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Page 1

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Lamont-Doherty Earth Observatory  
COLUMBIA UNIVERSITY | EARTH INSTITUTE

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<b>Seq# 007</b>		<b>Line Name:</b> MGL2105PO08		<b>NAVIGATION</b>		<b>DATE:</b> 2021-07-22		Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY   EARTH INSTITUTE		
		<b>Line Brg :</b> 66 °		<b>LINE LOGS</b>		<b>JULIAN DAY:</b> 203				
<b>CLIENT:</b> NSF - Lindsay Worthington				<b>SURVEY:</b> Queen Charlotte Fault MCS/OBS				<b>AREA:</b> Queen Charlotte		
DC SOL: 557.1 m		DEPTH SOL : 2795.2 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary						
DC EOL: 526.7 m		DEPTH EOL : 113.9 m		NAVIGATION SYSTEM USED: SeaPath 330						
BSP SOL: 4.2 kts		FEATHER SOL: N/A		NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted						
BSP EOL: 3.8 kts		FEATHER EOL: N/A								
<b>WEATHER</b>		MAX FEATHER: N/A		GRAVITY METER: BMG-II: used, SN223						
WIND SOL: S22.0 kts				MAGNETOMETER: Geometrics 882						
WIND EOL: SE 21 kts		<u>shift hours</u> Nav		<u>shift hours</u> Acq						
SEAS SOL: 0.5 m		12:00 - 24:00 Victor Ubaru		12:00 - 24:00 Gilles Guerin						
SEAS EOL: 2.0 m		0:00-12:00 Cody Bahlau		00:00 - 12:00 Klayton Curtis						
<b>SP</b>	<b>UTC</b>	<b>EVENT</b>	<b>COMMENTS</b>				<b>VESSEL POSITION</b>			
3681	13:05	SOL	Start of line				Shotpoints Latitude (N) Longitude (W)			
			Source only, OBS line, Shot Spacing = 150m				FSP	3681	53° 59' 01.881"	134° 36' 24.798"
			Source Volume = 6240 cuin, 35 Guns Active				LSP	5151	54° 44' 07.903"	131° 31' 11.157"
4366	23:59		Midnight SP							
4413	00:57		Gun strings powered down to half volume							
4495	02:22		Gun Strings back to full volume							
4565	03:30		Crossed into US border							
4927	9:00		GPS 3 dropped out while online							
5151	13:26	EOL	End of line				NRP - Stern 29.5m			
			Source Volume = 6600 cuin, 36 Guns Active				NRP - COS 230.0m			
							NRP - CNG NA			
							COS - CNG NA			
							NRP - CMP NA			
Posnet locations & remarks: good - none - intermittent										
Tailbuoy #1	None	Gun string #1	GOOD							
Tailbuoy #2	None	Gun string #2	GOOD							
Tailbuoy #3	None	Gun string #3	Bad							
Tailbuoy #4	None	Gun string #4	GOOD							
					SP spacing: 150m					
					<b>line status:</b>		Complete			

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Seq# 012	Line Name: MGL2105PM16		NAVIGATION		DATE: 2021-07-26		Lamont-Doherty Earth Observatory	
	Line Brg : 54.7 °		LINE LOGS		JULIAN DAY: 207		COLUMBIA UNIVERSITY   EARTH INSTITUTE	
CLIENT: NSF - Lindsay Worthington				SURVEY: Queen Charlotte Fault MCS/OBS		AREA: Queen Charlotte		
DC SOL: -85.4 m		DEPTH SOL : 2668.5 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary				
DC EOL: -1.9 m		DEPTH EOL : 2878.0 m		NAVIGATION SYSTEM USED: SeaPath 330				
BSP SOL: 4.2 kts		FEATHER SOL: 116.9 °		NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted				
BSP EOL: 4.1 kts		FEATHER EOL: 02.0 °						
WEATHER		MAX FEATHER: 116.9 °		GRAVITY METER: BMG-II: used, SN223				
WIND SOL: S 14.7 kts				MAGNETOMETER: Geometrics 882				
WIND EOL: SW 10.7 kts		shift hours Nav shift hours Acq						
SEAS SOL: 0.5 m		12:00 - 24:00 Victor Ubaru 12:00 - 24:00 Gilles Guerin						
SEAS EOL: 0.3 m		0:00-12:00 Cody Bahlau 00:00 - 12:00 Klayton Curtis						
SP	UTC	EVENT	COMMENTS		VESSEL POSITION			
10300	21:24	SOL	Start of line			Shotpoints	Latitude (N)	Longitude (W)
			MCS line, Shot Spacing = 50m		FSP	10300	52° 28' 53.287"	133° 28' 44.542"
			Source Volume = 6600 cuin, 36 Guns Active		LSP	11343	52° 45' 01.561"	132° 50' 54.650"
10601	23:21	FPSP	First preplot shot					
10705	23:59	Midnight shot	Last shot of the day					
11343	03:59	LGSP	Shut down for Protected Species. Guns disabled					
11367	4:10	EOL	End of line Source Volume = 0 cuin, 0 Guns Active					
Posnet locations & remarks: good - none - intermittent								
Tailbuoy #1	Bad	Gun string #1	GOOD					
Tailbuoy #2	None	Gun string #2	Bad					
Tailbuoy #3	None	Gun string #3	GOOD					
Tailbuoy #4	None	Gun string #4	GOOD					
SP spacing: 50m					line status: Complete			

