

Line Name: MGL1204MCS01				NAVIGATION		DATE: 2012-02-03		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
Seq# 002				Line Brg : 358.9 °		LINE LOGS		JULIAN DAY: 34																	
CLIENT: Douglas Wiens				SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																			
DC SOL : 11.1m		DEPTH SOL : 3942.7m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : -6.9m		DEPTH EOL : 2942.5m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.9 knots		FEATHER SOL: -43.8 °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 3.7 knots		FEATHER EOL: 2.2 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: -43.8 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 20.9 knots				MAG DEC USED : -0.73°																					
WIND EOL: 27.2 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
988	05:35	SOL	Start of line																						
1046	05:54	Spectra	KO all compass' & depth sensors																						
1347	07:41	Spectra	Restart main																						
2875	18:14	COMPASS	START RECEIVING COMPASS DATA IN SPECTRA																						
2877	18:15	COMPASS	KO COMPASS #7 BAD READING																						
5500	11:29	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 (E / +)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>988</td> <td>16° 35' 39.106"</td> <td>146° 57' 35.112"</td> </tr> <tr> <td>LSP</td> <td>5500</td> <td>18° 37' 55.680"</td> <td>146° 55' 05.733"</td> </tr> </tbody> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (E / +)	FSP	988	16° 35' 39.106"	146° 57' 35.112"	LSP	5500	18° 37' 55.680"	146° 55' 05.733"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (E / +)																						
FSP	988	16° 35' 39.106"	146° 57' 35.112"																						
LSP	5500	18° 37' 55.680"	146° 55' 05.733"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
			<p>Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy</p>																						
			<p>P1 P2 MGL1204MCS01.p190 MGL1204MCS01.p294</p>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1204_V2.LMN 2D_1x8.SCN(001) mgl2010.RTCN																		
Tailbuoy #1	good	Gun string #1	good	SP spacing:																					
		Gun string #2	good	line status: complete																					
		Gun string #3	none																						
		Gun string #4	none																						

Line Name: MGL1204MCS02				NAVIGATION		DATE: 2012-02-04		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
Seq# 003				Line Brg : 216.1 °		LINE LOGS		JULIAN DAY: 35																	
CLIENT: Douglas Wiens				SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																			
DC SOL : 883.5m		DEPTH SOL : 3359.3m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : -6.7m		DEPTH EOL : 3069.9m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.3 knots		FEATHER SOL: -106.2 °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.4 knots		FEATHER EOL: .3 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: -106.2 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 20.2 knots				MAG DEC USED : -0.73°																					
WIND EOL: 8 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 2m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
878	13:01	SOL	Start of line																						
2665	23:59	Midnight POS	Last SP of the Day																						
2998	02:13	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 (E / +)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>878</td> <td>18° 41' 55.788"</td> <td>146° 52' 41.330"</td> </tr> <tr> <td>LSP</td> <td>2998</td> <td>17° 55' 11.933"</td> <td>146° 17' 42.688"</td> </tr> </tbody> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (E / +)	FSP	878	18° 41' 55.788"	146° 52' 41.330"	LSP	2998	17° 55' 11.933"	146° 17' 42.688"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (E / +)																						
FSP	878	18° 41' 55.788"	146° 52' 41.330"																						
LSP	2998	17° 55' 11.933"	146° 17' 42.688"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
			<p>Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy</p>																						
			<p>note: V1G2 and V1G3 have several drop outs on line</p>																						
			<p>P1 P2 MGL1204MCS02.p190 MGL1204MCS02.p294</p>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:		MGL1204_V2.LMN 2D_1x8.SCN(001) mgl2010.RTCN																				
Tailbuoy #1	good	Gun string #1 Gun string #2 Gun string #3 Gun string #4	good good none none	G1T1 & G1T3 out		SP spacing:																			
					line status: complete																				

Seq# 004		Line Name: MGL1204MCS03		NAVIGATION		DATE: 2012-02-05		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 090.1 °		LINE LOGS		JULIAN DAY: 36																			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																			
DC SOL : 120.0m		DEPTH SOL : 3087.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 3.2m		DEPTH EOL : 8282.6m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.2 knots		FEATHER SOL: 24.7 °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.5 knots		FEATHER EOL: 6.0 °		GRAVITY METER: BMG-II: used, SN210																					
WEATHER		MAX FEATHER: 8.9 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 24.9 knots				12:00 – 16:00 utc =>		helen feng: david ng																			
WIND EOL: 30 knots		00:00 – 04:00 utc =>		martina cocchia: mike martello																					
SEAS SOL: 2m		04:00 – 08:00 utc =>		chuanchaun lu: mike martello		16:00 – 20:00 utc =>		jacob siegel: david ng																	
SEAS EOL: 6.0m		08:00 – 12:00 utc =>		john lundquist: mike martello		20:00 – 00:00 utc =>		matthew hughes :david ng																	
SP	TIME(UTC)	EVENT	COMMENTS																						
983	04:38	SOL	Start of line																						
985	04:38	FGSP	First good shot point																						
1440-1446	07:39	Spectra	NCC locked up; restarted																						
2289-2293	13:18	Spectra	nav jusmp after estimate position																						
3012-3016		Spectra	nav jusmp after estimate position																						
3175-3178	19:03	Spectra	nav jusmp after estimate position																						
3226-3230	19:23	Spectra	nav jusmp after estimate position																						
3935	23:59	Midnight SP	Last SP of the day																						
4000	00:24	LGSP	Last good shot point																						
4122	01:12	EOL	End of line early due to streamer balance and weather																						
			<table border="1"> <thead> <tr> <th colspan="4">VESSEL POSITION</th> </tr> <tr> <th>Shotpoints</th> <th>Latitude (N / +)</th> <th colspan="2">Longitude (W / -)</th> </tr> </thead> <tbody> <tr> <td>FSP</td> <td>983</td> <td>17° 52' 06.241"</td> <td>146° 19' 29.735"</td> </tr> <tr> <td>LSP</td> <td>4122</td> <td>17° 51' 41.184"</td> <td>147° 48' 20.373"</td> </tr> </tbody> </table>							VESSEL POSITION				Shotpoints	Latitude (N / +)	Longitude (W / -)		FSP	983	17° 52' 06.241"	146° 19' 29.735"	LSP	4122	17° 51' 41.184"	147° 48' 20.373"
VESSEL POSITION																									
Shotpoints	Latitude (N / +)	Longitude (W / -)																							
FSP	983	17° 52' 06.241"	146° 19' 29.735"																						
LSP	4122	17° 51' 41.184"	147° 48' 20.373"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
			<p>Note: LMN line parameter set to great circle line Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy</p>																						
			<p>P1 P2 MGL1204MCS03.p190 MGL1204MCS03.p294</p>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:																						
Tailbuoy #1	good	Gun string #1	good																						
		Gun string #2	good																						
		Gun string #3	none																						
		Gun string #4	none																						
			MGL1204_V3.LMN		2D_1x8.SCN(001)		mgl2010.RTCN																		
			SP spacing:																						
			line status:		incomplete																				

