Seq# 001

Line Name: MGL1806OB01

Line Brg : 226.795 °

NAVIGATION

LINE LOGS

DATE: 2018-09-20

JULIAN DAY: 263

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	-174.9 m	DEPTH SOL :	4756.4 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	1.2 m	DEPTH EOL :	4347.0 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.2 kts	FEATHER SOL:	29.4 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.1 kts	FEATHER EOL:	-10.6 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	29.4 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SE 14 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	SE 17.9 kts				
SEAS SOL:	2.0 m				
SEAS EOL:	1.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
966	17:25	SOL	Multiple stop/starts due to long record length causing digicourse timeouts in spectra
1014	19:50	OBS	crossed OBS 135
1047	21:30	OBS	crossed OBS 134
1080	23:10	OBS	crossed OBS 133
1096	00:00	Midnight	First shot of the day - 21 Sept
1113	00:51	OBS	crossed OBS 132
1142	02:19	OBS	crossed OBS 131
1179	04:12	OBS	crossed OBS 130
1212	05:49	OBS	crossed OBS 129
1244	07:29	OBS	crossed OBS 128
1278	09:10	OBS	crossed OBS 127
1311	10:46	OBS	crossed OBS 126
1344	12:27	OBS	crossed OBS 125
1356	13:05	PAM	PAM crash for >30 min. Shut down. Last shot 1356
1377	14:21	Source	begin ramp up. Ramp up during shots 1377-1381
1382	14:42	Source	First full volume shot following ramp up
1443	17:48	OBS	crossed OBS 124
1475	19:25	OBS	crossed OBS 123
1513	21:21	OBS	crossed OBS 122
1551	23:23	OBS	crossed OBS 121
1563	00:00	Midnight	First shot of the day - 22 Sept
1590	01:33	OBS	crossed OBS 120
1630	04:00	OBS	crossed OBS 119
1668	06:29	OBS	crossed OBS 118
1705	09:08	OBS	crossed OBS 117
1744	11:44	OBS	crossed OBS 116
1782	13:37	OBS	crossed OBS 115
1799	14:36	GPS	Tailbuoy GPS data dropped out
1820	15:54	OBS	crossed OBS 114
1859	18:22	OBS	crossed OBS 113
1898	20:35	OBS	crossed OBS 112
1936	22:42	OBS	crossed OBS 111

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	966	22° 08' 36.328"	-153° 57' 54.500"
LSP	2333	18° 48' 33.958"	-157° 39' 11.718"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

1958	00:00	Midnight	First shot of the day - 23 Sept
1974	00:56	OBS	crossed OBS 110
2014	03:14	OBS	crossed OBS 109
2050	05:31	OBS	Crossed OBS 108
2089	07:56	OBS	Crossed OBS 107
2127	10:23	OBS	Crossed OBS 106
2165	12:36	OBS	Crossed OBS 105
2203	14:36	OBS	Crossed OBS 104
2243	16:34	OBS	Crossed OBS 103
2281	18:31	OBS	Crossed OBS 102
2320	20:30	OBS	Crossed OBS 101
2333	21:10	EOL	End of line

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 390.0m

line status: Complete

	Line Name:	MGL1806MC01	NAVIGATION	DATE:	2018-09-24
Seq# 002	Line Brg :	45.438 °	LINE LOGS	JULIAN DAY:	267

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	446.0 m	DEPTH SOL :	4406.8 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	-3.5 m	DEPTH EOL :	4645.3 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.3 kts	FEATHER SOL:	-09.6 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.4 kts	FEATHER EOL:	-05.2 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	19.5 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	E 13.9 kts			MAGNETOMETER: GeoMetrics: used	

	shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
WIND EOL: S 14.5 kts						
SEAS SOL: 1.0 m	12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
SEAS EOL: 1.5 m	12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
2911	02:39	SOL	Shot point interval 62.5m
3084	04:03	OBS Crossing	Crossed OBS 101
3323	05:58	OBS Crossing	Crossed OBS 102
3565	07:54	OBS Crossing	Crossed OBS 103
3804	09:51	OBS Crossing	Crossed OBS 104
4041	11:46	OBS Crossing	Crossed OBS 105
4282	13:39	OBS Crossing	Crossed OBS 106
4528	15:33	OBS Crossing	Crossed OBS 107
	16:34	Equipment Proble	Broken quick link on gun string 4
4681	16:44	Equipment Proble	Secure strings 3+4. last full volume shot
4682	16:45	Equipment Proble	Firing 3300 in3 18 guns
	16:52	Equipment Proble	Source arrays back in place
4702	16:42	Equipment Proble	Firing full array
4762	17:23	OBS Crossing	Crossed OBS 108
4993	19:11	OBS Crossing	Crossed OBS 109
5242	21:07	OBS Crossing	Crossed OBS 110
5480	22:54	OBS Crossing	Crossed OBS 111
5626	00:00	Midnight	Midnight 9/25/18
5718	00:41	OBS Crossing	Crossed OBS 112
5859	02:31	OBS Crossing	Crossed OBS 113
6197	04:21	OBS Crossing	Crossed OBS 114
6437	06:10	OBS Crossing	Crossed OBS 115
6679	08:00	OBS Crossing	Crossed OBS 116
6921	09:50	OBS Crossing	Crossed OBS 117
7153	11:38	OBS Crossing	Crossed OBS 118
7248	12:21	Equipment Proble	3-1 secured, firing 6060 in3 35 guns
7245	12:23	Equipment Proble	Air leak on string 3, need to bring it in to evaluate and fix. Pressure cannot get above ~1706
7278	12:35	Equipment Proble	last shot at 6060 in3 35 guns
7279	12:36	Equipment Proble	first shot at 4770 in3 27 guns
	12:39	Equipment Proble	begin recovery gun string 3
	12:49	Equipment Proble	gun string 3 on board
	12:52	Equipment Proble	string 3 secure on deck

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	2911	18° 46' 02.580"	-157° 40' 50.648"
LSP	11436	22° 06' 16.047"	-154° 00' 06.770"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

	13:19	Equipment Proble	begin recovery gun string 3
7393	13:28	OBS Crossing	Crossed OBS 119
	13:33	Equipment Proble	gun string 3 deployed
7408	13:35	Equipment Proble	6420 in3 36 guns
7541	14:36	Equipment Proble	last shot, digishot rebooted itself
7546	14:39	Equipment Proble	digishot online and firing
7614	15:11	Equipment Proble	last shot, digishot rebooted itself
7618	15:13	Equipment Proble	digishot online and firing
7641	15:24	OBS Crossing	Crossing OBS 120
7881	17:20	OBS Crossing	Crossing OBS 121
8119	19:11	OBS Crossing	Crossing OBS 122
8217	19:57	Equipment Proble	last shot, digishot rebooted itself
8221	19:59	Equipment Proble	digishot online and firing
8360	21:04	OBS Crossing	Crossed OBS 123
8554	22:34	OBS Crossing	Crossed OBS 124
8739	00:00	Midnight	Midnight 9/26/18
9173	03:22	OBS Crossing	Crossed OBS 125
9379	04:57	OBS Crossing	Crossed OBS 126
9585	06:32	OBS Crossing	Crossed OBS 127
9791	08:09	OBS Crossing	Crossed OBS 128
9997	09:45	OBS Crossing	Crossed OBS 129
10204	11:21	OBS Crossing	Crossed OBS 130
10434	13:08	OBS Crossing	Crossed OBS 131
10617	14:43	OBS Crossing	Crossed OBS 132
10740	15:47	Source leak	Leak in String 2, errors with Gun 10, loss in pressure (to 1600). Ship speed slowed.
10827	16:42	OBS Crossing	Crossed OBS 133
	16:59	Source leak	Begin deployment string 2
	17:10	Source leak	String 2 fully deployed
10876	17:12	Source leak	6600 in3 36 guns
11029	18:29	OBS Crossing	Crossed OBS 134
11237	20:06	OBS Crossing	Crossed OBS 135
11436	21:39	EOL	End of line

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

	Line Name:	MGL1806MC03	**NAVIGATION**	DATE:	2018-09-26
Seq# 003	Line Brg :	177.515 °	**LINE LOGS**	JULIAN DAY:	269

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	3.0 m	DEPTH SOL :	4708.6 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	115.9 m	DEPTH EOL :	5103.3 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.4 kts	FEATHER SOL:	99.3 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.2 kts	FEATHER EOL:	01.2 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	99.3 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SE 15 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	SE 17 kts				
SEAS SOL:	1.0 m				
SEAS EOL:	1.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
11985	22:47	SOL	
12142	00:00	Midnight	9/27/18
13611	11:36	EOL	

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	11985	22° 04' 12.711"	-153° 57' 15.158"
LSP	13611	21° 09' 11.506"	-153° 54' 46.318"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

