	383	S3G1 Delta Timing at -2.1ms
1721	1648	5169	383	EOT Reel 383
1721	1649	5168	384	BOT Reel 384
1725	1667	5150	384	S3G1 Delta Timing at -2.2ms
1833	1910	4907	384	EOL

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	385	389
SP #	4844	6802

Line	MGL13071332i
Sequence	097
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4844	6802
Date MM/DD/YY	07/29/2013	7/30/13
Time UTC	2020	0456
Volume (cu in.)	3300in3	3300in3
Wind (kts)	WSW12	SW15.2
Sea State (m)	1.0m	1m
Water Depth (m)	5326.8m	4128m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 306-318, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
<b>Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.</b>
S2:G04 was spared.S2:G05 was activated.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	390	394
SP #	6861	4907

Line	MGL13071380
Sequence	098
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6861	4907
Date MM/DD/YY	07/30/13	07/30/13
Time UTC	0717	1611
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW12	SW 9
Sea State (m)	2m	0.5m
Water Depth (m)	4106m	5318m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 306-318, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
<b>Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.</b>
S2:G04 was spared.S2:G05 was activated.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	395	395
SP #	5001	5060

Line	MGL1307ARC30
Sequence	099
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	5001	5060
Date MM/DD/YY	07/30/13	07/30/13
Time UTC	1845	1944
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 12	SW 10
Sea State (m)	1m	0.5m
Water Depth (m)	5329m	5327m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 306-318, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
SOL NOISY CHANNELS
EOL NOISY CHANNELS

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



[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	396	401
SP #	4475	6802

Line	MGL13071388
Sequence	100
Direction	087

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	4475	6802
Date MM/DD/YY	07/30/13	7/31/13
Time UTC	1953	0605
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 10	SW6
Sea State (m)	0.5m	.5m
Water Depth (m)	5328m	4156m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 306-318, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
S2G5 disabled; S2G4 enabled from SOL
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]

# Observers Log

Vessel	Marcus G. Langseth
Client	Dale Sawyer
Area	Galicia 3D
Job Number	MGL1307

Chief Science Officer	Robert Steinhaus		
Science Officer			
Acquisition Leader	Klayton Curtis 12:00-24:00	Bern McKiernan 00:00-12:00	
Navigation Leader	Mike Martello 12:00-24:00	Matt Grey 00:00-12:00	

	SOL	EOL
Tape #	402	407
SP #	6996	4871

Line	MGL13071396
Sequence	101
Direction	267

Streamer Parameters				
	1	2	3	4
Length (m)	4350	5850	5850	5850
Auxiliaries	n/a	n/a	n/a	n/a
Shotpoint Interval: (m)	37.5	37.5	37.5	37.5
Offset CS - CNG (m)	210	210	210	210
Group Interval: (m)	12.5	12.5	12.5	12.5
Number of channels	348	468	468	468
Streamer Depth (m)	15.0	15.0	15.0	15.0
SOL Cable Noise, µB				
EOL Cable Noise, µB				

Source Parameters	
Total Volume	3300 in3
Work Pressure	1950psi +/- 100psi
Dual Source	yes
Depth	9
Sub-array Separation	8
COS to COS	100

Recording Parameters	
Record Length	13824
Total recording delay	0
Sample Rate	2ms
Polarity	N/A
Low-Cut	2Hz /12DB
Hi-Cut	206Hz/276 DB
Tape Format	SEGD rev. 2

Description	SOL/FGSP	EOL/LGSP
SP	6996	4871
Date MM/DD/YY	7/31/13	07/31/13
Time UTC	0817	1750
Volume (cu in.)	3300in3	3300in3
Wind (kts)	SW 10	SSW 18
Sea State (m)	0.5m	2.0m
Water Depth (m)	3604.4m	5322.9m

Cable	Dead Channels
1	16, 17, 21, 23, 97, 140, 142, 145, 146, 147, 231, 235, 237, 238, 277, 332,
1	339, 343, 347, 352, 354, 355, 357, 409, 440, 441, 458
2	172, 192, 209, 265, 295, 297, 302, 306-318, 364, 397, 409, 416, 465
3	174, 177, 178, 192, 222, 223, 224, 230, 231, 233, 280, 393, 415, 416, 421
3	422, 439
4	40, 150, 247, 306, 314, 363, 462, 463

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

General / Line Comments
Channels 666 to 678 (306 to 318 on streamer 2) are dead, Channels 730, 1720, 1761 are noisy.
Streamer 1 is electronically shortened to 4350 meters and 348 channels d/t module 9 failure.
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	FFSP - Last Full Fold SP
FOLSP - First Overlap SP	Fa - Feather Angle
BOT/EOT - Begin/End of Tape	SI - Seismic Interference
NDR - No Data Recorded	ITB - Imitation Time Break
NDR - No Data Recorded	ITB - Internal Time Break
N.T.B.P. - Not To Be Processed	

[illegible]