Line Name: MGL1204MCS03A		NAVIGATION		DATE: 2012-02-06	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Seq# 005		Line Brg : 090.1 °		LINE LOGS		JULIAN DAY: 37
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands		
DC SOL : 1.4m	DEPTH SOL : 6511.9m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary				
DC EOL : -15.2m	DEPTH EOL : 5200.4m	NAVIGATION SYSTEM USED: SeaPath 200				
SMG SOL: 3.6 knots	FEATHER SOL: -0.2 °	NAVIGATION SYSTEM USED: C-Nav2000				
SMG EOL: 4.3 knots	FEATHER EOL: -2.2 °	GRAVITY METER: BMG-II: used, SN210				
<u>WEATHER</u>	MAX FEATHER: -5.2 °	MAGNETOMETER: GeoMetrics: used				
WIND SOL: 30.5 knots		MAG DEC USED : -0.73°				
WIND EOL: 23.2 knots	00:00 – 04:00 utc => martina coccia; mike martello	12:00 – 16:00 utc => helen feng; david ng				
SEAS SOL: 3-5m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng				
SEAS EOL: 4.3m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng				
SP	TIME(UTC)	EVENT	COMMENTS			
3842	6:33	SOL	Start of line – streamer depth at 15 m			
3842-4000	6:33-7:48	Infill shots				
4000-4122	7:48-8:45	Reshoot				
4123	8:45	Shot	First shot of MGL1204MCS03A			
4344	10:30	Spectra	Restart main			
4599	12:26	Spectra	Restart main and ncc			
4705-4708	13:14	Spectra	nav jump – estimate position twice			
6268	23:59	Midnight POS	Last SP of the Day			
6902-6918	04:16	Spectra	Restart main			
7775-7794	9:44-9:51	Streamer	Telemetry errors to streamer (~6km recording)			
7794	09:52	Streamer	Streamer powered down → end TAPE 017			
7806	09:56	Streamer	Streamer powered up → new TAPE 018			
8850-8866	16:34-16:40	Streamer	Recording 6 km of streamer			
8866	16:43	Streamer	Streamer powered down → end TAPE 019			
8875	16:43	Streamer	Streamer powered up → start TAPE 020			
9048-9052	17:47	Streamer	Recording 6 km of streamer			
9052	17:49	Streamer	Streamer powered down → end TAPE 020			
9060	17:52	Streamer	Streamer powered up → start TAPE 021			
9133	18:19	EOL	end of line			
			Note: Various "estimate positions" d/t navigation position jumps.			
<u>Posnet locations & remarks: good - none - intermittent</u>		<u>Acoustic remarks:</u>		MGL1204_V3.LMN 2D_1x8.SCN(001) mgl2010.RTCN		
Tailbuoy #1	good	Gun string #1	intrmittent	SP spacing: 50m		
		Gun string #2	good	line status: complete		
		Gun string #3	none			
		Gun string #4	none			

VESSEL POSITION			
	Shotpoints	Latitude (N / +)	Longitude (W / -)
FSP	3842	17° 51' 43.666"	147° 40' 24.858"
LSP	9133	17° 49' 24.586"	150° 10' 08.714"

NAVIGATION OFFSET APPLIED	
NRP - Stern	29.5m
NRP - COS	232.0m
NRP - CNG	384.7m
COS - CNG	152.7m
NRP - CMP	308.35m

Note: LMN line parameter set to great circle line
 Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy

P1 P2
 MGL1204MCS03A_p19(MGL1204MCS03A_p294

Seq# 007		Line Name: MGL1204MCS05		NAVIGATION		DATE: 2012-02-08		Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 190.6 °		LINE LOGS		JULIAN DAY: 39			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands			
DC SOL : -105.0m		DEPTH SOL : 5440.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : 16.6m		DEPTH EOL : 5470.3m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.2 knots		FEATHER SOL: -87.1 °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.4 knots		FEATHER EOL: -8.9 °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: -87.1 °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 15.2 knots				MAG DEC USED : -0.73°					
WIND EOL: 16 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS						
966	07:27	SOL	SOL MGL1204MCS05 – streamer set at 10m						
1043	7:55	Syntrak	Last good shot point before streamer stopped listening						
1044	7:56	Syntrak	Power down streamer						
1067	8:04	Syntrak	Repowered streamer TAPE 28 nonexistent due to streamer not coming back up						
1118	8:23	Syntrak	LGSP lost power to streamer						
				VESSEL POSITION					
				Shotpoints		Latitude (N / +)		Longitude (W / -)	
				FSP	966	18° 22' 23.507"	149° 31' 02.120"		
				LSP	1125	18° 18' 11.047"	149° 30' 05.281"		
				NAVIGATION OFFSET APPLIED					
				NRP - Stern	29.5m				
				NRP - COS	232.0m				
				NRP - CNG	384.7m				
				COS - CNG	152.7m				
				NRP - CMP	308.35m				
				Note: LMN line parameter set to great circle line					
				Configuration: 1 x 8km streamer, 4 x 10 gun array, tailbuoy					
				P1		P2			
				MGL1204MCS05.p190		MGL1204MCS05.p294			
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V3.LMN 2D_1x8.SCN(001) mgl2010.RTCN			
Tailbuoy #1	good	Gun string #1	good	SP spacing: 50m					
		Gun string #2	good	line status: incomplete					
		Gun string #3	good						
		Gun string #4	none						

Seq# 008				Line Name: MGL1204MCS05A	NAVIGATION	DATE: 2012-02-08	Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>
				Line Brg : 190.6 °	LINE LOGS	JULIAN DAY: 39	
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands		
DC SOL : 17.7m	DEPTH SOL : 5472.7m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -1.1m	DEPTH EOL : 5034.7m	NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.2 knots	FEATHER SOL: -7.6 °	NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.6 knots	FEATHER EOL: 8.9 °	GRAVITY METER: BMG-II: used, SN210					
WEATHER	MAX FEATHER: 9.1 °	MAGNETOMETER: GeoMetrics: used					
WIND SOL: 12.4 knots		MAG DEC USED : -0.73°					
WIND EOL: 8.8 knots	00:00 – 04:00 utc => martina coccia; mike martello	12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 2-3m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS				
1134	8:29	SOL	SOL MGL1204MCS05A – streamer set at 10m – 6km				
1940	13:24	Spectra	Restart Main and NCC				
2175	14:53	XBT	XBT Seq 17				
2445-2452	16:35-16:38	Spectra	NCC locked up				
3651	23:59	Midnight POS	Last SP of Day				
5799	12:36	EOL	End of line				
NAVIGATION OFFSET APPLIED							
		NRP - Stern	29.5m				
		NRP - COS	232.0m				
		NRP - CNG	384.7m				
		COS - CNG	152.7m				
		NRP - CMP	308.35m				
VESSEL POSITION							
		Shotpoints	Latitude (N / +)	Longitude (W / -)			
FSP	1134	18° 17' 56.733"	149° 30' 02.376"				
LSP	5799	16° 13' 37.394"	149° 05' 58.329"				
NOTE: Tailbuoy is dead d/t shortened streamer cable length							
Note: LMN line parameter set to great circle line							
Configuration: 1 x 6km streamer, 4 x 10 gun array, tailbuoy dead							
		P1		P2			
		MGL1204MCS05A_p19k		MGL1204MCS05A_p294			
Posnet locations & remarks: good - none - intermittent				Acoustic remarks:			
Tailbuoy #1	none	Gun string #1	good				
		Gun string #2	good				
		Gun string #3	good				
		Gun string #4	none				
				MGL1204_V3.LMN	2D_1x8.SCN(001)	mgl2010.RTCN	
				SP spacing:	50m		
				line status:	complete		