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Page 1



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Page 1

Page 1

<b>Seq# 020</b>		<b>Line Name: MGL2105PO01A</b>		<b>NAVIGATION</b>		<b>DATE: 2021-07-29</b>		 Lamont-Doherty Earth Observatory COLUMBIA UNIVERSITY   EARTH INSTITUTE										
		<b>Line Brg : 334.2 °</b>		<b>LINE LOGS</b>		<b>JULIAN DAY: 210</b>												
<b>CLIENT: NSF - Lindsay Worthington</b>				<b>SURVEY: Queen Charlotte Fault MCS/OBS</b>				<b>AREA: Queen Charlotte</b>										
DC SOL: -4.2 m DC EOL: -4815.0 m BSP SOL: 3.4 kts BSP EOL: 3.7 kts <b>WEATHER</b> WIND SOL: E 8.8 kts WIND EOL: W 8.3 kts SEAS SOL: 0.5 m SEAS EOL: 0.5 m		DEPTH SOL : 1506.5 m DEPTH EOL : 2104.0 m FEATHER SOL: 07.4 ° FEATHER EOL: 16.9 ° MAX FEATHER: 24.1 °		NAVIGATION SYSTEM USED: C-Nav3050 - Primary NAVIGATION SYSTEM USED: SeaPath 330 NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted  GRAVITY METER: BMG-II: used, SN223 MAGNETOMETER: Geometrics 882														
		<b>shift hours</b>		<b>Nav</b>		<b>shift hours</b>		<b>Acq</b>										
		12:00 - 24:00		Victor Ubaru		12:00 - 24:00		Gilles Guerin										
		0:00-12:00		Cody Bahlau		00:00 - 12:00		Klayton Curtis										
		<b>COMMENTS</b>																
SP	UTC	EVENT	VESEL POSITION															
21167	17:56	SOL	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">Shotpoints</th> <th style="width: 15%;">Latitude (N)</th> <th style="width: 15%;">Longitude (W)</th> </tr> </thead> <tbody> <tr> <td>FSP 21167</td> <td>53° 44' 52.421"</td> <td>133° 39' 42.059"</td> </tr> <tr> <td>LSP 23358</td> <td>56° 21' 57.879"</td> <td>136° 02' 26.321"</td> </tr> </tbody> </table>						Shotpoints	Latitude (N)	Longitude (W)	FSP 21167	53° 44' 52.421"	133° 39' 42.059"	LSP 23358	56° 21' 57.879"	136° 02' 26.321"	
Shotpoints	Latitude (N)	Longitude (W)																
FSP 21167	53° 44' 52.421"	133° 39' 42.059"																
LSP 23358	56° 21' 57.879"	136° 02' 26.321"																
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td>NRP – Stern</td> <td>29.5m</td> </tr> <tr> <td>NRP – COS</td> <td>230.0m</td> </tr> <tr> <td>NRP – CNG</td> <td>449.70m</td> </tr> <tr> <td>COS – CNG</td> <td>219.70m</td> </tr> <tr> <td>NRP – CMP</td> <td>339.90m</td> </tr> </tbody> </table>						NRP – Stern	29.5m	NRP – COS	230.0m	NRP – CNG	449.70m	COS – CNG	219.70m	NRP – CMP	339.90m
NRP – Stern	29.5m																	
NRP – COS	230.0m																	
NRP – CNG	449.70m																	
COS – CNG	219.70m																	
NRP – CMP	339.90m																	
			Start of line OBS line, Shot Spacing = 150m Source Volume = 6600 cuin, 36 Guns Active															
21313	20:52		Last Good Shot Point at Full Volume Shut down due to Porpoises															
21335	21:22		First SP at beginning of soft start															
21350	21:44		First Full Volume Shot Point															
21467	23:59		Midnight Shot [julian day 210]															
22322	15:02		Gun 4-1 disabled due to an autofire Source Volume = 6240 cuin, 35 Guns Active															
22848	23:59		Midnight Shot [julian day 211]															
22986	2:24		shut down - whale sighting															
23022	3:18		First SP at beginning of soft start															
23035	3:39		First Shot Point Source Volume = 6240 cuin, 35 Guns Active															
23259	7:44		Vessel turned to port to prepare for next line.															
23306	9:04		Vessel turned back to Stbd and maintained a heading of ~330 heading for the turn to next line. Still acquiring data for OBS nodes															
23345	9:52		Continue Stdb turn															
23358	10:16	EOL	End of Line Source Volume = 6240 cuin, 35 Guns Active															
<b>Posnet locations &amp; remarks: good - none - intermittent</b>																		
Tailbuoy #1	Intermittent	Gun string #1	GOOD															
Tailbuoy #2	None	Gun string #2	Bad															
Tailbuoy #3	None	Gun string #3	GOOD															
Tailbuoy #4	None	Gun string #4	GOOD															
			SP spacing: 150m															
			<b>line status: Complete</b>															

