

Seq# 001		Line Name: MGL1112MCS01A		NAVIGATION		DATE: 09/13/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
		Line Brg : 349.3 °		LINE LOGS		JULIAN DAY: 256			
		CLIENT: USGS		SURVEY: USGS 2		MGL1111			
DC SOL : -4.1m		DEPTH SOL : 36.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : 3.8m		DEPTH EOL : 36.0m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 5.1 knots		FEATHER SOL: 23.9 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.0 knots		FEATHER EOL: -2.5 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 23.9 start of line have turn in cable °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 10 knots				MAG DEC USED : 14.23°					
WIND EOL: 8 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker					
SEAS SOL: 10.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim					
SEAS EOL: 10.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray					
SP	TIME(UTC)	EVENT	COMMENTS						
861	12:14	SOL	Start of first survey line of cruise 1112 - String3 - distance interval						
1046	13:02	EEOL	Early end of line d/t lack of recording data						
			Do not process- no seis data recorded for these shots d/t SeisNet						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	861	71° 22'	20.921"	-165° 30' 51.089"		
			LSP	1046	71° 22'	56.829"	-165° 41' 08.657"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.50m				
			NRP - COS		83.30m				
			NRP - CNG		310.00m				
			COS - CNG		226.70m				
			NRP - CMP		196.65m				
			Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 3						
			P1		P2				
			MGL1112MCS01A.p190		MGL1112MCS01A.p294				
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN				
Tailbuoy #1	na	Gun string #1	na						
		Gun string #2	na						
		Gun string #3	good						
		Gun string #4	good						
				SP spacing:		37.5m			
				line status:		do not process			

Line Name:		MGL1112MCST2		NAVIGATION		DATE: 09/13/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Line Brg :		169 °		LINE LOGS		JULIAN DAY:		256	
CLIENT: USGS			SURVEY: USGS 2			MGL1112			
DC SOL : 5575.2m		DEPTH SOL : 36.7m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : 5804.0m		DEPTH EOL : 36.6m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 5.1 knots		FEATHER SOL: -92.6 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.2 knots		FEATHER EOL: -13.7 °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: Streamer in turn °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 7 knots				MAG DEC USED : 14.23°					
WIND EOL: 9.7 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc =>		Mike Martello, Emily Decker			
SEAS SOL: 1.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc =>		Mike Martello, Sookwan Kim			
SEAS EOL: 1.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc =>		Ryan Eaton, Rachel Gray			
SP	TIME(UTC)	EVENT	COMMENTS						
2247	1357	SOL	Start of line - string 3 - distance interval						
2402	1434	EOL	End of Line Note: Line shot is a test line						
			VESSEL POSITION						
					Shotpoints	Latitude (N / +)		Longitude (W / -)	
FSP					2247	71° 26' 02.299"		-165° 42' 36.920"	
LSP					2402	71° 22' 56.829"		-165° 41' 08.657"	
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.50m				
			NRP - COS		83.30m				
			NRP - CNG		310.00m				
			COS - CNG		226.70m				
			NRP - CMP		196.65m				
			Note: LMN line parameter set to great circle line						
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy						
			Gun array in use: String 3						
			P1 P2						
			MGL1112MCST2.p190 MGL1112MCST2.p294						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN			
Tailbuoy #1	na	Gun string #1	na	SP spacing: 37.5m					
		Gun string #2	na	line status: this is a complete test line					
		Gun string #3	good						
		Gun string #4	good						

Line Name: MGL1112MCS01AR		NAVIGATION		DATE: 09/13/2011	
Line Brg : 349.3 °		LINE LOGS		JULIAN DAY: 256	
CLIENT: USGS		SURVEY: USGS 2		MGL1112	
DC SOL : 507.3m		DEPTH SOL : 39.5m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : -8.4m		DEPTH EOL : 37.9m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 4.9 knots		FEATHER SOL: -89.9 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.1 knots		FEATHER EOL: 1.2 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 2.6 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: ? knots				MAG DEC USED : 14.23°	
WIND EOL: 8 e knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 1m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 1m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
822	1546	SOL	Start of line - string4 - distance interval		
864	15:57	Sonobouy	Launch seq. 001 stbd side failed		
907	16:07	Sonobouy	Launch seq. 002 stbd side		
1000	16:29	CrackerJack	Crossed Cracker Jack Drill Site		
822-860	15:46-15:55	Prime SP	First time shot		
861-1046	15:56-16:40	Alpha Shots	Alpha Shots		
1047	16:40	Prime SP	All prime shots to the end of line		
2320	2141	Popcorn	Crossed POPCORN Drill Site		
2402	2200	EOL	End of Line		
			VESSEL POSITION		
			Shotpoints Latitude (N / +) Longitude (W / -)		
			FSP	822	71° 22' 56.829" -165° 41' 08.657"
			LSP	2402	71° 51' 14.607" -165° 48' 23.221"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP - CNG	310.00m	
			COS - CNG	206.70m	
			NRP - CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS01AR.p19 MGL1112MCS01AR.p294		
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1112LMN 2D_1x6.SCN(001) mgl2010.RTCN	
Tailbuoy #1	na	Gun string #1	na	SP spacing: 37.5m	
		Gun string #2	na	line status: complete line	
		Gun string #3	good		
		Gun string #4	good		

[illegible]

[illegible]

Line Name: MGL1112MCS01D		NAVIGATION		DATE: 09/15/2011	
Line Brg : 348 °		LINE LOGS		JULIAN DAY: 258	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -16.2m		DEPTH SOL : 425.3m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 725.8m		DEPTH EOL : 1361.2m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.3 knots		FEATHER SOL: 30.0 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.8 knots		FEATHER EOL: -8.5 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: -8.5 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 10.9NE knots				MAG DEC USED : 14.23°	
WIND EOL: E 5 kts knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 1m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 1m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
1029	2056	SOL	Start of line - String 3 - distance interval		
1292	2152	Sonobuoy	launch sonobuoy 016		
1895	2359	MSP	Midnight Shot Point		
2016	0025	Nav jump	Duplicate shot point 2016		
2124	0048	EOL	End of Line due to Ice flows		
			VESSEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
			FSP	1029	75° 10' 26.834"
			LSP	2124	75° 32' 07.605"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	83.30m	
			NRP - CNG	310.00m	
			COS - CNG	226.70m	
			NRP - CMP	196.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 3		
			P1 P2		
			MGL1112MCS01D.p190 MGL1112MCS01D.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	na		
		Gun string #2	na		
		Gun string #3	good		
		Gun string #4	good		
			MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 37.5m		
			line status: complete early d/t ice floes		

Line Name: MGL1112MCS0T3		NAVIGATION		DATE: 09/16/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Seq# 007		Line Brg : 76.9 °		LINE LOGS		JULIAN DAY: 259	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112			
DC SOL : 24.6m		DEPTH SOL : 1422.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : -1005.0m		DEPTH EOL : 1567.8m		NAVIGATION SYSTEM USED: SeaPath 200			
SMG SOL: 5.6 knots		FEATHER SOL: 26.3 °		NAVIGATION SYSTEM USED: Pos MV v3			
SMG EOL: 5.8 knots		FEATHER EOL: 3.4 °		GRAVITY METER: BMG-II: used, SN210			
WEATHER		MAX FEATHER: -9.7 °		MAGNETOMETER: GeoMetrics: used			
WIND SOL: 8 E kt knots				MAG DEC USED : 14.23°			
WIND EOL: 8 SE kt knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker			
SEAS SOL: 1m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim			
SEAS EOL: 1m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray			
SP	TIME(UTC)	EVENT	COMMENTS				
1026	0122	SOL	Start of line - string 3 - distance interval				
1109	0140	Sonobuoy	Launch sonobuoy 017				
2136	0520	EOL	End of line				
			VESSEL POSITION				
			Shotpoints		Latitude (N / +)		Longitude (W / -)
			FSP	1026	75° 33'	46.243°	-172° 20' 42.408"
			LSP	2136	75° 39'	04.902°	-170° 53' 16.231"
			NAVIGATION OFFSET APPLIED				
			NRP - Stern		29.50m		
			NRP - COS		83.30m		
			NRP – CNG		310.00m		
			COS – CNG		226.70m		
			NRP – CMP		196.65m		
			Note: LMN line parameter set to great circle line				
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy				
			Gun array in use: String 3				
			P1 P2				
			MGL1112MCS013T.p19 MGL1112MCS013T.p294				
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
Tailbuoy #1	na	Gun string #1	na				
		Gun string #2	na				
		Gun string #3	good				
		Gun string #4	good				
line status:		complete					