Line Name: MGL1204MCS06				NAVIGATION		DATE: 2012-02-09		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
Seq# 009				Line Brg : 67.3 °		LINE LOGS		JULIAN DAY: 40																	
CLIENT: Douglas Wiens				SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																			
DC SOL : -8.0m		DEPTH SOL : 5100.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 1.1m		DEPTH EOL : 5810.3m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 3.0 knots		FEATHER SOL: -6 °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.8 knots		FEATHER EOL: -0.1 °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: 9.0 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 10.1 knots				MAG DEC USED : -0.73°																					
WIND EOL: 14 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 1-3m.		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 1.0m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1018	15:03	SOL	SOL MGL1204MCS06 – streamer set at 9m – 8km																						
	19:05	maggie	turned red and back to normal																						
	19:19	maggie	turned red and back to normal																						
	19:27	maggie	on board																						
	23:11	maggie	start maggie out – outputting unusual characters, retrieve maggie																						
2418	23:59	Midnight POS	Last SP of Day																						
2721	01:46	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>1018</td> <td>16° 11' 35.470"</td> <td>149° 09' 51.144"</td> </tr> <tr> <td>LSP</td> <td>2721</td> <td>16° 29' 20.724"</td> <td>149° 53' 59.507"</td> </tr> </tbody> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1018	16° 11' 35.470"	149° 09' 51.144"	LSP	2721	16° 29' 20.724"	149° 53' 59.507"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1018	16° 11' 35.470"	149° 09' 51.144"																						
LSP	2721	16° 29' 20.724"	149° 53' 59.507"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
			<p>Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 4 x 10 gun array, tailbuoy dead</p>																						
			<table border="1"> <thead> <tr> <th>P1</th> <th>P2</th> </tr> </thead> <tbody> <tr> <td>MGL1204MCS06.p190</td> <td>MGL1204MCS06.p294</td> </tr> </tbody> </table>							P1	P2	MGL1204MCS06.p190	MGL1204MCS06.p294												
P1	P2																								
MGL1204MCS06.p190	MGL1204MCS06.p294																								
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:																						
Tailbuoy #1	good	Gun string #1	good	MGL1204_V4.LMN																					
		Gun string #2	good	2D_1x8.SCN(001)																					
		Gun string #3	good	mgl2010.RTCN																					
		Gun string #4	none	SP spacing: 50m																					
			line status: Complete																						

Seq# 010		Line Name: MGL1204MCS07		NAVIGATION		DATE: 2012-02-10		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 279.9 °		LINE LOGS		JULIAN DAY: 41																			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																			
DC SOL : 37.4m		DEPTH SOL : 5835.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 0.6m		DEPTH EOL : 6300.2m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.6 knots		FEATHER SOL: -89.6 °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.5 knots		FEATHER EOL: 1.7 °		GRAVITY METER: BMG-II: used, SN210																					
WEATHER		MAX FEATHER: 11.4 °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 8.9 knots				12:00 – 16:00 utc => helen feng: david ng		MAG DEC USED : -0.73°																			
WIND EOL: 15 knots		00:00 – 04:00 utc => martina coccia; mike martello		16:00 – 20:00 utc => jacob siegel: david ng																					
SEAS SOL: 1-2m		04:00 – 08:00 utc => chuanchaun lu: mike martello		20:00 – 00:00 utc => matthew hughes :david ng																					
SEAS EOL: 1 – 3 m		08:00 – 12:00 utc => john lundquist: mike martello																							
SP	TIME(UTC)	EVENT	COMMENTS																						
928	2:49	SOL	Start of line																						
993-1003	3:12-3:16	Spectra	Restart main																						
1269-1271	4:51-4:52	Spectra	Restart main																						
1620-1642	6:50-6:58	Spectra	Restart main and ncc																						
1730-1756	7:30-7:39	Spectra	Restart main																						
4416	23:13	EOL	End of Line to change seismic record length																						
				<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>1018</td> <td>16° 32' 56.086"</td> <td>149° 54' 47.144"</td> </tr> <tr> <td>LSP</td> <td>2721</td> <td>16° 48' 46.304"</td> <td>148° 18' 03.928"</td> </tr> </tbody> </table>						VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1018	16° 32' 56.086"	149° 54' 47.144"	LSP	2721	16° 48' 46.304"	148° 18' 03.928"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1018	16° 32' 56.086"	149° 54' 47.144"																						
LSP	2721	16° 48' 46.304"	148° 18' 03.928"																						
				<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>						NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
				<p>Note: LMN line parameter set to great circle line Configuration: 1 x 6km streamer, 4 x 10 gun array, tailbuoy dead</p>																					
				<p style="text-align: center;">P1 P2 MGL1204MCS07.p190 MGL1204MCS07.p294</p>																					
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V4.LMN 2D_1x8.SCN(001) mgl2010.RTCN																			
Tailbuoy #1	good	Gun string #1	good	SP spacing: 50m																					
		Gun string #2	good	line status: Incomplete																					
		Gun string #3	good																						
		Gun string #4	none																						

Line Name: MGL1204OBS01		NAVIGATION		DATE: 2012-02-12	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE
Seq# 012		Line Brg : 98.9 °		LINE LOGS	
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands	
DC SOL : -40.3m	DEPTH SOL : 2818.5m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : -15.6m	DEPTH EOL : 5938.8m	NAVIGATION SYSTEM USED: SeaPath 200			
SMG SOL: 4.0 knots	FEATHER SOL: n/a °	NAVIGATION SYSTEM USED: C-Nav2000			
SMG EOL: 4.4 knots	FEATHER EOL: n/a °	GRAVITY METER: BMG-II: used, SN210			
<u>WEATHER</u>	MAX FEATHER: n/a °	MAGNETOMETER: GeoMetrics: used			
WIND SOL: 27.8 knots		MAG DEC USED : -0.73°			
WIND EOL: 27.8 knots	00:00 – 04:00 utc => martina coccia; mike martello	12:00 – 16:00 utc => helen feng; david ng			
SEAS SOL: 2-3m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng			
SEAS EOL: 2-3m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng			
SP	TIME(UTC)	EVENT	COMMENTS		
997	10:46	SOL	Start of line		
1013	11:46	OBS	OBS Crossing OBSS01		
1049	14:00	OBS	OBS Crossing OBSS02		
1085	16:13	OBS	OBS Crossing OBSS03		
1121	18:26	OBS	OBS Crossing OBSS04		
1161	20:52	OBS	OBS Crossing OBSS05		
1201	23:17	OBS	OBS Crossing OBSS06		
1212	23:56	Midnight POS	Midnight POS last SP of Day		
1241	01:40	OBS	OBS Crossing OBSS07		
1281	04:08	OBS	OBS Crossing OBSS08		
1323	06:43	OBS	OBS Crossing OBSS09		
1361	09:07	OBS	OBS Crossing OBSS10		
1402	11:43	OBS	OBS Crossing OBSS11		
1442	14:11	OBS	OBS Crossing OBSS12		
1482	16:48	OBS	OBS Crossing OBSS13		
1522	19:21	OBS	OBS Crossing OBSS14		
1562	21:52	OBS	OBS Crossing OBSS15		
1586	23:33	Annual Fire of Guns	Manual fire guns		
1596	23:57	Midnight POS	Midnight POS last SP of Day		
1603	00:23	OBS	OBS Crossing OBSS16		
1642	02:47	OBS	OBS Crossing OBSS17		
1682	05:23	OBS	OBS Crossing OBSS18		
1722	07:51	OBS	OBS Crossing OBSS19		
1754	09:56	EOL	End of line		
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN	
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m	
		Gun string #2	good	line status: Complete	
		Gun string #3	good		
		Gun string #4	none		