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Page 1

Page 1

Page 1



Page 1

Page 1

Page 1

Page 1

Page 1

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Line Name: MGL2105T0607		DATE: 2021-08-08		Lamont-Doherty Earth Observatory	
Line Brg : 246.3 °		JULIAN DAY: 220		COLUMBIA UNIVERSITY   EARTH INSTITUTE	
Seq# 040		LINE LOGS			
CLIENT: NSF - Lindsay Worthington		SURVEY: Queen Charlotte Fault MCS/OBS		AREA: Queen Charlotte	
DC SOL: 425.5 m		DEPTH SOL : 215.3 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary	
DC EOL: 465.9 m		DEPTH EOL : 2875.4 m		NAVIGATION SYSTEM USED: SeaPath 330	
BSP SOL: 4.1 kts		FEATHER SOL: -129.4 °		NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted	
BSP EOL: 3.7 kts		FEATHER EOL: 02.4 °			
WEATHER		MAX FEATHER: -129.4 °		GRAVITY METER: BMG-II: used, SN223	
WIND SOL: W 8.5 kts				MAGNETOMETER: Geometrics 882	
WIND EOL: SW 22.5 kts					
SEAS SOL: 1.0 m		shift hours Nav shift hours Acq			
SEAS EOL: 1.0 m		12:00 - 24:00 Victor Ubaru 12:00 - 24:00 Gilles Guerin			
		0:00-12:00 Cody Bahlau 00:00 - 12:00 Klayton Curtis			
SP	UTC	EVENT	COMMENTS		
48005	21:28	SOL	Start of line		
			MCS line, Shot Spacing = 50m		
			Source Volume = 40 cuin, 1 Gun Active		
			Streamer in Port Turn at SOL		
			FSP		
			LSP		
48011	21:30		Shut down due to protected species		
48189	22:41		Start of ramp up		
48236	23:00		First SP - source volume - 3300 cuin, 18 Guns Active		
48377	23:59		Last SP for Julian day 220		
48447	00:23		First SP - source volume - 6600 cuin, 36 Guns Active		
49470	06:43	EOL	End of Line		
			Source Volume = 6600 cuin, 36 Guns Active		
Posnet locations & remarks: good - none - intermittent					
Tailbuoy #1	Bad	Gun string #1	OUT		
Tailbuoy #2	None	Gun string #2	GOOD		
Tailbuoy #3	None	Gun string #3	GOOD		
Tailbuoy #4	None	Gun string #4	GOOD		
SP spacing: 50m				line status: Complete	