Line Name: MGL1112MCS01E		NAVIGATION		DATE: 09/16/2011	
Line Brg : 133 °		LINE LOGS		JULIAN DAY: 259	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : 477.0m		DEPTH SOL : 1568.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 0.5m		DEPTH EOL : 216.2m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.7 knots		FEATHER SOL: 59.8 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.5 knots		FEATHER EOL: 1.1 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: -7.1 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 7 SE knots				MAG DEC USED : 14.23°	
WIND EOL: 16.6E knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 1m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 1m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
3311	0523	SOL	Start of Line - string 3 - distance interval		
4465	0927	DGPS	Not receiving differentials		
4533	0942	DGPS	V1G1 receiving differentials		
4263	0845	Sonobuoy	Sonobuoy Launch Seq019		
5095	1139	Sonobuoy	Sonobuoy Launch Seq020		
7407	1951	Sonobuoy	Sonobuoy Launch Seq021		
7663	2046	GPS	V1G2 not responding – re-estimate to fix ship position		
7667	2046	GPS	Ship and shot position appear normal again		
8579	2359	MSP	Midnight shot point		
8846	0056	Source	S3G2 disabled, new vol. 1470CU		
9325	0238	Source	Deploying Gun String 4		
9373	0248	EOL	End of line		
			VESEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
			FSP	3311	75° 39' 03.875" -170° 52' 33.655"
			LSP	9373	74° 08' 04.834" -165° 39' 13.650"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	83.30m	
			NRP – CNG	310.00m	
			COS – CNG	226.70m	
			NRP – CMP	196.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 3		
			P1 P2		
			MGL1112MCS01E.p190 MGL1112MCS01E.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	na	MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN	
		Gun string #2	na	SP spacing: 37.5m	
		Gun string #3	good	line status: incomplete	
		Gun string #4	good		

Line Name: MGL1112MCS01EA		NAVIGATION		DATE: 09/17/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Seq# 009		Line Brg : 133 °		LINE LOGS		JULIAN DAY: 260	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112			
DC SOL : -2.4m		DEPTH SOL : 216.4m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : -62.1m		DEPTH EOL : 117.6m		NAVIGATION SYSTEM USED: SeaPath 200			
SMG SOL: 5.6 knots		FEATHER SOL: 1.4 °		NAVIGATION SYSTEM USED: Pos MV v3			
SMG EOL: 5.2 knots		FEATHER EOL: 0.8 °		GRAVITY METER: BMG-II: used, SN210			
WEATHER		MAX FEATHER: 2.8 °		MAGNETOMETER: GeoMetrics: used			
WIND SOL: 10 E knots				MAG DEC USED : 14.23°			
WIND EOL: 20 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker			
SEAS SOL: 2.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim			
SEAS EOL: 2.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray			
SP	TIME(UTC)	EVENT	COMMENTS				
9384	0250	SOL	Start of Line - string 4 - distance interval				
9547	0325	Sonobuoy	Launch Sonobuoy 022				
10507	0650	Sonobuoy	Launch Sonobuoy 023				
12983	1535	Turn	start turn toMCS01T				
13020	1544	EOL	EOL MGL111201EA SEQ 009				
			VESEL POSITION				
			Shotpoints Latitude (N / +) Longitude (W / -)				
			FSP	9384	74° 07' 54.536"	-165° 58' 42.400"	
			LSP	13020	73° 10' 17.987"	-162° 57' 40.859"	
			NAVIGATION OFFSET APPLIED				
			NRP - Stern 29.50m				
			NRP - COS 103.30m				
			NRP - CNG 310.00m				
			COS - CNG 206.70m				
			NRP - CMP 206.65m				
			Note: LMN line parameter set to great circle line				
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy				
			Gun array in use: String 4				
			P1 P2				
			MGL1112MCS01EA.p19 MGL1112MCS01EA.p294				
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1112.LMN 2D_1x6.SCN(001) mgl/2010.RTCN		
Tailbuoy #1	na	Gun string #1	na	SP spacing: 37.5m			
		Gun string #2	na	line status: Complete			
		Gun string #3	good				
		Gun string #4	good				

Seq# 010		Line Name: MGL1112MCS01T		NAVIGATION		DATE: 09/17/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 49.6 °		LINE LOGS		JULIAN DAY: 260																			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112																	
DC SOL : -807.9m		DEPTH SOL : 121.6m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : -74.3m		DEPTH EOL : 262.5m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 5.7 knots		FEATHER SOL: -91.2 °		NAVIGATION SYSTEM USED: Pos MV v3																					
SMG EOL: 5.8 knots		FEATHER EOL: -1.5 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: -3.5 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 15 NE knots				MAG DEC USED : 14.23°																					
WIND EOL: 19.6 NE knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker																					
SEAS SOL: 2.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim																					
SEAS EOL: 2.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1022	1546	SOL	Start of Line - string 4 - distance interval																						
2473	2056	GPS	Lost differential GPS																						
2489	2100	GPS	GPS Self corrected – no shots lost																						
2507	2103	GPS	Lost differential GPS																						
2514	2105	GPS	GPS Self corrected – no shots lost																						
2626	2129	GPS	Nav jump – no shots missed																						
2657	2135	EOL	End of Line																						
			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="4" style="text-align: center;">VESSEL POSITION</th> </tr> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> <tr> <td>FSP</td> <td>1022</td> <td>73° 10' 15.527"</td> <td>-162° 57' 02.020"</td> </tr> <tr> <td>LSP</td> <td>2657</td> <td>73° 31' 01.671"</td> <td>-161° 27' 45.775"</td> </tr> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1022	73° 10' 15.527"	-162° 57' 02.020"	LSP	2657	73° 31' 01.671"	-161° 27' 45.775"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1022	73° 10' 15.527"	-162° 57' 02.020"																						
LSP	2657	73° 31' 01.671"	-161° 27' 45.775"																						
			<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">NAVIGATION OFFSET APPLIED</th> </tr> <tr> <td>NRP - Stern</td> <td>29.50m</td> </tr> <tr> <td>NRP - COS</td> <td>103.30m</td> </tr> <tr> <td>NRP - CNG</td> <td>310.00m</td> </tr> <tr> <td>COS - CNG</td> <td>206.70m</td> </tr> <tr> <td>NRP - CMP</td> <td>206.65m</td> </tr> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.50m	NRP - COS	103.30m	NRP - CNG	310.00m	COS - CNG	206.70m	NRP - CMP	206.65m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.50m																								
NRP - COS	103.30m																								
NRP - CNG	310.00m																								
COS - CNG	206.70m																								
NRP - CMP	206.65m																								
			<p>Note: LMN line parameter set to great circle line</p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 4</p>																						
			<div style="text-align: center;"> P1 P2 MGL1112MCS01T.p19C MGL1112MCS01T.p294 </div>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:																						
Tailbuoy #1	na	Gun string #1	na																						
		Gun string #2	na																						
		Gun string #3	good																						
		Gun string #4	good																						
				MGL1112.LMN		2D_1x6.SCN(001)		mgl2010.RTCN																	
				SP spacing:		37.5m																			
				line status:		complete																			

[illegible]