VESSEL POSITION			
	Shotpoints	Latitude (N / +)	Longitude (W / -)
FSP	997	17° 06' 41.265"	146° 22' 32.744"
LSP	1754	16° 33' 15.270"	149° 52' 46.785"

NAVIGATION OFFSET APPLIED	
NRP - Stern	29.5m
NRP - COS	232.0m
NRP - CNG	384.7m
COS - CNG	152.7m
NRP - CMP	308.35m

Note: LMN line parameter set to great circle line
Configuration: 4 x 10 gun array

P1 P2
MGL1204OBS01.p190 MGL1204OBS01.p294

Seq# 013		Line Name: MGL1204OBS02		NAVIGATION		DATE: 2012-02-14		Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 279.9 °		LINE LOGS		JULIAN DAY: 45			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands			
DC SOL : 2.4m		DEPTH SOL : 5972.8m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -353.3m		DEPTH EOL : 5268.9m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.9 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.2 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 16.6 knots		MAG DEC USED : -0.73°							
WIND EOL: 17 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS						
993	11:10	SOL	Start of line						
1033	13:39	OBS	OBS Crossing OBSS19						
1073	16:04	OBS	OBS Crossing OBSS18						
1113	18:28	OBS	OBS Crossing OBSS17						
1115	20:43	EOL							
				VESSEL POSITION					
				Shotpoints		Latitude (N / +)		Longitude (W / -)	
				FSP	993	16° 32' 50.924"	149° 54' 57.364"		
				LSP	1115	16° 40' 00.518"	149° 11' 25.285"		
				NAVIGATION OFFSET APPLIED					
				NRP - Stern	29.5m				
				NRP - COS	232.0m				
				NRP - CNG	384.7m				
				COS - CNG	152.7m				
				NRP - CMP	308.35m				
				Note: LMN line parameter set to great circle line					
				Configuration: 4 x 10 gun array					
				<u>P1</u>		<u>P2</u>			
				MGL1204OBS02.p190		MGL1204OBS02.p294			
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN			
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m					
		Gun string #2	good	line status: LINE COMPLETED					
		Gun string #3	good						
		Gun string #4	none						

Seq# 014		Line Name: MGL1204OBS03		NAVIGATION		DATE: 2012-02-14		Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 190.5 °		LINE LOGS		JULIAN DAY: 45			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands			
DC SOL : -155.2m		DEPTH SOL : 5248.9m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -27.5m		DEPTH EOL : 5156.9m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.4 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.2 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 17 knots				MAG DEC USED : -0.73°					
WIND EOL: 16 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 2m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS						
1002	20:47	SOL	start of line						
1002	20:47	OBS	OBS Crossing OBSS16						
1042	23:13	OBS	OBS Crossing OBS11						
1054	23:58	Midnight POS	Midnight Position last SP of the day						
1082	01:41	OBS	OBS Crossing OBS12						
1101	2:50	EOL	End of line						
				VESSEL POSITION					
				Shotpoints		Latitude (N / +)		Longitude (W / -)	
				FSP	1002	16° 39' 51.992"	149° 11' 10.898"		
				LSP	1101	16° 13' 30.962"	149° 05' 56.892"		
				NAVIGATION OFFSET APPLIED					
				NRP - Stern	29.5m				
				NRP - COS	232.0m				
				NRP - CNG	384.7m				
				COS - CNG	152.7m				
				NRP - CMP	308.35m				
				Note: <u>LMN line parameter set to great circle line</u>					
				Configuration: 4 x 10 gun array					
				<u>P1</u>		<u>P2</u>			
				MGL1204OBS03.p190		MGL1204OBS03.p294			
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN			
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m					
		Gun string #2	good	line status: Complete					
		Gun string #3	good						
		Gun string #4	none						

Line Name: MGL1204OBS04		NAVIGATION		DATE: 2012-02-15	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																
Seq# 015		Line Brg : 10.5 °		LINE LOGS	JULIAN DAY: 46																
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																	
DC SOL : -40.5m	DEPTH SOL : 5199.7m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary																			
DC EOL : 2.6m	DEPTH EOL : 5555.7m	NAVIGATION SYSTEM USED: SeaPath 200																			
SMG SOL: 4.4 knots	FEATHER SOL: n/a °	NAVIGATION SYSTEM USED: C-Nav2000																			
SMG EOL: 4.4 knots knots	FEATHER EOL: n/a °	GRAVITY METER: BMG-II: used, SN210																			
<u>WEATHER</u>	MAX FEATHER: n/a °	MAGNETOMETER: GeoMetrics: used																			
WIND SOL: 22.1 knots		MAG DEC USED : -0.73°																			
WIND EOL: 8.0 knots	00:00 – 04:00 utc => martina coccia; mike martello	12:00 – 16:00 utc => helen feng; david ng																			
SEAS SOL: 2m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng																			
SEAS EOL: 1-2m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng																			
SP	TIME(UTC)	EVENT	COMMENTS																		
989	4:51	SOL	Start of line																		
1022	06:43	OBS	OBS Crossing OBSE12																		
1059	9:08	OBS	OBS Crossing OBSE11																		
1100	11:38	OBS	OBS Crossing OBSE10/S16																		
1137	13:52	OBS	OBS Crossing OBSE09																		
1175	16:11	OBS	OBS Crossing OBSE08																		
1213	18:27	OBS	OBS Crossing OBSE07																		
1251	20:45	OBS	OBS Crossing OBSE06																		
1254	20:59	spectra	reset main node																		
1289	23:04	OBS	OBS Crossing OBSE05																		
1304	23:59	Midnight POS	Last SP of Day																		
1326	01:18	OBS	OBS Crossing OBSE04																		
1364	03:35	OBS	OBS Crossing OBSN17																		
1404	05:58	OBS	OBS Crossing OBSE02																		
1423	07:06	Spectra	Restart NCC																		
1444	8:23	OBS	OBS NCCing OBSE01																		
1481	10:38	EOL	End of Line																		
<table border="1" style="width:100%; border-collapse: collapse;"> <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>989</td> <td>16° 10' 25.657"</td> <td>149° 05' 20.140"</td> </tr> <tr> <td>LSP</td> <td>1480</td> <td>18° 21' 32.142"</td> <td>149° 30' 46.553"</td> </tr> </tbody> </table>						VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	989	16° 10' 25.657"	149° 05' 20.140"	LSP	1480	18° 21' 32.142"	149° 30' 46.553"
VESSEL POSITION																					
	Shotpoints	Latitude (N / +)	Longitude (W / -)																		
FSP	989	16° 10' 25.657"	149° 05' 20.140"																		
LSP	1480	18° 21' 32.142"	149° 30' 46.553"																		
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>						NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																					
NRP - Stern	29.5m																				
NRP - COS	232.0m																				
NRP - CNG	384.7m																				
COS - CNG	152.7m																				
NRP - CMP	308.35m																				
<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																					
<table border="0"> <tr> <td><u>P1</u></td> <td><u>P2</u></td> </tr> <tr> <td>MGL1204OBS04.p190</td> <td>MGL1204OBS04.p294</td> </tr> </table>						<u>P1</u>	<u>P2</u>	MGL1204OBS04.p190	MGL1204OBS04.p294												
<u>P1</u>	<u>P2</u>																				
MGL1204OBS04.p190	MGL1204OBS04.p294																				
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																	
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m																	
		Gun string #2	good	line status: Complete																	
		Gun string #3	good																		
		Gun string #4	none																		