Page 1

Page 1

Page 1

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Line Name:		MGL2105PM09		NAVIGATION		DATE: 2021-08-11		Lamont-Doherty Earth Observatory			
Line Brg :		242.6 °		LINE LOGS		JULIAN DAY: 223		COLUMBIA UNIVERSITY   EARTH INSTITUTE			
CLIENT: NSF - Lindsay Worthington				SURVEY: Queen Charlotte Fault MCS/OBS		AREA: Queen Charlotte					
DC SOL: -124.6 m		DEPTH SOL : 334.5 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary							
DC EOL: 300.7 m		DEPTH EOL : 2712.1 m		NAVIGATION SYSTEM USED: SeaPath 330							
BSP SOL: 5.2 kts		FEATHER SOL: -99.5 °		NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted							
BSP EOL: 3.6 kts		FEATHER EOL: 03.5 °									
WEATHER		MAX FEATHER: -99.5 °		GRAVITY METER: BMG-II: used, SN223							
WIND SOL: NW 14.9 kts				MAGNETOMETER: Geometrics 882							
WIND EOL: W 9.0 kts		shift hours Nav shift hours Acq									
SEAS SOL: 2.5 m		12:00 - 24:00 Victor Ubaru 12:00 - 24:00 Gilles Guerin									
SEAS EOL: 2.5 m		0:00-12:00 Cody Bahlau 00:00 - 12:00 Klayton Curtis									
SP	UTC	EVENT	COMMENTS				VESSEL POSITION				
56119	01:07	SOL	Start of line					Shotpoints	Latitude (N)	Longitude (W)	
			MCS line, Shot Spacing = 50m				FSP	56119	54° 33' 31.505"	133° 21' 06.072"	
			Source Volume = 6600 cuin, 36 Guns Active				LSP	58129	54° 08' 27.987"	134° 43' 19.098"	
			Streamer in PortTurn at SOL								
			Front of the streamer is deep due to slow speeds and tension from marginal seas.								
			Moved the streamer to 16 meters due to sea conditions.								
			Variable Depths due to sea state								
56401	02:38	FVSP									
57120	7:11		Birds 6-16 going deep. Max depth ~20m. Tension and vessel pitch at max.								
57429	9:27		Disabled Gun 1-2, 6240 cuin, 35 Guns Active								
57848	12:40		Cross in to Canada								
58129	14:45	EOL	End of Line								
			Source Volume = 6240 cuin, 35 Guns Active								
Posnet locations & remarks: good - none - intermittent											
Tailbuoy #1	Bad	Gun string #1	OUT								
Tailbuoy #2	None	Gun string #2	GOOD								
Tailbuoy #3	None	Gun string #3	GOOD								
Tailbuoy #4	None	Gun string #4	GOOD								
				SP spacing: 50m							
				line status:				Complete			

Page 1

Page 1

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Page 1

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<b>Seq# 051</b>		<b>Line Name: MGL2105PM12</b>		<b>NAVIGATION</b>		<b>DATE: 2021-08-14</b>		<b>Lamont-Doherty Earth Observatory</b>	
		<b>Line Brg : 53.9 °</b>		<b>LINE LOGS</b>		<b>JULIAN DAY: 226</b>		<b>COLUMBIA UNIVERSITY   EARTH INSTITUTE</b>	
<b>CLIENT: NSF - Lindsay Worthington</b>				<b>SURVEY: Queen Charlotte Fault MCS/OBS</b>				<b>AREA: Queen Charlotte</b>	
DC SOL: -4.4 m		DEPTH SOL : 2832.3 m		NAVIGATION SYSTEM USED: C-Nav3050 - Primary					
DC EOL: -1110.1 m		DEPTH EOL : 197.5 m		NAVIGATION SYSTEM USED: SeaPath 330					
BSP SOL: 4.1 kts		FEATHER SOL: 37.8 °		NAVIGATION SYSTEM USED: C-Nav3050-Stern Mounted					
BSP EOL: 4.0 kts		FEATHER EOL: 04.2 °							
<b>WEATHER</b>		MAX FEATHER: 37.8 °		<b>GRAVITY METER: BMG-II: used, SN223</b>					
WIND SOL: S 10.1 kts				<b>MAGNETOMETER: Geometrics 882</b>					
WIND EOL: NW 18.6 kts		<b>shift hours</b>		<b>Nav</b>		<b>shift hours</b>		<b>Acq</b>	
SEAS SOL: 1.5 m		12:00 - 24:00		Victor Ubaru		12:00 - 24:00		Gilles Guerin	
SEAS EOL: 1.5 m		0:00-12:00		Cody Bahlau		00:00 - 12:00		Klayton Curtis	
<b>SP</b>	<b>UTC</b>	<b>EVENT</b>	<b>COMMENTS</b>						
68301	23:39	SOL	Start of line						
			MCS line, Shot Spacing = 50m						
			Source Volume = 6600 cuin, 36 Guns Active						
			Streamer Depth = 14m						
68356	23:59		Last SP for Julian day 226						
68601	01:29	FVSP							
71600	20:32	EOL	End of Line						
			Source Volume = 6600 cuin, 36 Guns Active						
Posnet locations & remarks: good - none - intermittent									
Tailbuoy #1	Bad	Gun string #1	GOOD						
Tailbuoy #2	None	Gun string #2	GOOD						
Tailbuoy #3	None	Gun string #3	GOOD						
Tailbuoy #4	None	Gun string #4	GOOD						
			SP spacing: 50m						
			<b>line status:</b> Complete						

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