Page 1

Line Name:		MGL1112MCST5		NAVIGATION		DATE:		09/19/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Line Brg :		70 °		LINE LOGS		JULIAN DAY:		262			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112			
DC SOL : 429.9m		DEPTH SOL : 1949.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary							
DC EOL : 3197.3m		DEPTH EOL : 1475.0m		NAVIGATION SYSTEM USED: SeaPath 200							
SMG SOL: 5.7 knots		FEATHER SOL: -40.1 °		NAVIGATION SYSTEM USED: Pos MV v3							
SMG EOL: 6.1 knots		FEATHER EOL: -37.7 °		GRAVITY METER: BMG-II: used, SN210							
WEATHER		MAX FEATHER: na °		MAGNETOMETER: GeoMetrics: used							
WIND SOL: 6.3 knots		MAG DEC USED : 14.23°									
WIND EOL: 8.6 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker							
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim							
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray							
SP	TIME(UTC)	EVENT	COMMENTS								
1040	1351	SOL	Start of Line - string 4 - distance interval								
1058	1355	Spectra	DGPS lost all corrections								
1361	1501	EOL	End of Line d/t steering to avoid ice								
			VESSEL POSITION								
			FSP		Shotpoints		Latitude (N / +)		Longitude (W / -)		
			LSP		1040		76° 18' 11.499"		-168° 38' 23.006"		
					1361		76° 19' 05.000"		-168° 09' 14.254"		
			NAVIGATION OFFSET APPLIED								
			NRP - Stern		29.50m						
			NRP - COS		103.30m						
			NRP - CNG		310.00m						
			COS - CNG		206.70m						
			NRP - CMP		206.65m						
			Note: LMN line parameter set to great circle line								
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy								
			Gun array in use: String 4								
			P1 P2								
			MGL1112MCST5.p190 MGL1112MCST5p294								
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN					
Tailbuoy #1	na	Gun string #1	drops out	SP spacing: 37.5m							
		Gun string #2	na	line status: incomplete							
		Gun string #3	na								
		Gun string #4	na								

Seq# 014		Line Name: MGL1112MCST6		NAVIGATION		DATE: 09/19/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
		Line Brg : 75 °		LINE LOGS		JULIAN DAY: 262			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112	
DC SOL : 4212.1m		DEPTH SOL : 572.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -7263.7m		DEPTH EOL : 382.2m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 5.6 knots		FEATHER SOL: -18.8 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.5 knots		FEATHER EOL: 24.4 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 38.8 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 9.3 knots				MAG DEC USED : 14.23°					
WIND EOL: 9.3 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker					
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim					
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray					
SP	TIME(UTC)	EVENT	COMMENTS						
1319	1708	SOL	Start of Line - string 3 - distance interval						
1326	1710	Spectra	DGPS online receiving corrections						
1418	1731	Spectra	SOTurn Portside 20 degrees						
1715	1837	Spectra	will hold 35deg heading for awhile						
1790	1857	Spectra	Changing heading to 65 degrees						
1903	1922	Spectra	Back to 60 degrees, now heading to 30 degrees						
1983	1946	SOTurn	Start of turn toward MGL1112MCS03B						
2105	2016	EOL	End of Line						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	1319	76° 09' 09.894"		-167° 48' 35.209"		
			LSP	2105	76° 18' 59.927"		-166° 50' 20.699"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.50m				
			NRP - COS		83.30m				
			NRP - CNG		310.00m				
			COS - CNG		226.70m				
			NRP - CMP		196.65m				
			Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 3						
			P1		P2				
			MGL1112MCST6.p190		MGL1112MCST6294				
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN			
Tailbuoy #1	na	Gun string #1	drops out			SP spacing:		37.5m	
		Gun string #2	na			line status:		complete	
		Gun string #3	na						
		Gun string #4	na						

[illegible]

Line Name: MGL1112MCS03BA		NAVIGATION		DATE: 09/19/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE											
Seq# 016		Line Brg : 139.5 °		LINE LOGS		JULIAN DAY: 262											
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112													
DC SOL : 1.8m		DEPTH SOL : 371.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary													
DC EOL : 11.2m		DEPTH EOL : 2964.0m		NAVIGATION SYSTEM USED: SeaPath 200													
SMG SOL: 5.9 knots		FEATHER SOL: 9.9 °		NAVIGATION SYSTEM USED: Pos MV v3													
SMG EOL: 5.7 knots		FEATHER EOL: -5.6 °		GRAVITY METER: BMG-II: used, SN210													
WEATHER		MAX FEATHER:		MAGNETOMETER: GeoMetrics: used													
WIND SOL: 9 N knots				MAG DEC USED : 14.23°													
WIND EOL: 16.2 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker													
SEAS SOL: 1.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim													
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray													
SP	TIME(UTC)	EVENT	COMMENTS														
1349	2056	SOL	Start of Line - string 3 - distance interval														
1467	2121	Sonobuoy	Sonobuoy launch seq. 039														
2211	2323	MSP	Midnight position														
2896	0224	Sonobuoy	Sonobuoy launch seq. 040														
4604	0828	XBT	Lauch XBT 141														
4675	0842	SPECTRA	DGPS lost all corrections for V1G2 and V1G3														
4767	0903	SPECTRA	DGPS receiving corrections for V1G2 and V1G3														
5678	1216	Sonobuoy	Sonobuoy launch seq. 0341														
6843	1622	SPECTRA	missed shot point d/t nav jump														
6915	1632	CNAV	V1G2 elevation mask was changed from 7 to 3. DGPS loss of all corrections														
6930	1649	SPECTRA	SCN display frozen														
6984	1652	SPECTRA	DGPS receiving corrections														
9029	2359	MSP	Midnight position														
10377	0449	EOL	End of Line														
			<div> <div> VESSEL POSITION </div> <table> <tr> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> <tr> <td>FSP 1349</td> <td>76° 16' 28.376"</td> <td>-166° 38' 37.565"</td> </tr> <tr> <td>LSP 10377</td> <td>73° 50' 22.551"</td> <td>-159° 36' 22.290"</td> </tr> </table> </div>					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP 1349	76° 16' 28.376"	-166° 38' 37.565"	LSP 10377	73° 50' 22.551"	-159° 36' 22.290"	
Shotpoints	Latitude (N / +)	Longitude (W / -)															
FSP 1349	76° 16' 28.376"	-166° 38' 37.565"															
LSP 10377	73° 50' 22.551"	-159° 36' 22.290"															
			<div> <div> NAVIGATION OFFSET APPLIED </div> <table> <tr> <td>NRP - Stern</td> <td>29.50m</td> </tr> <tr> <td>NRP - COS</td> <td>83.30m</td> </tr> <tr> <td>NRP - CNG</td> <td>310.00m</td> </tr> <tr> <td>COS - CNG</td> <td>226.70m</td> </tr> <tr> <td>NRP - CMP</td> <td>196.65m</td> </tr> </table> </div>					NRP - Stern	29.50m	NRP - COS	83.30m	NRP - CNG	310.00m	COS - CNG	226.70m	NRP - CMP	196.65m
NRP - Stern	29.50m																
NRP - COS	83.30m																
NRP - CNG	310.00m																
COS - CNG	226.70m																
NRP - CMP	196.65m																
			<div> <div> Note: LMN line parameter set to great circle line </div> <div> Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 3 </div> </div>														
			<div> <div> P1 </div> <div> P2 </div> <div> MGL1112MCS03BA.p1f </div> <div> MGL1112MCS03BA.p294 </div> </div>														
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112.LMN 2D_1x6.SCN(001) mgl/2010.RTCN											
Tailbuoy #1	na	Gun string #1	drops out			SP spacing: 37.5m											
		Gun string #2	na			line status: complete											
		Gun string #3	na														
		Gun string #4	na														

[illegible]

[illegible]

[illegible]

[illegible]