Line Name: MGL1204OBS05				NAVIGATION		DATE: 2012-02-16		Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
Seq# 016				Line Brg : 190.5 °		LINE LOGS		JULIAN DAY: 47	
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands			
DC SOL : -18.4m		DEPTH SOL : 5580.6m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : -388.0m		DEPTH EOL : 5337.0m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.8 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.6 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 17.7 knots				MAG DEC USED : -0.73°					
WIND EOL: 8 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 1m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS						
984	13:19	SOL	Start of line						
1038	16:34	OBS	OBS Crossing OBSE01						
1078	18:58	OBS	OBS Crossing OBSE02						
1116	21:17	EOL	End of line						
				VESSEL POSITION					
				Shotpoints		Latitude (N / +)		Longitude (W / -)	
FSP				984	18° 26' 01.139"	149° 31' 37.213"			
LSP				1116	17° 50' 48.114"	149° 24' 58.551"			
				NAVIGATION OFFSET APPLIED					
				NRP - Stern		29.5m			
				NRP - COS		232.0m			
				NRP - CNG		384.7m			
				COS - CNG		152.7m			
				NRP - CMP		308.35m			
				Note: LMN line parameter set to great circle line					
				Configuration: 4 x 10 gun array					
				P1		P2			
				MGL1204OBS05.p190		MGL1204OBS05.p294			
Posnet locations & remarks: good - none - intermittent				Acoustic remarks:					
Tailbuoy #1	n/a	Gun string #1	good						
		Gun string #2	good						
		Gun string #3	good						
		Gun string #4	none						
				MGL1204_V4.LMN		2D_Wiens_source.SCN(002)		mgl2010.RTCN	
				SP spacing:		500.0m			
				line status:					

Seq# 017		Line Name: MGL1204OBS06		NAVIGATION	DATE: 2012-02-16	Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 91.1 °		LINE LOGS	JULIAN DAY: 47		
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands		
DC SOL : -11.7m		DEPTH SOL : 5332.1m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : -35.1m		DEPTH EOL : 5301.0m		NAVIGATION SYSTEM USED: SeaPath 200			
SMG SOL: 4.6 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000			
SMG EOL: 4.3 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210			
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used			
WIND SOL: 10 knots				MAG DEC USED : -0.73°			
WIND EOL: 8 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng			
SEAS SOL: 1m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng			
SEAS EOL: 1m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng			
SP	TIME(UTC)	EVENT	COMMENTS				
1003	21:24	SOL	Start of line				
1005	21:31	FGSP	First good shot point				
1041	23:42	OBS	OBS Crossing OBSN18				
1045	23:57	Midnight Pos	Last SP of the Day				
1081	02:07	OBS	OBS Crossing OBSN19				
1121	04:32	OBS	OBS Crossing OBSN20				
1136	05:28	Spectra	Restart main; manual fire				
1162	07:00	EOL	End of Line				
			VESSEL POSITION				
			Shotpoints	Latitude (N / +)	Longitude (W / -)		
			FSP	1003	17° 50' 21.419"	149° 25' 23.839"	
			LSP	1162	17° 49' 23.715"	150° 10' 16.250"	
			NAVIGATION OFFSET APPLIED				
			NRP - Stern	29.5m			
			NRP - COS	232.0m			
			NRP - CNG	384.7m			
			COS - CNG	152.7m			
			NRP - CMP	308.35m			
<p>Note: <u>LMN line parameter set to great circle line</u> Configuration: 4 x 10 gun array</p>							
			<p>P1 P2 MGL1204OBS06.1.p19\ MGL1204OBS06.1.p294</p>				
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN			2D_Wiens_source.SCN(002)
Tailbuoy #1	n/a	Gun string #1	good	mgl2010.RTCN			
		Gun string #2	good	SP spacing: 500.0m			
		Gun string #3	good	line status: complete			
		Gun string #4	none				

Line Name: MGL1204OBS07		NAVIGATION		DATE: 2012-02-17		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
Seq# 018		Line Brg : 271.3 °		LINE LOGS		JULIAN DAY: 48																	
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																			
DC SOL : 35.9m		DEPTH SOL : 5257.7m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																			
DC EOL : 159.5m		DEPTH EOL : 3430.2m		NAVIGATION SYSTEM USED: SeaPath 200																			
SMG SOL: 4.5 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000																			
SMG EOL: 4.6 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210																			
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used																			
WIND SOL: 5.5 knots				MAG DEC USED : -0.73°																			
WIND EOL: 6.9 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																			
SEAS SOL: 1m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																			
SEAS EOL: 0-1m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																			
SP	TIME(UTC)	EVENT	COMMENTS																				
994	9:06	SOL	Start of line																				
1041	11:57	OBS	OBS Crossing OBSN20																				
1054	12:41	Spectra	Lost network connection from spectra3 to spectra1																				
1081	14:20	OBS	OBS Crossing OBSN19																				
1121	16:45	OBS	OBS Crossing OBSN18																				
1162	19:13	OBS	OBS Crossing OBSN17																				
1201	21:34	OBS	OBS Crossing OBSN16																				
1241	23:59	Midnight Pos	Last SP of Day																				
1242	00:03	OBS	OBS Crossing OBSN15																				
1281	02:24	OBS	OBS Crossing OBSN14																				
1321	04:46	OBS	OBS Crossing OBSN13																				
1361	7:08	OBS	OBS Crossing OBSN12																				
1402	9:35	OBS	OBS Crossing OBSN11																				
1442	12:02	OBS	OBS Crossing OBSN10																				
1482	14:26	OBS	OBS Crossing OBSN09																				
1522	16:48	OBS	OBS Crossing OBSN08																				
1562	19:12	OBS	OBS Crossing OBSN07																				
1602	21:36	OBS	OBS Crossing OBSN06																				
1641	23:58	Midnight Pos	Last SP of Day																				
1642	00:01	OBS	OBS Crossing OBSN05																				
1685	02:37	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>994</td> <td>17° 49' 22.351"</td> <td>150° 12' 06.700"</td> </tr> <tr> <td>LSP</td> <td>1685</td> <td>17° 52' 06.704"</td> <td>146° 56' 33.311"</td> </tr> </tbody> </table>				VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	994	17° 49' 22.351"	150° 12' 06.700"	LSP	1685	17° 52' 06.704"	146° 56' 33.311"
VESSEL POSITION																							
	Shotpoints	Latitude (N / +)	Longitude (W / -)																				
FSP	994	17° 49' 22.351"	150° 12' 06.700"																				
LSP	1685	17° 52' 06.704"	146° 56' 33.311"																				
				<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>				NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																							
NRP - Stern	29.5m																						
NRP - COS	232.0m																						
NRP - CNG	384.7m																						
COS - CNG	152.7m																						
NRP - CMP	308.35m																						
				<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																			
				<p style="text-align: center;">P1 P2 MGL1204OBS07.0.p19f MGL1204OBS07.0.p294</p>																			
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																			
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m																			
		Gun string #2	good	line status: complete																			
		Gun string #3	good																				
		Gun string #4	none																				