	Line Name:	MGL1806MC04	NAVIGATION	DATE:	2018-09-27
Seq# 004	Line Brg :	224.040 °	LINE LOGS	JULIAN DAY:	270

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	18.5 m	DEPTH SOL :	5030.6 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	483.0 m	DEPTH EOL :	5494.8 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	3.5 kts	FEATHER SOL:	32.3 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.1 kts	FEATHER EOL:	02.0 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	32.3 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SSE 17.2 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	SSE 10.5 kts				
SEAS SOL:	1.5 m				
SEAS EOL:	1.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
14082	12:21	SOL	Start of line
15456	23:42	EOL	End of line

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	14082	21° 06' 57.726"	-153° 56' 49.508"
LSP	15456	20° 30' 33.488"	-154° 31' 20.093"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

Seq# 005

Line Name: MGL1806MC05

Line Brg : 298.23 °

NAVIGATION

LINE LOGS

DATE: 2018-09-27

JULIAN DAY: 270

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	10.8 m	DEPTH SOL :	5531.6 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	11.8 m	DEPTH EOL :	4919.2 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.2 kts	FEATHER SOL:	67.0 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.4 kts	FEATHER EOL:	08.4 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	67.0 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SSE 10.5 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	ENE 10 kts				
SEAS SOL:	1.5 m				
SEAS EOL:	2.0 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
16034	23:58	SOL	Start of line
16036	00:00	Midnight	9/28/2018
17486	11:48	Crossed Line	Crossed line 1
17502	11:55	Crossed Line	Crossed 500m offset line 1
19071	00:00	Midnight	9/29/2018
22037	00:00	Midnight	9/30/2018
22954	06:55	Crossed Line	Crossed MGL1806MC02
23471	11:00	EOL	End of Line

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	16034	20° 33' 53.285"	-154° 32' 27.224"
LSP	23471	22° 30' 12.714"	-158° 31' 15.296"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

Seq# 006

Line Name: MGL1806OB2S

Line Brg : 195.427 °

NAVIGATION

LINE LOGS

DATE: 2018-09-30

JULIAN DAY: 273

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	278.3 m	DEPTH SOL :	3691.8 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	7.3 m	DEPTH EOL :	4583.4 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	3.9 kts	FEATHER SOL:	48.5 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.2 kts	FEATHER EOL:	-04.0 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	48.5 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	E 17 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	SE 12 kts kts				
SEAS SOL:	1.5 m				
SEAS EOL:	1 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
24527	22:18	SOL	Start of line
24558	23:57	OBS	Crossed OBS 221
24559	00:00	Midnight	10/1/2018
24596	01:51	OBS	Crossed OBS 220
24635	03:45	OBS	Crossed OBS 219
24674	05:46	OBS	Crossed OBS 218
24713	07:58	OBS	Crossed OBS 217
24752	10:14	OBS	Crossed OBS 216
24790	12:15	OBS	Crossed OBS 215
24829	14:23	OBS	Crossed OBS 214
24868	16:29	OBS	Crossed OBS 213
24907	18:32	OBS	Crossed OBS 212
24946	20:38	OBS	Crossed OBS 211
24984	22:35	OBS	Crossed OBS 210
25012	00:00	Midnight	10/2/2018
25023	00:31	OBS	Crossed OBS 209
25062	02:29	OBS	Crossed OBS 208
25101	04:20	OBS	Crossed OBS 207
25139	06:12	OBS	Crossed OBS 206
25179	08:07	OBS	Crossed OBS 205
25217	10:01	OBS	Crossed OBS 204
25256	12:26	OBS	Crossed OBS 203
25295	13:42	OBS	Crossed OBS 202
25329	15:21	OBS	Crossed OBS 201
25341	15:56	EOL	

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	24527	21° 59' 10.343"	-158° 21' 12.680"
LSP	25341	19° 13' 00.654"	-159° 08' 35.912"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 390.0m