Seq# 021		Line Name: MGL1112MCS04T		NAVIGATION		DATE: 09/22/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
		Line Brg : 103.8 °		LINE LOGS		JULIAN DAY: 265			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112	
DC SOL : na		DEPTH SOL : 549.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : na		DEPTH EOL : 1036.7m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 5.49 knots		FEATHER SOL: 93.5 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.9 knots		FEATHER EOL: -0.8 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 93.5 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 9 nw knots				MAG DEC USED : 14.23°					
WIND EOL: 9 se knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker					
SEAS SOL: 1.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim					
SEAS EOL: CALM		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray					
SP	TIME(UTC)	EVENT	COMMENTS						
1001	2308	SOL	Start of Line – gunstring 4 - No differentials for distance shooting – Time sp shooting 12.8 seconds						
1241	2359	MSP	Midnight Shot point						
1373	0028	EM122	EM122 offline – Gyro troubleshooting – restarting SEAPATH						
1398	0033	SPECTRA	NCC lockup						
NA	0036	EM122	EM122 ONLINE – resume logging						
1001	0037	SPECTRA	Spectra NCC reset – receive Seapath- Sps reset to 1001 – lat 76 56 24.1416n lon 165 18 12.3675w						
1343	0150	Sonobuoy	Launch Sonobuoy 048						
2287	0511	EOL	End of line – gunstring 4 No differentials for distance shooting – time sp shooting 12.8 seconds						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	1001	76° 58' 34.435"		-165° 55' 14.514"		
			LSP	2287	76° 49' 25.054"		-163° 28' 14.283"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.50m				
			NRP - COS		103.30m				
			NRP - CNG		310.00m				
			COS - CNG		206.70m				
			NRP - CMP		206.65m				
			Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 4						
			<div style="display: flex; justify-content: space-around;"> <div> P1 <small>MGL1112MCS04T.p190</small> </div> <div> P2 <small>MGL1112MCS04T.p294</small> </div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:						
Tailbuoy #1	na	Gun string #1	drops out						
		Gun string #2	na						
		Gun string #3	na						
		Gun string #4	na						
				MGL1112.LMN		2D_1x6.SCN(001)		mgl2010.RTCN	
				SP spacing:		12.8 sec.			
				line status:		complete			

[illegible]

[illegible]

[illegible]

[illegible]

Line Name: MGL1112MCS05D		NAVIGATION		DATE: 09/23/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE													
Seq# 026		Line Brg : 232.3 °		LINE LOGS		JULIAN DAY: 266													
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112															
DC SOL : 19.2m		DEPTH SOL : 277.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary															
DC EOL : 2.6m		DEPTH EOL : 221.8m		NAVIGATION SYSTEM USED: SeaPath 200															
SMG SOL: 6.3 knots		FEATHER SOL: -3.4 °		NAVIGATION SYSTEM USED: Pos MV v3															
SMG EOL: 5.8 knots		FEATHER EOL: -1.2 °		GRAVITY METER: BMG-II: used, SN210															
WEATHER		MAX FEATHER: -4.9 °		MAGNETOMETER: GeoMetrics: used															
WIND SOL: 2.1 knots				MAG DEC USED : 14.23°															
WIND EOL: 3.2 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker															
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim															
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray															
SP	TIME(UTC)	EVENT	COMMENTS																
1001	18:00	SOL	Start of line - shooting on time - string 3																
1025	18:05	SPECTRA	DGPS back online receiving corrections																
1780	20:46	Sonobuoy	Launch Sonobuoy 050																
1973	21:27	EOL	End of Line																
			VESSEL POSITION																
			<table border="1"> <thead> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>1001</td> <td>76° 01' 33.556"</td> <td>-167° 17' 02.345"</td> </tr> <tr> <td>LSP</td> <td>1973</td> <td>75° 48' 00.460"</td> <td>-168° 18' 41.262"</td> </tr> </tbody> </table>						Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1001	76° 01' 33.556"	-167° 17' 02.345"	LSP	1973	75° 48' 00.460"	-168° 18' 41.262"
	Shotpoints	Latitude (N / +)	Longitude (W / -)																
FSP	1001	76° 01' 33.556"	-167° 17' 02.345"																
LSP	1973	75° 48' 00.460"	-168° 18' 41.262"																
			NAVIGATION OFFSET APPLIED																
			NRP - Stern 29.50m																
			NRP - COS 83.30m																
			NRP - CNG 310.00m																
			COS - CNG 206.70m																
			NRP - CMP 196.65m																
			<p>Note: LMN line parameter set to great circle line</p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 3</p>																
			<p>P1 P2</p> <p>MGL1112MCS05D.p190 MGL1112MCS05D.p294</p>																
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN														
Tailbuoy #1	na	Gun string #1 drops out			SP spacing: 12.8s														
		Gun string #2 na			line status: incomplete														
		Gun string #3 na																	
		Gun string #4 na																	

Seq# 027		Line Name: MGL1112MCS05E		NAVIGATION		DATE: 09/23/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 232.3 °		LINE LOGS		JULIAN DAY: 266																			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112																	
DC SOL : 2.5m		DEPTH SOL : 214.6m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : -135.7m		DEPTH EOL : 355.5m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 5.8 knots		FEATHER SOL: -1.2 °		NAVIGATION SYSTEM USED: Pos MV v3																					
SMG EOL: 4.9 knots		FEATHER EOL: -3.4 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: 1.3 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 3.4 knots								MAG DEC USED : 14.23°																	
WIND EOL: 10.3NE knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker																					
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim																					
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray																					
SP	TIME(UTC)	EVENT	COMMENTS																						
5671	2129	SOL2	Start of line – SHOOTING ON DISTANCE 37.5m differential GPS active – String 3																						
6005	2240	SPECTRA	Nav Jump – seapath reports MODE 6 – RE-ESTIMATE POSITION																						
6013	2241	SPECTRA	Nav corrects, however shots are not perfectly aligned to line																						
6037	2246	SPECTRA	Re-estimate – vessel and source position corrected																						
6392	2359	MSP	Midnight Shot Point																						
6799	0125	SPECTRA	NAV Jump – All GPS receive corrections, shot points on target – NO RE-ESTIMATION DONE																						
9002	0902	Sonobuoy	Sonobuoy stop logging SEQ 051																						
9146	0931	Airguns	Pressure down																						
9173	0937	Airguns	First good shot point. Pressure back																						
9212	0947	Airguns	Deploying String 4																						
9260	0958	Airguns	String 4 deployed. Perparing string 3																						
9330	1015	EOL	End of line																						
			NAVIGATION OFFSET APPLIED																						
			<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <th colspan="4" style="text-align: center;">VESSEL POSITION</th> </tr> <tr> <th></th> <th style="text-align: center;">Shotpoints</th> <th style="text-align: center;">Latitude (N / +)</th> <th style="text-align: center;">Longitude (W / -)</th> </tr> <tr> <td style="text-align: center;">FSP</td> <td style="text-align: center;">5671</td> <td style="text-align: center;">75° 47' 50.076"</td> <td style="text-align: center;">-168° 19' 27.313"</td> </tr> <tr> <td style="text-align: center;">LSP</td> <td style="text-align: center;">9330</td> <td style="text-align: center;">76° 56' 16.533"</td> <td style="text-align: center;">-171° 48' 15.196"</td> </tr> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	5671	75° 47' 50.076"	-168° 19' 27.313"	LSP	9330	76° 56' 16.533"	-171° 48' 15.196"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	5671	75° 47' 50.076"	-168° 19' 27.313"																						
LSP	9330	76° 56' 16.533"	-171° 48' 15.196"																						
			<table border="1" style="width:100%; border-collapse: collapse; font-size: 0.8em;"> <tr> <td style="width: 30%;">NRP - Stern</td> <td style="text-align: right;">29.50m</td> </tr> <tr> <td>NRP - COS</td> <td style="text-align: right;">83.30m</td> </tr> <tr> <td>NRP - CNG</td> <td style="text-align: right;">310.00m</td> </tr> <tr> <td>COS - CNG</td> <td style="text-align: right;">226.70m</td> </tr> <tr> <td>NRP - CMP</td> <td style="text-align: right;">196.65m</td> </tr> </table>							NRP - Stern	29.50m	NRP - COS	83.30m	NRP - CNG	310.00m	COS - CNG	226.70m	NRP - CMP	196.65m						
NRP - Stern	29.50m																								
NRP - COS	83.30m																								
NRP - CNG	310.00m																								
COS - CNG	226.70m																								
NRP - CMP	196.65m																								
			<p><u>Note: LMN line parameter set to great circle line</u></p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 3</p>																						
			<div style="display: flex; justify-content: space-around; font-size: 0.8em;"> <div> P1 MGL1112MCS05E.p190 </div> <div> P2 MGL1112MCS05E.p294 </div> </div>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN																			
Tailbuoy #1	na	Gun string #1	drops out			SP spacing: 12.8sec/37.5m																			
		Gun string #2	na			line status: complete																			
		Gun string #3	na																						
		Gun string #4	na																						