Seq# 019		Line Name: MGL1204OBS08		NAVIGATION	DATE: 2012-02-19	Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>
		Line Brg : 358.9 °		LINE LOGS	JULIAN DAY: 50	
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands	
DC SOL : 4.1m		DEPTH SOL : 3454.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary		
DC EOL : -10.5m		DEPTH EOL : 2897.3m		NAVIGATION SYSTEM USED: SeaPath 200		
SMG SOL: 4.5 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000		
SMG EOL: 4.5 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210		
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used		
WIND SOL: 9.7 knots				MAG DEC USED : -0.73°		
WIND EOL: 19.4 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng		
SEAS SOL: 0-1m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng		
SEAS EOL: 0-1m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng		
SP	TIME(UTC)	EVENT	COMMENTS			
1003	2:47	SOL	Start of line			
1039	04:55	OBS	OBS Crossing OBSW03			
1079	7:19	OBS	OBS Crossing OBSW02			
1119	9:43	OBS	OBS Crossing OBSW01			
1170	12:48	EOL	End of line			
			VESSEL POSITION			
			Shotpoints	Latitude (N / +)	Longitude (W / -)	
FSP			1003	17° 52' 36.578"	146° 56' 01.398"	
LSP			1170	18° 37' 51.762"	146° 55' 05.506"	
			NAVIGATION OFFSET APPLIED			
			NRP - Stern	29.5m		
			NRP - COS	232.0m		
			NRP - CNG	384.7m		
			COS - CNG	152.7m		
			NRP - CMP	308.35m		
<p><u>Note: LMN line parameter set to great circle line</u> Configuration: 4 x 10 gun array</p>						
			<p>P1 P2 MGL1204OBS08.0.p19(MGL1204OBS08.0.p294</p>			
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN		
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m		
		Gun string #2	good	line status: Complete		
		Gun string #3	good			
		Gun string #4	none			

Seq# 020		Line Name: MGL1204OBS09		NAVIGATION		DATE: 2012-02-19		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 178.9 °		LINE LOGS		JULIAN DAY: 50																			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																			
DC SOL : 180.4m		DEPTH SOL : 3311.2m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 128.5m		DEPTH EOL : 3453.1m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.6 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.5 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210																					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 10 knots				MAG DEC USED : -0.73°																					
WIND EOL: 10 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 1-2m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 1 – 2m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
992	14:00	SOL	Start of line																						
1052	17:33	OBS	OBS Crossing OBSW01																						
1092	19:57	OBS	OBS Crossing OBSW02																						
1132	22:21	OBS	OBS Crossing OBSW03																						
1159	23:59	Midnight POS	Last SP of Day																						
1168	00:32	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>992</td> <td>18° 40' 20.065"</td> <td>146° 54' 52.910"</td> </tr> <tr> <td>LSP</td> <td>1168</td> <td>17° 52' 39.633"</td> <td>146° 55' 56.457"</td> </tr> </tbody> </table>						VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	992	18° 40' 20.065"	146° 54' 52.910"	LSP	1168	17° 52' 39.633"	146° 55' 56.457"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	992	18° 40' 20.065"	146° 54' 52.910"																						
LSP	1168	17° 52' 39.633"	146° 55' 56.457"																						
				<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>						NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
				<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																					
				<p style="text-align: center;">P1 P2 MGL1204OBS09.0.p19f MGL1204OBS09.0.p294</p>																					
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																			
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m																					
		Gun string #2	good	line status: Complete																					
		Gun string #3	good																						
		Gun string #4	none																						

Line Name: MGL1204OBS10				NAVIGATION		DATE: 2012-02-20		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
Seq# 021				Line Brg : 270.3 °		LINE LOGS		JULIAN DAY: 51																	
CLIENT: Douglas Wiens				SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands																			
DC SOL : 211.2m		DEPTH SOL : 3456.5m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 19.5m		DEPTH EOL : 3068.6m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.3 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.6 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210																					
<u>WEATHER</u>		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 10 knots				MAG DEC USED : -0.73°																					
WIND EOL: 13.3 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 1-2m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 1-2m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1002	00:39	SOL	Start of line																						
1003	00:46	Extra SP	Extra SP after 1003 Reset both runts																						
1004	00:47	EXtra SP	3 Extra Shots after SP 1004																						
1005	00:50	Resume	Resume normal shot spacing																						
1038	02:50	OBS	OBSN03																						
1078	05:15	OBS	OBSN02																						
1116	07:29	OBS	OBSN01																						
1128	08:14	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>1002</td> <td>17° 52' 15.872"</td> <td>146° 55' 40.821"</td> </tr> <tr> <td>LSP</td> <td>1128</td> <td>17° 52' 14.721"</td> <td>146° 20' 02.959"</td> </tr> </tbody> </table>							VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1002	17° 52' 15.872"	146° 55' 40.821"	LSP	1128	17° 52' 14.721"	146° 20' 02.959"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1002	17° 52' 15.872"	146° 55' 40.821"																						
LSP	1128	17° 52' 14.721"	146° 20' 02.959"																						
			<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>							NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
			<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																						
			<p>P1 P2 MGL1204OBS10.0.p19(MGL1204OBS10.0.p294</p>																						
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:				MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																		
Tailbuoy #1	n/a	Gun string #1	good	String 1 and 2 acoustic serial #'s were swapped - SP1099				SP spacing: 500.0m																	
		Gun string #2	good					line status: Complete																	
		Gun string #3	good																						
		Gun string #4	none																						

Seq# 022		Line Name: MGL1204OBS11		NAVIGATION	DATE: 2012-02-20	<small>Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 90.1 °		LINE LOGS	JULIAN DAY: 51		
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands		
DC SOL : -11.4m		DEPTH SOL : 3015.8m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary			
DC EOL : 496.3m		DEPTH EOL : 3461.2m		NAVIGATION SYSTEM USED: SeaPath 200			
SMG SOL: 4.2 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000			
SMG EOL: 4.6 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210			
<u>WEATHER</u>		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used			
WIND SOL: 27.2 knots					MAG DEC USED : -0.73°		
WIND EOL: 20 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng			
SEAS SOL: 1-2m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng			
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng			
SP	TIME(UTC)	EVENT	<i>COMMENTS</i>				
993	9:30	SOL	Start of line				
1013	10:42	OBS	Crossing OBSN01				
1051	13:03	OBS	OBS Crossing OBSN02				
1091	15:34	OBS	OBS Crossing OBSN03				
1127	17:43	EOL					
			VESSEL POSITION				
			Shotpoints	Latitude (N / +)	Longitude (W / -)		
			FSP	993	17° 52' 13.374"		
			LSP	1127	146° 17' 44.477"		
			17° 51' 52.105"				
			146° 55' 41.360"				
			NAVIGATION OFFSET APPLIED				
			NRP - Stern	29.5m			
			NRP - COS	232.0m			
			NRP - CNG	384.7m			
			COS - CNG	152.7m			
			NRP - CMP	308.35m			
			<u>Note: LMN line parameter set to great circle line</u>				
			Configuration: 4 x 10 gun array				
			P1 P2				
			MGL1204OBS11.0.p19(MGL1204OBS11.0.p294				
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN			
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m			
		Gun string #2	good	line status: complete			
		Gun string #3	good				
		Gun string #4	none				