line status: Incomplete

Seq# 007

Line Name: MGL1806MC02

Line Brg : 14.944 °

NAVIGATION

LINE LOGS

DATE: 2018-10-02

JULIAN DAY: 275

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	-44.3 m	DEPTH SOL :	4615.5 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	-93.2 m	DEPTH EOL :	4379.8 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.5 kts	FEATHER SOL:	-21.2 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.2 kts	FEATHER EOL:	-05.7 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	-21.2 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SSE 15 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	E 20.4 kts				
SEAS SOL:	1.2 m				
SEAS EOL:	2.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
25955	20:34	SOL	Start of line
26075	21:30	OBS	Crossed OBS 201
26220	22:36	ODP	Crossed ODP-842
26231	22:41	ODP	Crossed ODP-843
26289	23:08	OBS	Crossed OBS 202
26402	00:00	Midnight	10/03/2018
26531	00:59	OBS	Crossed OBS 203
26773	02:50	OBS	Crossed OBS 204
27016	04:41	OBS	Crossed OBS 205
27258	06:34	OBS	Crossed OBS 206
27500	08:28	OBS	Crossed OBS 207
27743	10:21	OBS	Crossed OBS 208
27985	12:12	OBS	Crossed OBS 209
28227	14:02	OBS	Crossed OBS 210
28469	15:55	OBS	Crossed OBS 211
28712	17:49	OBS	Crossed OBS 212
28954	19:43	OBS	Crossed OBS 213
29196	21:36	OBS	Crossed OBS 214
29438	23:28	OBS	Crossed OBS 215
29508	00:00	Midnight	10/04/2018
29680	01:19	OBS	Crossed OBS 216
29923	03:10	OBS	Crossed OBS 217
30165	05:03	OBS	Crossed OBD 218
30407	06:57	OBS	Crossed OBS 219
30650	08:51	OBS	Crossed OBS 220
30892	10:43	OBS	Crossed OBS 221
31134	12:35	OBS	Crossed OBS 222
31376	14:26	OBS	Crossed OBS 223
31637	16:28	OBS	Crossed OBS 224
31861	18:13	OBS	Crossed OBS 225
32103	20:05	OBS	Crossed OBS 226
32345	22:02	OBS	Crossed OBS 227

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	25955	19° 11' 38.369"	-159° 08' 42.615"
LSP	34484	23° 50' 25.724"	-157° 47' 52.610"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

32588	23:55	OBS	Crossed OBS 228
32598	00:00	Midnight	10/05/2018
32830	01:47	OBS	Crossed OBS 229
33072	03:41	OBS	Crossed OBS 230
33315	05:38	OBS	Crossed OBS 231
33557	07:47	OBS	Crossing OBS 232
33799	10:03	OBS	Crossing OBS 233
34042	12:20	OBS	Crossing OBS 234
34284	14:33	OBS	Crossing OBS 235
34484	16:18	EOL	End of Line

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

Seq# 008

Line Name: MGL1806OB2N

Line Brg : 195.427 °

NAVIGATION

LINE LOGS

DATE: 2018-10-05

JULIAN DAY: 278

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	51.5 m	DEPTH SOL :	4421.9 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	174.5 m	DEPTH EOL :	2570.8 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.0 kts	FEATHER SOL:	16.8 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.1 kts	FEATHER EOL:	07.1 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	16.8 °	GRAVITY METER:	BMG-II: used, SN213
WIND SOL:	SE 22 kts			MAGNETOMETER:	GeoMetrics: used
WIND EOL:	SE 10 kts				
SEAS SOL:	2.0 m				
SEAS EOL:	2.0 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
34993	20:22	SOL	Start of line
35014	21:28	OBS	Crossed OBS 235
35053	23:31	OBS	Crossed OBS 234
35064	00:00	Midnight	10/06/2018
35092	01:29	OBS	Crossed OBS 233
35130	03:33	OBS	Crossed OBS 232
35169	05:36	OBS	Crossed OBS 231
35208	07:34	OBS	Crossed OBS 230
35247	09:32	OBS	Crossed OBS 229
35286	11:28	OBS	Crossed OBS 228
35325	13:25	OBS	Crossed OBS 227
35363	15:19	OBS	Crossed OBS 226
35402	17:17	OBS	Crossed OBS 225
35438	19:09	OBS	Crossed OBS 224
35480	21:23	OBS	Crossed OBS 223
35519	23:24	OBS	Crossed OBS 222
35557	01:19	OBS	Crossed OBS 221
35558	01:23	EOL	End of line

Alan

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	34993	23° 47' 57.810"	-157° 48' 53.849"
LSP	35558	21° 52' 50.176"	-158° 22' 59.751"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 390.0m

line status: Complete

Seq# 009

Line Name: MGL1806MC06

Line Brg : 237.9 °

NAVIGATION

LINE LOGS

DATE: 2018-10-07

JULIAN DAY: 280

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	-3.6 m	DEPTH SOL :	2398.6 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	-6.2 m	DEPTH EOL :	4300.0 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.2 kts	FEATHER SOL:	45.3 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.5 kts	FEATHER EOL:	01.8 °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	45.3 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SE 10 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	E11.0 kts kts				
SEAS SOL:	2.0 m				
SEAS EOL:	1.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	*COMMENTS*
36056	01:45	SOL	Start of line
37221	11:07	EOL	End of Line