Line Name: MGL1112MCS05T		NAVIGATION		DATE: 09/24/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE													
Seq# 028		Line Brg : 135 °		LINE LOGS		JULIAN DAY: 267													
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112															
DC SOL : -51.9m		DEPTH SOL : 354.4m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary															
DC EOL : -110.7m		DEPTH EOL : 222.5m		NAVIGATION SYSTEM USED: SeaPath 200															
SMG SOL: 5.4 knots		FEATHER SOL: -79.2 °		NAVIGATION SYSTEM USED: Pos MV v3															
SMG EOL: 5.8 knots		FEATHER EOL: -0.6 °		GRAVITY METER: BMG-II: used, SN210															
WEATHER		MAX FEATHER: -2.9 °		MAGNETOMETER: GeoMetrics: used															
WIND SOL: 16.0SE knots				MAG DEC USED : 14.23°															
WIND EOL: 20.6 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker															
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim															
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray															
SP	TIME(UTC)	EVENT	COMMENTS																
1049	1031	SOL	Start of line – SHOOTING ON DISTANCE 37.5m differential GPS active- String 4																
1059	1033	Maggie	Data invalid- caught on string 3																
1071	1036	EOTurn	End of turn portside																
1112	1047	Maggie	on board- w/ finished inspection- preparing for deployment																
1118	1048	Airguns	string 3 on board																
1132	1050	Maggie	deployed																
1158	1057	SPECTRA	Did estimate of position																
2250	1441	SOTurn	Start of turn portside																
2263	1444	EOL	End of Line																
			VESSEL POSITION																
			<table border="1"> <thead> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>1049</td> <td>74° 55' 02.496"</td> <td>-171° 48' 03.332"</td> </tr> <tr> <td>LSP</td> <td>2263</td> <td>74° 37' 34.458"</td> <td>-170° 42' 49.540"</td> </tr> </tbody> </table>						Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1049	74° 55' 02.496"	-171° 48' 03.332"	LSP	2263	74° 37' 34.458"	-170° 42' 49.540"
	Shotpoints	Latitude (N / +)	Longitude (W / -)																
FSP	1049	74° 55' 02.496"	-171° 48' 03.332"																
LSP	2263	74° 37' 34.458"	-170° 42' 49.540"																
			NAVIGATION OFFSET APPLIED																
			NRP - Stern 29.50m																
			NRP - COS 103.30m																
			NRP - CNG 310.00m																
			COS - CNG 206.70m																
			NRP - CMP 206.65m																
			<u>Note: LMN line parameter set to great circle line</u> Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 4																
			<div style="display: flex; justify-content: space-around;"> <div> P1 MGL1112MCS05T.p190 </div> <div> P2 MGL1112MCS05T.p294 </div> </div>																
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN														
Tailbuoy #1	na	Gun string #1	drops out	SP spacing: 37.5m															
		Gun string #2	na	line status: Complete															
		Gun string #3	na																
		Gun string #4	na																

SEQ 29		Line Name: MGL1112MCS06		NAVIGATION		DATE: 09/24/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE													
		Line Brg : 44.2 °		LINE LOGS		JULIAN DAY: 267															
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112													
DC SOL : -26.8m		DEPTH SOL : 209.5m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																	
DC EOL : -14.9m		DEPTH EOL : 834.5m		NAVIGATION SYSTEM USED: SeaPath 200																	
SMG SOL: 5.8 knots		FEATHER SOL: -76.1 °		NAVIGATION SYSTEM USED: Pos MV v3																	
SMG EOL: 5.9 knots		FEATHER EOL: -0.2 °		GRAVITY METER: BMG-II: used, SN210																	
WEATHER		MAX FEATHER: -8.0 °		MAGNETOMETER: GeoMetrics: used																	
WIND SOL: 18.3 knots				MAG DEC USED : 14.23°																	
WIND EOL: 10.7 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker																	
SEAS SOL: 0.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim																	
SEAS EOL: 0.5m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray																	
SP	TIME(UTC)	EVENT	COMMENTS																		
1055	1459	SOL	Start of line – SHOOTING ON DISTANCE 37.5m differential GPS active- String 4																		
1080	1504	EOTurn	End of turn portside																		
2203-2218	1854-1857	Spectra	Main Lockup & missed SP																		
2359	3708	MSP	Midnight position																		
7082	1128	Spectra	Lost diff's for V1G1 (C-Nav 3050)																		
7720	13:34	Spectra	lost all differentials																		
7745	1342	EOL	End of Line																		
			<div> <div>VESEL POSITION</div> <table> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> <tr> <td>FSP</td> <td>1055</td> <td>74° 37' 37.155"</td> <td>-170° 37' 37.136"</td> </tr> <tr> <td>LSP</td> <td>7745</td> <td>76° 09' 05.646"</td> <td>-164° 04' 14.578"</td> </tr> </table> </div>								Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1055	74° 37' 37.155"	-170° 37' 37.136"	LSP	7745	76° 09' 05.646"	-164° 04' 14.578"
	Shotpoints	Latitude (N / +)	Longitude (W / -)																		
FSP	1055	74° 37' 37.155"	-170° 37' 37.136"																		
LSP	7745	76° 09' 05.646"	-164° 04' 14.578"																		
			<div> <div>NAVIGATION OFFSET APPLIED</div> <table> <tr> <td>NRP - Stern</td> <td>29.50m</td> </tr> <tr> <td>NRP - COS</td> <td>103.30m</td> </tr> <tr> <td>NRP - CNG</td> <td>310.00m</td> </tr> <tr> <td>COS - CNG</td> <td>206.70m</td> </tr> <tr> <td>NRP - CMP</td> <td>206.65m</td> </tr> </table> </div>							NRP - Stern	29.50m	NRP - COS	103.30m	NRP - CNG	310.00m	COS - CNG	206.70m	NRP - CMP	206.65m		
NRP - Stern	29.50m																				
NRP - COS	103.30m																				
NRP - CNG	310.00m																				
COS - CNG	206.70m																				
NRP - CMP	206.65m																				
			<div> <div>Note: LMN line parameter set to great circle line</div> <div>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</div> <div>Gun array in use: String 4</div> </div>																		
			<div> <div>P1</div> <div>P2</div> <div>MGL1112MCS06.p190</div> <div>MGL1112MCS06.p294</div> </div>																		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN														
Tailbuoy #1	na	Gun string #1	drops out			SP spacing:		37.5m													
		Gun string #2	na			line status:		incomplete													
		Gun string #3	na																		
		Gun string #4	na																		

[illegible]

[illegible]

[illegible]

[illegible]