Seq# 023		Line Name: MGL1204OBS12		NAVIGATION		DATE: 2012-02-20		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 178.8 °		LINE LOGS		JULIAN DAY: 51																			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																			
DC SOL : 198.4m		DEPTH SOL : 3469.0m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 25.2m		DEPTH EOL : 3806.2m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.7 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.3 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210																					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 20 knots				MAG DEC USED : -0.73°																					
WIND EOL: 22.3 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 3-4m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1002	17:45	SOL	Start of line																						
1003	17:45	SPECTRA	runts reset – estimate position																						
1039	19:59	OBS	OBS Crossing OBSW05																						
1076	22:13	OBS	OBS Crossing OBSW06																						
1104	23:56	Midnight POS	Last SP of Day																						
1112	00:26	OBS	OBS Crossing OBSW07																						
1150	02:45	OBS	OBS Crossing OBSW08																						
1188	04:59	OBS	OBS Crossing OBSS04																						
1228	07:22	OBS	OBS Crossing OBSW10																						
1282	10:38	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>1002</td> <td>17° 51' 45.330"</td> <td>146° 55' 48.359"</td> </tr> <tr> <td>LSP</td> <td>1282</td> <td>16° 35' 54.718"</td> <td>146° 57' 35.344"</td> </tr> </tbody> </table>						VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1002	17° 51' 45.330"	146° 55' 48.359"	LSP	1282	16° 35' 54.718"	146° 57' 35.344"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1002	17° 51' 45.330"	146° 55' 48.359"																						
LSP	1282	16° 35' 54.718"	146° 57' 35.344"																						
				<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>						NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
				<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																					
				<p>P1 P2 MGL1204OBS12.0.p19(MGL1204OBS12.0.p294</p>																					
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V4.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																					
Tailbuoy #1	n/a	Gun string #1	good	SP spacing: 500.0m																					
		Gun string #2	good	line status: Complete																					
		Gun string #3	good																						
		Gun string #4	none																						

Seq# 025		Line Name: MGL1204OBS18		NAVIGATION	DATE: 2012-02-21	Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>																
		Line Brg : 98.9 °		LINE LOGS	JULIAN DAY: 52																	
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																	
DC SOL : 95.9m	DEPTH SOL : 4339.1m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary																				
DC EOL : -58.4m	DEPTH EOL : 5076.1m	NAVIGATION SYSTEM USED: SeaPath 200																				
SMG SOL: 4.2 knots	FEATHER SOL: n/a °	NAVIGATION SYSTEM USED: C-Nav2000																				
SMG EOL: 4.2 knots	FEATHER EOL: n/a °	GRAVITY METER: BMG-II: used, SN210																				
WEATHER	MAX FEATHER: n/a °	MAGNETOMETER: GeoMetrics: used																				
WIND SOL: 20 knots		MAG DEC USED : -0.73°																				
WIND EOL: 23:04 knots	00:00 – 04:00 utc => martina cocchia; mike martello	12:00 – 16:00 utc => helen feng; david ng																				
SEAS SOL: 2-3m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng																				
SEAS EOL: 3 – 4m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng																				
SP	TIME(UTC)	EVENT	COMMENTS																			
1123	17:58	SOL	Start of line																			
1171	20:16	OBS	OBS Crossing OBSS05																			
1201	22:44	OBS	OBS Crossing OBSS06																			
1221	23:57	Midnight POS	Last SP of Day																			
1241	01:10	OBS	OBS Crossing OBSS07																			
1281	03:33	OBS	OBS Crossing OBSS08																			
1323	06:03	OBS	OBS Crossing OBSS09																			
1361	08:21	OBS	OBS Crossing OBSS10																			
1401	10:48	OBS	OBS Crossing OBSS11																			
1422	12:06	Spectra	Restart main; manually fire a shot																			
1441	13:17	OBS	OBS Crossing OBSS12																			
1482	15:48	OBS	OBS Crossing OBSS13																			
1522	18:12	OBS	OBS Crossing OBSS14																			
1562	20:39	OBS	OBS Crossing OBSS15																			
16:01	23:04	EOL	End of Line																			
			<table border="1" style="width:100%; border-collapse: collapse;"> <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>1123</td> <td>17° 01' 15.318"</td> <td>146° 57' 36.668"</td> </tr> <tr> <td>LSP</td> <td>1601</td> <td>16° 40' 17.626"</td> <td>149° 10' 26.424"</td> </tr> </tbody> </table>				VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1123	17° 01' 15.318"	146° 57' 36.668"	LSP	1601	16° 40' 17.626"	149° 10' 26.424"
VESSEL POSITION																						
	Shotpoints	Latitude (N / +)	Longitude (W / -)																			
FSP	1123	17° 01' 15.318"	146° 57' 36.668"																			
LSP	1601	16° 40' 17.626"	149° 10' 26.424"																			
			<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>				NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																						
NRP - Stern	29.5m																					
NRP - COS	232.0m																					
NRP - CNG	384.7m																					
COS - CNG	152.7m																					
NRP - CMP	308.35m																					
			<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																			
			<table style="width:100%;"> <tr> <td>P1</td> <td>P2</td> </tr> <tr> <td>MGL1204OBS18.0.p19f</td> <td>MGL1204OBS18.0.p294</td> </tr> </table>				P1	P2	MGL1204OBS18.0.p19f	MGL1204OBS18.0.p294												
P1	P2																					
MGL1204OBS18.0.p19f	MGL1204OBS18.0.p294																					
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V5.LMN		2D_Wiens_source.SCN(002)	mgl2010.RTCN															
Tailbuoy #1	n/a	Gun string #1	intermittent	SP spacing:		500.0m																
		Gun string #2	good	line status:		Complete																
		Gun string #3	good																			
		Gun string #4	none																			

Seq# 028		Line Name: MGL1204OBS21		NAVIGATION		DATE: 2012-02-24		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE																	
		Line Brg : 178.8 °		LINE LOGS		JULIAN DAY: 55																			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands																			
DC SOL : -6.7m		DEPTH SOL : 3471.4m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary																					
DC EOL : 51.1m		DEPTH EOL : 4229.7m		NAVIGATION SYSTEM USED: SeaPath 200																					
SMG SOL: 4.3 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000																					
SMG EOL: 4.5 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210																					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used																					
WIND SOL: 4.3 knots				MAG DEC USED : -0.73°																					
WIND EOL: 11 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng																					
SEAS SOL: 1m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng																					
SEAS EOL: 1-2m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng																					
SP	TIME(UTC)	EVENT	COMMENTS																						
1003	22:25	SOL	Start of Line																						
1029	23:59	Midnight POS	Last SP of the Day																						
1039	00:35	OBS	OBS Crossing OBSW05																						
1076	02:49	OBS	OBS Crossing OBSW06																						
1112	04:56	OBS	OBS Crossing OBSW07																						
1150	07:13	OBS	OBS Crossing OBSW08																						
1185	09:20	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>1003</td> <td>17° 51' 30.992"</td> <td>146° 56' 02.736"</td> </tr> <tr> <td>LSP</td> <td>1185</td> <td>17° 02' 11.835"</td> <td>146° 57' 03.532"</td> </tr> </tbody> </table>						VESSEL POSITION					Shotpoints	Latitude (N / +)	Longitude (W / -)	FSP	1003	17° 51' 30.992"	146° 56' 02.736"	LSP	1185	17° 02' 11.835"	146° 57' 03.532"
VESSEL POSITION																									
	Shotpoints	Latitude (N / +)	Longitude (W / -)																						
FSP	1003	17° 51' 30.992"	146° 56' 02.736"																						
LSP	1185	17° 02' 11.835"	146° 57' 03.532"																						
				<table border="1"> <thead> <tr> <th colspan="2">NAVIGATION OFFSET APPLIED</th> </tr> </thead> <tbody> <tr> <td>NRP - Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP - COS</td> <td>232.0m</td> </tr> <tr> <td>NRP - CNG</td> <td>384.7m</td> </tr> <tr> <td>COS - CNG</td> <td>152.7m</td> </tr> <tr> <td>NRP - CMP</td> <td>308.35m</td> </tr> </tbody> </table>						NAVIGATION OFFSET APPLIED		NRP - Stern	29.5m	NRP - COS	232.0m	NRP - CNG	384.7m	COS - CNG	152.7m	NRP - CMP	308.35m				
NAVIGATION OFFSET APPLIED																									
NRP - Stern	29.5m																								
NRP - COS	232.0m																								
NRP - CNG	384.7m																								
COS - CNG	152.7m																								
NRP - CMP	308.35m																								
				<p>Note: LMN line parameter set to great circle line Configuration: 4 x 10 gun array</p>																					
				<p>P1 P2 MGL1204OBS21.0.p19\ MGL1204OBS21.0.p294</p>																					
Posnet locations & remarks: good - none - intermittent			Acoustic remarks:			MGL1204_V5.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN																			
Tailbuoy #1	n/a	Gun string #1	none	SP spacing: 500.0m																					
		Gun string #2	good	line status: Complete																					
		Gun string #3	good																						
		Gun string #4	none																						