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	36056	21° 51' 55.901"	-158° 24' 22.063"
LSP	37221	21° 30' 55.929"	-159° 00' 06.489"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

Seq# 010	Line Name:	MGL1806MC07	NAVIGATION	DATE:	2018-10-07
	Line Brg :	121.9 °	LINE LOGS	JULIAN DAY:	280

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	-5.7 m	DEPTH SOL :	4731.2 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	11.2 m	DEPTH EOL :	4600.0 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.4 kts	FEATHER SOL:	-50.1 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.1 kts	FEATHER EOL:	-03.8 ° °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	-50.1 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	SE 8.1 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	S8.0 kts				
SEAS SOL:	1.0 m				
SEAS EOL:	1.0 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
38074	16:31	SOL	Start of line
39039	00:00	Midnight	10/8/2018
41905	00:00	Midnight	10/09/2018
42730	06:49	Crossing	Crossed MGL1806OB01
42748	06:58	Crossing	Crossed MGL1806MC01
43200	10:30	EOL	End of line

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	38074	21° 10' 19.313"	-158° 58' 38.746"
LSP	43200	19° 37' 18.288"	-156° 23' 08.265"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	438.00m
COS – CNG	218.00m
NRP – CMP	329.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	Failed	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 62.5m

line status: Complete

Seq# 011

Line Name: MGL1806MC08

Line Brg : 211.785 °

NAVIGATION

LINE LOGS

DATE: 2018-10-19

JULIAN DAY: 292

Lamont-Doherty Earth Observatory
COLUMBIA UNIVERSITY | EARTH INSTITUTE

CLIENT: NSF - Shillington SURVEY: Hawaii Leg(1)

DC SOL :	1.9 m	DEPTH SOL :	4176.7 m	NAVIGATION SYSTEM USED:	C-Nav3050 - Primary
DC EOL :	-2.0 m	DEPTH EOL :	5289.9 m	NAVIGATION SYSTEM USED:	SeaPath 200
BSP SOL:	4.5 kts	FEATHER SOL:	-28.4 °	NAVIGATION SYSTEM USED:	C-Nav2000
BSP EOL:	4.3 kts	FEATHER EOL:	-04.8 ° °	NAVIGATION SYSTEM USED:	POSMV
WEATHER		MAX FEATHER:	-28.4 °	GRAVITY METER: BMG-II: used, SN213	
WIND SOL:	ENE11 kts			MAGNETOMETER: GeoMetrics: used	
WIND EOL:	ENE 13.4 kts				
SEAS SOL:	1.5 m				
SEAS EOL:	1.5 m				

shift hours	shift leaders	shift hours	watch personnel	shift hours	watch personnel
12:00 - 24:00	Dave Martinson	00:00 - 12:00	Todd Jensvold		
12:00 - 24:00	Gilles Guerin	00:00 - 12:00	Alan Thompson		

SP	UTC	EVENT	COMMENTS
43998	11:24	SOL	Start of line - 50m shot point spacing, 6300m active streamer
44280	13:06	Crossing	Crossing MCS line from Karei
44818	16:22	Crossing	Crossing ODP Site 1223
46085	00:00	Midnight	10/20/2018
48438	14:15	EOL	End of line

VESSEL POSITION

	Shotpoints	Latitude (N / +)	Longitude (E / +)
FSP	43998	23° 17' 08.586"	-155° 26' 37.021"
LSP	48438	21° 34' 54.370"	-156° 34' 47.502"

NAVIGATION OFFSET APPLIED

NRP - Stern	29.5m
NRP – COS	220.0m
NRP – CNG	412.00m
COS – CNG	192.00m
NRP – CMP	316.00m

Posnet locations & remarks: good - none - intermittent				acoustics
Tailbuoy #1	Good	Gun string #1	GOOD	Good
Tailbuoy #2	none	Gun string #2	none	Good
Tailbuoy #3	none	Gun string #3	none	Good
Tailbuoy #4	none	Gun string #4	GOOD	Good

SP spacing: 50.0m

line status: Complete