SEQ 34		Line Name: MGL1112MCS07B		NAVIGATION		DATE: 09/26/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
		Line Brg : 233.2 °		LINE LOGS		JULIAN DAY: 269			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112	
DC SOL : -2.7m		DEPTH SOL : 1904.6m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -87.4m		DEPTH EOL : 181.0m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 6.0 knots		FEATHER SOL: .4 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.9 knots		FEATHER EOL: 1.4 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 4.4 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 4.6 knots				MAG DEC USED : 14.23°					
WIND EOL: 7.2 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker					
SEAS SOL: FAC		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim					
SEAS EOL: 1.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray					
SP	TIME(UTC)	EVENT	COMMENTS						
2034	0253	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval String 4						
6085	1640	Spectra	V1G1 Lost differentials						
6127	1700	Spectra	V1G1: receiving differentials						
6695	1844	Spectra	V1G1 Lost differentials						
6798	1903	Spectra	V1G1 receiving differentials						
8240	2359	MSP	Midnight Shot Point						
9245	0325	EOL	end of line						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	2034	75° 54' 21.624"		-162° 24' 58.113"		
			LSP	9245	74° 18' 17.780"		-169° 30' 08.506"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern 29.50m						
			NRP - COS 103.30m						
			NRP - CNG 310.00m						
			COS - CNG 206.70m						
			NRP - CMP 206.65m						
			<p>Note: LMN line parameter set to great circle line</p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 4</p>						
			<div style="display: flex; justify-content: space-around;"> <div> P1 MGL1112MCS07B.p190 </div> <div> P2 MGL1112MCS07B.p294 </div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:						
Tailbuoy #1	na	Gun string #1	drops out						
		Gun string #2	na						
		Gun string #3	na						
		Gun string #4	na						
				MGL1112.LMN		2D_1x6.SCN(001)		mgl2010.RTCN	
				SP spacing:		37.5m			
				line status:		complete			

[illegible]

SEQ 36		Line Name: MGL1112MCS07TA		NAVIGATION		DATE: 09/27/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE													
		Line Brg : 132.5 °		LINE LOGS		JULIAN DAY: 270															
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112													
DC SOL : 2.9m		DEPTH SOL : 180.4m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																	
DC EOL : -109.5m		DEPTH EOL : 188.5m		NAVIGATION SYSTEM USED: SeaPath 200																	
SMG SOL: 6.0 knots		FEATHER SOL: -1.3 °		NAVIGATION SYSTEM USED: Pos MV v3																	
SMG EOL: 5.9 knots		FEATHER EOL: -0.0 °		GRAVITY METER: BMG-II: used, SN210																	
WEATHER		MAX FEATHER: -1.5 °		MAGNETOMETER: GeoMetrics: used																	
WIND SOL: 13.5 knots		MAG DEC USED : 14.23°																			
WIND EOL: 14.7SE knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker																	
SEAS SOL: 13.5m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim																	
SEAS EOL: 1.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray																	
SP	TIME(UTC)	EVENT	COMMENTS																		
1412	0454	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval String 3																		
2193	0734	EOL	End of line																		
			<div> <div>VESEL POSITION</div> <table> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> <tr> <td>FSP</td> <td>1412</td> <td>74° 11' 58.961"</td> <td>-169° 10' 34.001"</td> </tr> <tr> <td>LSP</td> <td>2193</td> <td>74° 01' 15.207"</td> <td>-168° 28' 29.760"</td> </tr> </table> </div>								Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1412	74° 11' 58.961"	-169° 10' 34.001"	LSP	2193	74° 01' 15.207"	-168° 28' 29.760"
	Shotpoints	Latitude (N / +)	Longitude (W / -)																		
FSP	1412	74° 11' 58.961"	-169° 10' 34.001"																		
LSP	2193	74° 01' 15.207"	-168° 28' 29.760"																		
			<div>NAVIGATION OFFSET APPLIED</div> <table> <tr> <td>NRP - Stern</td> <td>29.50m</td> </tr> <tr> <td>NRP - COS</td> <td>83.30m</td> </tr> <tr> <td>NRP – CNG</td> <td>310.00m</td> </tr> <tr> <td>COS – CNG</td> <td>226.70m</td> </tr> <tr> <td>NRP – CMP</td> <td>196.65m</td> </tr> </table>							NRP - Stern	29.50m	NRP - COS	83.30m	NRP – CNG	310.00m	COS – CNG	226.70m	NRP – CMP	196.65m		
NRP - Stern	29.50m																				
NRP - COS	83.30m																				
NRP – CNG	310.00m																				
COS – CNG	226.70m																				
NRP – CMP	196.65m																				
			<div>Note: LMN line parameter set to great circle line</div> <div>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</div> <div>Gun array in use: String 3</div>																		
			<div> <div>P1</div> <div>P2</div> </div> <div>MGL1112MCS07TA.p19 MGL1112MCS07A.p294</div>																		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN														
Tailbuoy #1	na	Gun string #1	drops out					SP spacing: 37.5m													
		Gun string #2	na					line status: complete													
		Gun string #3	na																		
		Gun string #4	na																		

[illegible]

[illegible]

Line Name: MGL1112MCS08B		NAVIGATION		DATE: 09/28/2011	
Line Brg : 132.5 °		LINE LOGS		JULIAN DAY: 271	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -1.3m		DEPTH SOL : 1813.8m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 84.0m		DEPTH EOL : 2038.0m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.8 knots		FEATHER SOL: 1.3 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 6.1 knots		FEATHER EOL: 2.7 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 3.1 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 13.7NW knots				MAG DEC USED : 14.23°	
WIND EOL: 11.6W knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 2.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 1.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
6394	0229	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval String 3		
6404	0231	EM122	EM122 offline for BIST		
6418	0234	Spectra	RUNTS down – restarting RUNTS		
6433	0237	Spectra	Spectra RUNTS functioning normally – ship/shot positiong updating		
6437	0238	EM122	BIST complete – FAILED – Receiver – ONLINE AND LOGGING		
6476	0246	Spectra	Spectra LMN starting shot point corrected from 0 to 1001		
8863	1101	Spectra	V1G1: loss of differentials		
8973	1124	Spectra	V1G1: receiving differentials		
9187	1208	EOL	End of line		
			VESSEL POSITION		
			Shotpoints Latitude (N / +) Longitude (W / -)		
			FSP	6394	75° 11' 25.155"
			LSP	9187	75° 44' 59.245"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	83.30m	
			NRP – CNG	310.00m	
			COS – CNG	226.70m	
			NRP – CMP	196.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 3		
			P1 P2		
			MGL1112MCS08B.p19c MGL1112MCS08B.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out	MGL1112.LMN 2D_1x6.SCN(001) mgl2010.RTCN	
		Gun string #2	na	SP spacing: 37.5m	
		Gun string #3	na	line status: complete	
		Gun string #4	na		

		Line Name:		MGL1112MCS08T1	<u>NAVIGATION</u>		DATE:		09/28/2011	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE
<u>SEQ 40</u>		Line Brg :		79.2 °	<u>LINE LOGS</u>		JULIAN DAY:		271	
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE			MGL1112			
DC SOL : 1.7m		DEPTH SOL : 1871.3m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary						
DC EOL : -6.2m		DEPTH EOL : 591.1m		NAVIGATION SYSTEM USED: SeaPath 200						
SMG SOL: 5.9 knots		FEATHER SOL: 20.8 °		NAVIGATION SYSTEM USED: Pos MV v3						
SMG EOL: 6.0 knots		FEATHER EOL: 5.4 °		GRAVITY METER: BMG-II: used, SN210						
<u>WEATHER</u>		MAX FEATHER: 7.3 °		MAGNETOMETER: GeoMetrics: used						
WIND SOL: 11.4W knots		MAG DEC USED : 14.23°								
WIND EOL: 11.4S knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc =>		Mike Martello, Emily Decker				
SEAS SOL: 1.0m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc =>		Mike Martello, Sookwan Kim				
SEAS EOL: 1.0m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc =>		Ryan Eaton, Rachel Gray				
SP	TIME(UTC)	EVENT	COMMENTS							
1063	1220	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval String 3							
1136	1222	Spectra	V1G1 loss of differentials							
1222	1253	Spectra	V1G1 receiving differentials							
1714	1433	Turn	Deviation from line to avoid ice							
1747	1440	Turn	Turning back toward line after passing ice							
1752	1441	Spectra	Max DC: 67.5m							
2238	1621	EOL	End of line – d/T Loss of diffs							
			VESSEL POSITION							
			Shotpoints		Latitude (N / +)		Longitude (W / -)			
FSP			1063		75° 45' 13.220"		-160° 10' 43.041"			
LSP			2238		75° 49' 18.244"		-158° 35' 43.570"			
			NAVIGATION OFFSET APPLIED							
			NRP - Stern		29.50m					
			NRP - COS		83.30m					
			NRP – CNG		310.00m					
			COS – CNG		226.70m					
			NRP – CMP		196.65m					
			Note: LMN line parameter set to great circle line							
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy							
			Gun array in use: String 3							
			P1 P2							
			MGL1112MCS08T1.p19 MGL1112MCS08T1.p294							
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN				
Tailbuoy #1	na	Gun string #1	drops out	SP spacing: 37.5m						
		Gun string #2	na	line status: Incomplete						
		Gun string #3	na							
		Gun string #4	na							