Line Name: MGL1204OBS23		NAVIGATION		DATE: 2012-02-25	Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY EARTH INSTITUTE	
Seq# 030		Line Brg : 098.9 °		LINE LOGS		JULIAN DAY: 56
CLIENT: Douglas Wiens		SURVEY: Mantle Serpentinization MCS/OBS		AREA: Northern Marianas Islands		
DC SOL : -12.6m	DEPTH SOL : 2695.7m	NAVIGATION SYSTEM USED: C-Nav3050 - Primary				
DC EOL : -71.5m	DEPTH EOL : 5074.9m	NAVIGATION SYSTEM USED: SeaPath 200				
SMG SOL: 4.3 knots	FEATHER SOL: n/a °	NAVIGATION SYSTEM USED: C-Nav2000				
SMG EOL: 4.4 knots	FEATHER EOL: n/a °	GRAVITY METER: BMG-II: used, SN210				
WEATHER	MAX FEATHER: n/a °	MAGNETOMETER: GeoMetrics: used				
WIND SOL: 10.8 knots		MAG DEC USED : -0.73°				
WIND EOL: 22.1 knots	00:00 – 04:00 utc => martina cocchia; mike martello	12:00 – 16:00 utc => helen feng; david ng				
SEAS SOL: 1m	04:00 – 08:00 utc => chuanchaun lu; mike martello	16:00 – 20:00 utc => jacob siegel; david ng				
SEAS EOL: 2-3m	08:00 – 12:00 utc => john lundquist; mike martello	20:00 – 00:00 utc => matthew hughes ;david ng				
SP	TIME(UTC)	EVENT	COMMENTS			
992	17:53	SOL	Start of Line			
1013	19:09	OBS	OBS Crossing OBSS01			
1019-1020	19:33-19:37	GPS	Lost C2K; Seapath; Lost VIG2; VIG3 GPSsystems and back in			
1037-1043	20:36-20:58	GPS	Lost C2K; Seapath; Lost VIG2; VIG3 GPSsystems and back in			
1049	21:19	OBS	OBS Crossing OBSS02			
1085	23:30	OBS	OBS Crossing OBSS03			
1092	23:56	Midnight	Midnight position			
1121	01:41	OBS	OBS Crossing OBSS04			
1161	04:05	OBS	OBS Crossing OBSS05			
1201	4:26	OBS	OBS Crossing OBSS06			
1241	8:52	OBS	OBS Crossing OBSS07			
1281	11:17	OBS	OBS Crossing OBSS08			
1323	13:49	OBS	OBS Crossing OBSS09			
1361	16:05	OBS	OBS Crossing OBSS10			
1402	18:31	OBS	OBS Crossing OBSS11			
1442	20:55	OBS	OBS Crossing OBSS12			
1482	23:21	OBS	OBS Crossing OBSS13			
1492	23:57	Midnight	Last SP of the Day			
1522	01:46	OBS	OBS Crossing OBSS14			
1562	04:11	OBS	OBS Crossing OBSS15			
1601	06:29	EOL	End of line			
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V6.LMN 2D_Wiens_source.SCN(002) mgl2010.RTCN		
Tailbuoy #1	n/a	Gun string #1	none	SP spacing: 500.0m		
		Gun string #2	good	line status: Complete		
		Gun string #3	good			
		Gun string #4	none			

VESSEL POSITION			
	Shotpoints	Latitude (N / +)	Longitude (W / -)
FSP	992	17° 06' 54.667"	146° 21' 09.486"
LSP	1601	16° 40' 18.247"	149° 10' 23.647"

NAVIGATION OFFSET APPLIED	
NRP - Stern	29.5m
NRP - COS	232.0m
NRP - CNG	384.7m
COS - CNG	152.7m
NRP - CMP	308.35m

Note: LMN line parameter set to great circle line
Configuration: 4 x 10 gun array

P1 P2
MGL1204OBS23.0.p19\ MGL1204OBS23.0.p294

Seq# 031		Line Name: MGL1204OBS24		NAVIGATION		DATE: 2012-02-27		Lamont-Doherty Earth Observatory <small>COLUMBIA UNIVERSITY EARTH INSTITUTE</small>	
		Line Brg : 10.5 °		LINE LOGS		JULIAN DAY: 58			
CLIENT: Douglas Wiens			SURVEY: Mantle Serpentinization MCS/OBS			AREA: Northern Marianas Islands			
DC SOL : -95.7m		DEPTH SOL : 5111.2m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL : 14.2m		DEPTH EOL : 5413.4m		NAVIGATION SYSTEM USED: SeaPath 200					
SMG SOL: 4.4 knots		FEATHER SOL: n/a °		NAVIGATION SYSTEM USED: C-Nav2000					
SMG EOL: 4.3 knots		FEATHER EOL: n/a °		GRAVITY METER: BMG-II: used, SN210					
WEATHER		MAX FEATHER: n/a °		MAGNETOMETER: GeoMetrics: used					
WIND SOL: 18.7 knots				MAG DEC USED : -0.73°					
WIND EOL: 20.4 knots		00:00 – 04:00 utc => martina coccia; mike martello		12:00 – 16:00 utc => helen feng; david ng					
SEAS SOL: 2-3m		04:00 – 08:00 utc => chuanchaun lu; mike martello		16:00 – 20:00 utc => jacob siegel; david ng					
SEAS EOL: 2-3m		08:00 – 12:00 utc => john lundquist; mike martello		20:00 – 00:00 utc => matthew hughes ;david ng					
SP	TIME(UTC)	EVENT	COMMENTS						
1102	06:39	SOL	Start of Line						
1137	08:46	OBS	OBS Crossing OBSE09						
1158	10:02	EOL	End of line						
			VESSEL POSITION						
			Shotpoints		Latitude (N / +)		Longitude (W / -)		
			FSP	1102	16° 40' 35.034"	149° 11' 02.941"			
			LSP	1158	16° 55' 27.918"	149° 14' 01.999"			
			NAVIGATION OFFSET APPLIED						
			NRP - Stern	29.5m					
			NRP - COS	232.0m					
			NRP - CNG	384.7m					
			COS - CNG	152.7m					
			NRP - CMP	308.35m					
			<u>Note: LMN line parameter set to great circle line</u>						
			Configuration: 4 x 10 gun array						
			P1		P2				
			MGL1204OBS24.0.p19\ MGL1204OBS24.0.p294						
Posnet locations & remarks: good - none - intermittent		Acoustic remarks:		MGL1204_V6.LMN		2D_Wiens_source.SCN(002)		mgl2010.RTCN	
Tailbuoy #1	n/a	Gun string #1	none	SP spacing: 500.0m					
		Gun string #2	good						
		Gun string #3	good						
		Gun string #4	none						
				line status:		Incomplete			