[illegible]

[illegible]

SEQ 43		Line Name: MGL1112MCS09T1		NAVIGATION		DATE: 09/28/2011		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE		
		Line Brg : 268 °		LINE LOGS		JULIAN DAY: 271				
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112		
DC SOL : 335.3m		DEPTH SOL : 889.3m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary						
DC EOL : -85.9m		DEPTH EOL : 1422.1m		NAVIGATION SYSTEM USED: SeaPath 200						
SMG SOL: 6.1 knots		FEATHER SOL: 84.3 °		NAVIGATION SYSTEM USED: Pos MV v3						
SMG EOL: 5.9 knots		FEATHER EOL: 2.0 °		GRAVITY METER: BMG-II: used, SN210						
<u>WEATHER</u>		MAX FEATHER: 2.9 °		MAGNETOMETER: GeoMetrics: used						
WIND SOL: 27.6W knots				MAG DEC USED : 14.23°						
WIND EOL: 18.5W knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker						
SEAS SOL: 2 – 3m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim						
SEAS EOL: 2 – 3m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray						
SP	TIME(UTC)	EVENT	COMMENTS							
1001	2131	SOL	Start of line – SHOOTING ON 12.0s TIME Interval String 3 NO DIFF. GPS							
1093	2151	GPS	Cnav3050 differential in – SET ACTIVE (was K/O) vessel position accurate – NO ESTIMATE POSITION DONE							
1737	2359	MSP	Midnight Shot Point							
1933	0039	EOL	End of line							
			VESSEL POSITION							
			Shotpoints		Latitude (N / +)		Longitude (W / -)			
FSP			1001	75° 25' 19.233"		-158° 04' 04.883"				
LSP			1933	75° 24' 12.788"		-159° 15' 45.569"				
			NAVIGATION OFFSET APPLIED							
			NRP - Stern		29.50m					
			NRP - COS		83.30m					
			NRP - CNG		310.00m					
			COS - CNG		226.70m					
			NRP - CMP		196.65m					
			<p><u>Note: LMN line parameter set to great circle line</u></p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 3</p>							
			<div style="display: flex; justify-content: space-around;"> <div> P1 MGL1112MCS09T1.p19 </div> <div> P2 MGL1112MCS09T1.p294 </div> </div>							
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:							
Tailbuoy #1	na	Gun string #1	drops out							
		Gun string #2	na							
		Gun string #3	na							
		Gun string #4	na							
				MGL1112_V2.LMN		2D_1x6.SCN(001)		mgl2010.RTCN		
				SP spacing:		12.0 S				
				line status:		Line complete				

[illegible]

[illegible]

[illegible]

[illegible]

Line Name: MGL1112MCS09D		NAVIGATION		DATE: 09/29/2011	
Line Brg : 235 °		LINE LOGS		JULIAN DAY: 272	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -1.3m		DEPTH SOL : 335.5 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : -2.3m		DEPTH EOL : 318.4m °		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.9 knots		FEATHER SOL: -1.1 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.5 knots		FEATHER EOL: 3.1 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 3.1 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 23.0 knots				MAG DEC USED : 14.23°	
WIND EOL:		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 2 m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 2 m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
6338	1900	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval - string 4		
6377	1909	Airgun	Bad shot		
6378	1909	Airgun	Bad shot		
6493	1933	EOL	End of line		
			VESSEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
FSP			6338	74° 19' 12.862"	-164° 44' 09.872"
LSP			6493	74° 17' 12.649"	-164° 53' 01.358"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP – CNG	310.00m	
			COS – CNG	206.70m	
			NRP – CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS09D.p19f MGL1112MCS09D.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out		
		Gun string #2	na		
		Gun string #3	na		
		Gun string #4	na		
			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 37.5m		
			line status: incomplete		

[illegible]

Line Name: MGL1112MCS09F		NAVIGATION		DATE: 09/29/2011	
Line Brg : 235 °		LINE LOGS		JULIAN DAY: 272	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -4.8m		DEPTH SOL : 237.3m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : -108.4		DEPTH EOL : 146.8 °		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.4		FEATHER SOL: 5.4 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.6 knots		FEATHER EOL: -5.2 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: -6.1 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 23.6SW knots		MAG DEC USED : 14.23°			
WIND EOL: 21.9SW kt		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 2 – 3m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 2m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
7045	2130	SOL	Start of line – SHOOTING ON 37.5m DISTANCE Interval - string 4		
7056	2132	FGSP	First good shot point – Offsets corrected after line start		
7735	2359	MSP	Midnight Shot Point		
8774	0351	SPECTRA	Estimate Position (drifting) – positiong changes 1 shot ahead, incrimment remains same		
9097	0501	MAGGIE	Picking Magnetometer up to stern for turn		
9191	0522	EOL	End of line		
			VESEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
			FSP	7045	74° 10' 01.659"
			LSP	9191	73° 41' 23.368"
			-165° 24' 17.485"		
			-167° 21' 22.206"		
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP - CNG	310.00m	
			COS - CNG	206.70m	
			NRP - CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS09F.p190 MGL1112MCS09F.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out		
		Gun string #2	na		
		Gun string #3	na		
		Gun string #4	na		
			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 37.5m		
			line status: Line complete		

[illegible]

[illegible]

[illegible]

Line Name: MGL1112MCS10B		NAVIGATION		DATE: 2011-01-10	
Line Brg : 49.0 °		LINE LOGS		JULIAN DAY: 274	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : 4.5m		DEPTH SOL : 1708.2m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 2.1m		DEPTH EOL : 1823.0m °		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 6.0		FEATHER SOL: 2.6 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.8 knots		FEATHER EOL: 0.1 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 4.4 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 11 S kt knots				MAG DEC USED : 14.23°	
WIND EOL: 14.5 SE knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 1m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 1m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
6446	0439	SOL	Start of line- Shooting on distance 37.5m – String 4		
	0937	Airgun	Deploying string 3		
	0947	Airgun	String 3 in position		
7891	0950	LGSP	Last good shot point		
7896	0950	EOL	End of line early d/t guns		
			VESSEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
FSP			6446	74° 31' 33.529"	-161° 11' 40.683"
LSP			7896	74° 48' 27.192"	-159° 41' 30.561"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP – CNG	310.00m	
			COS – CNG	206.70m	
			NRP – CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS10B.p19\ MGL1112MCS10B.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out		
		Gun string #2	na		
		Gun string #3	na		
		Gun string #4	na		
			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 37.5m		
			line status: Line incomplete		

SEQ 55		Line Name: MGL1112MCS10C		NAVIGATION		DATE: 2011-01-10		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
		Line Brg : 49.0 °		LINE LOGS		JULIAN DAY: 274			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112	
DC SOL : 4.5m		DEPTH SOL : 1708.20m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : na		DEPTH EOL : 895.50m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 6.0 knots		FEATHER SOL: 2.6 °		NAVIGATION SYSTEM USED: Pos MV v3					
SMG EOL: 5.9 knots		FEATHER EOL: 2.0 °		GRAVITY METER: BMG-II: used, SN210					
<u>WEATHER</u>		MAX FEATHER: 2.6 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 11 S knots				MAG DEC USED : 14.23°					
WIND EOL: 12.2 S knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker					
SEAS SOL: 1 m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim					
SEAS EOL: 1 m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray					
SP	TIME(UTC)	EVENT	COMMENTS						
7911	0953	SOL	Start of line- Shooting on distance 37.5m – String 3						
9155	1406	EOL	End of line – line complete						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	7911	74° 48' 37.466"		-159° 40' 33.691"		
			LSP	9155	75° 01' 34.230"		-158° 20' 27.046"		
			NAVIGATION OFFSET APPLIED						
			NRP - Stern		29.50m				
			NRP - COS		83.30m				
			NRP - CNG		310.00m				
			COS - CNG		226.70m				
			NRP - CMP		196.65m				
			Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy Gun array in use: String 3						
			<div style="display: flex; justify-content: space-around;"> <div>P1 MGL1112MCS10C.p19f</div> <div>P2 MGL1112MCS10C.p294</div> </div>						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:						
Tailbuoy #1	na	Gun string #1	drops out						
		Gun string #2	na						
		Gun string #3	na						
		Gun string #4	na						
				MGL1112_V2.LMN		2D_1x6.SCN(001)		mgI2010.RTCN	
				SP spacing:		37.5m			
				line status:		Complete			

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

Line Name: MGL1112MCS11B2		NAVIGATION		DATE: 2011-02-10	
Line Brg : 236 °		LINE LOGS		JULIAN DAY: 275	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -15.1m		DEPTH SOL : 678.00m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 57.9m		DEPTH EOL : 710.90m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 5.87 knots		FEATHER SOL: 9.1 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 5.4 knots		FEATHER EOL: 8.1 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 9.1 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 22.8SW knots				MAG DEC USED : 14.23°	
WIND EOL: 19.0SW knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 2 m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 2 m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
1001	0737	SOL	Start of line- Shooting on TIME 12.0 SECONDS – String 4		
1248	0826	Spectra	V1G1, V1G2, V1G3 loss of differentials		
1325	0842	Spectra	V1G2, V1G3 receiving differentials		
1442	0905	EOL	End of line early to go to differential gps		
			VESSEL POSITION		
			Shotpoints	Latitude (N / +)	Longitude (W / -)
			FSP	1001	74° 21' 31.891"
			LSP	1442	74° 17' 12.408"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP - CNG	310.00m	
			COS - CNG	206.70m	
			NRP - CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS11B2.p190 MGL1112MCS11B2.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out		
		Gun string #2	na		
		Gun string #3	na		
		Gun string #4	na		
			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 12.0 sec		
			line status: Line incomplete		

Line Name: MGL1112MCS11B3		NAVIGATION		DATE: 2011-02-10	
Line Brg : 236 °		LINE LOGS		JULIAN DAY: 275	
CLIENT: COAKLEY		SURVEY: CHUKCHI PLATE		MGL1112	
DC SOL : -7.0m		DEPTH SOL : 712.50m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL : 12.6m		DEPTH EOL : 804.20m		NAVIGATION SYSTEM USED: SeaPath 200	
SMG SOL: 4.9 knots		FEATHER SOL: 7.4 °		NAVIGATION SYSTEM USED: Pos MV v3	
SMG EOL: 4.6 knots		FEATHER EOL: 3.3 °		GRAVITY METER: BMG-II: used, SN210	
WEATHER		MAX FEATHER: 7.5 °		MAGNETOMETER: GeoMetrics: used	
WIND SOL: 24.4SW knots				MAG DEC USED : 14.23°	
WIND EOL: 22.0SW knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker	
SEAS SOL: 24.4SW m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim	
SEAS EOL: 22.0SW m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray	
SP	TIME(UTC)	EVENT	COMMENTS		
2353	0908	SOL	Start of line- Shooting on Distance 37.5m – String 4		
2550	0958	Spectra	V1G2 and V1G3 loss of differentials		
2596	1009	EOL	End of line- due to loss of all DGPS		
			VESSEL POSITION		
			Shotpoints	Latitude (N / °)	Longitude (W / -)
FSP			2353	74° 17' 01.958"	-159° 48' 12.745"
LSP			2596	74° 14' 13.392"	-160° 03' 00.511"
			NAVIGATION OFFSET APPLIED		
			NRP - Stern	29.50m	
			NRP - COS	103.30m	
			NRP – CNG	310.00m	
			COS – CNG	206.70m	
			NRP – CMP	206.65m	
			Note: LMN line parameter set to great circle line		
			Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy		
			Gun array in use: String 4		
			P1 P2		
			MGL1112MCS11B3.p19 MGL1112MCS11B3.p294		
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		
Tailbuoy #1	na	Gun string #1	drops out		
		Gun string #2	na		
		Gun string #3	na		
		Gun string #4	na		
			MGL1112_V2.LMN 2D_1x6.SCN(001) mgl2010.RTCN		
			SP spacing: 37.5m		
			line status: Line incomplete		

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

SEQ 76		Line Name: MGL1112MCS17		NAVIGATION		DATE: 2011-05-10		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 138 °		LINE LOGS		JULIAN DAY: 278																			
CLIENT: COAKLEY				SURVEY: CHUKCHI PLATE				MGL1112																	
DC SOL : -1.0m		DEPTH SOL : 40.9m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 12.8m		DEPTH EOL : 37.2m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 5.5 knots		FEATHER SOL: -80.1m		NAVIGATION SYSTEM USED: Pos MV v3																					
SMG EOL: 5.8 knots		FEATHER EOL: -2.9 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: -4.0 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 20.6 knots				MAG DEC USED : 14.23°																					
WIND EOL: 21.5 knots		00:00 – 04:00 utc => Ryan Eaton, Karina Monsen		12:00 – 16:00 utc => Mike Martello, Emily Decker																					
SEAS SOL: 1 m		04:00 – 08:00 utc => Ryan Eaton, Margot Swank		16:00 – 20:00 utc => Mike Martello, Sookwan Kim																					
SEAS EOL: 1 m		08:00 – 12:00 utc => Mike Martello, Grant Cain		20:00 – 00:00 utc => Ryan Eaton, Rachel Gray																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1058	0127	SOL	Start of line- String 3- Shooting on distance 37.5																						
1132	0142	Spectra	Estimate Position																						
1134	0143	Spectra	Ship at correct shot point																						
1995	0441	EOL	End of line																						
			<table border="1"> <thead> <tr> <th colspan="4">VESSEL POSITION</th> </tr> <tr> <th></th> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th>Longitude (W / -)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>1058</td> <td>72° 04' 17.691"</td> <td>-166° 24' 36.653"</td> </tr> <tr> <td>LSP</td> <td>1995</td> <td>71° 49' 58.093"</td> <td>-165° 44' 52.191"</td> </tr> </tbody> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1058	72° 04' 17.691"	-166° 24' 36.653"	LSP	1995	71° 49' 58.093"	-165° 44' 52.191"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1058	72° 04' 17.691"	-166° 24' 36.653"																						
LSP	1995	71° 49' 58.093"	-165° 44' 52.191"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.50m</td> </tr> <tr> <td>NRP - COS</td> <td>83.30m</td> </tr> <tr> <td>NRP - CNG</td> <td>310.00m</td> </tr> <tr> <td>COS - CNG</td> <td>226.70m</td> </tr> <tr> <td>NRP - CMP</td> <td>196.65m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.50m	NRP - COS	83.30m	NRP - CNG	310.00m	COS - CNG	226.70m	NRP - CMP	196.65m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.50m																								
NRP - COS	83.30m																								
NRP - CNG	310.00m																								
COS - CNG	226.70m																								
NRP - CMP	196.65m																								
			<p>Note: LMN line parameter set to great circle line</p> <p>Configuration: 1 x 6km streamer, 1 x 10 gun array, no tailbuoy</p> <p>Gun array in use: String 3</p>																						
			<p>Compass</p> <p>Compass 11 no communication</p>																						
			<p>P1 P2</p> <p>MGL1112MCS17.p190 MGL1112MCS17.p294</p>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1112_V3.LMN 2D_1x6.SCN(001) mgl2010.RTCN																		
Tailbuoy #1	na	Gun string #1	none			SP spacing:		37.5m																	
		Gun string #2	na			line status:		Line complete																	
		Gun string #3	na																						
		Gun string #4	na																						