

## Seismic Survey Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

Lease: Lord Howe Rise	Survey Type: 2D Seismic and OBS	DEWHA Referral Reference Number: 2015/7623
Start Date: 2/04/2016	End Date: 14/05/2016	
Client: Geoscience Australia	MMO Provider: RPS Australia Asia Pacific	Seismic Contractor: JAMSTEC
Source Powerdown Distance (meters): 0 m	Shutdown Distance: 2000 m	Source Volume: 7800 cubic inches
Number of Airguns: 32	SP Interval (meters): 200 m	SP Interval (seconds): 80 s
Total Sightings: 65	Total Power Downs: 0	Total Shut Downs: 7
Notes:		

## Observers

Name	Function	Employer	Employer Email	Experience	Training
Becky Lindsay	Dedicated observer	RPS Australia Asia Pacific	ian.hawkshaw@rpsgroup.com.au	More than 1 year	Pro-MMO training for New Zealand waters
Scott Sheehan	Dedicated observer	RPS Australia Aisa Pacific	ian.hawkshaw@rpsgroup.com.au	More than 1 year	Scanning Ocean Sectors
Andrew Carroll	Other	Geoscience Australia	Scott.Nichol@ga.gov.au	1 - 5 weeks	Blue Planet Marine MMO training
Patrick Lyne	Dedicated observer	RPS Australia Asia Pacific	ian.hawkshaw@rpsgroup.com.au	More than 1 year	MMO (JNCC), PSO (BOEM), PAM training (Intelligent Ocean, SMRU, Mseis), Advanced PAM Assessment NZ (BPM/Seiche).
Tim Lewis	Dedicated observer	RPS Australia Asia Pacific	ian.hawkshaw@rpsgroup.com.au	More than 1 year	MMO (JNCC), PSO (BOEMRE), PAMGuard (SMRU)
Becky - Scott	Dedicated observer	RPS Australia Aisa Pacific	ian.hawkshaw@rpsgroup.com.au	More than 1 year	Pro-MMO training for New Zealand waters and Scanning Ocean Sectors

## Vessels

Kairei

## Survey Lines

EW\_OBS

D3A-Line2

D3A-Line7

D3A-Line4

D3A-Line5

D1B-Line08

D1B-Line09a

D1B-Line10

D3A-Line3

D3A-Line6

D3A-Line1

D3A-Line8

EW\_MCS

D1B-Line13

D1B-Line09b

D1B-Line11

D1B-Line12

D2A-Line2

BB1B

BV1B

BV2A

# Observer Effort Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

Start Date	Start Time UTC	End Date	End Time UTC	Observer	Vessel	On or Off Lease	Effort Status	Reason Off Effort	Were Obs Hampered	Reason Obs Hampered	Weather	Cloud Cover	Visibility	Glare	Beaufort Sea State	Wind Direction	Wind Speed	Swell Direction	Swell Height	Notes
2/04/2016	03:45	2/04/2016	05:24	Becky - Scott	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	1 - Low	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
2/04/2016	05:24	2/04/2016	05:36	Becky - Scott	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	1 - Low	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	10 minute pre-watch prior to Multibeam Echo Sounder and Sub-bottom Profiler operations
2/04/2016	05:36	2/04/2016	08:15	Becky - Scott	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	1 - Low	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	Multibeam Echo Sounder and Sub-bottom profiler are underway
1/04/2016	19:18	2/04/2016	21:30	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
2/04/2016	21:30	2/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
2/04/2016	23:30	3/04/2016	00:48	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
3/04/2016	00:48	3/04/2016	01:32	Scott Sheehan	Kairei	Off survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	1 - Low	4: Moderate	SE	10 - 20 kts	E	0 - 1 m	
3/04/2016	01:32	3/04/2016	01:41	Scott Sheehan	Kairei	Off survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
3/04/2016	01:41	3/04/2016	04:59	Becky Lindsay	Kairei	Off survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	04:59	3/04/2016	06:28	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	1 - Low	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	06:28	3/04/2016	06:58	Scott Sheehan	Kairei	Off survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	06:58	3/04/2016	07:34	Becky Lindsay	Kairei	Off survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	07:34	3/04/2016	08:15	Becky Lindsay	Kairei	Off survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	3 - 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	19:20	3/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	2/8 (25%) of sky covered	3 - 5 Km	0 - None	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	

3/04/2016	21:30	3/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
3/04/2016	23:30	4/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	6: Very Rough	SE	10 - 20 kts	SE	1 - 2 m	
4/04/2016	02:00	4/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	05:00	4/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	07:00	4/04/2016	07:50	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	07:50	4/04/2016	08:05	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	19:12	4/04/2016	20:50	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	3 - 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	20:50	4/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	Heavy Rain or Storm	8/8 (100%) of sky completely covered, no breaks	Less than 1 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	
4/04/2016	21:30	4/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	Drizzle - occasional - not falling as showers	8/8 (100%) of sky completely covered, no breaks	3 - 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
4/04/2016	23:30	5/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	Drizzle - occasional - not falling as showers	8/8 (100%) of sky completely covered, no breaks	3 - 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	02:00	5/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	05:00	5/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	07:00	5/04/2016	07:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	07:30	5/04/2016	07:55	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	19:10	5/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	2 - 3 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	

5/04/2016	21:30	5/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	E	2 - 4 m	
5/04/2016	23:30	6/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	6: Very Rough	SE	10 - 20 kts	E	2 - 4 m	
6/04/2016	02:00	6/04/2016	04:19	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High wind	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	5: Rough	SE	10 - 20 kts	E	1 - 2 m	Turtle sighted at 14:10
6/04/2016	04:19	6/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High wind	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	5: Rough	SE	10 - 20 kts	E	1 - 2 m	Airguns off at 14:19 due to malfunctioning, to be brought on board for repair
6/04/2016	05:00	6/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	0 - None	5: Rough	SE	10 - 20 kts	E	1 - 2 m	
6/04/2016	07:00	6/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	5: Rough	SE	10 - 20 kts	E	1 - 2 m	
6/04/2016	19:05	6/04/2016	20:43	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Low visibility	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	1 - 2 Km	0 - None	4: Moderate	E	10 - 20 kts	E	1 - 2 m	Guns back in water
6/04/2016	20:43	6/04/2016	21:16	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	E	0 - 1 m	
6/04/2016	21:16	6/04/2016	21:26	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	E	0 - 1 m	
6/04/2016	21:26	6/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
6/04/2016	23:30	7/04/2016	00:09	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	00:09	7/04/2016	00:43	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	00:43	7/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	02:00	7/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	E	1 - 2 m	
7/04/2016	05:00	7/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	4: Moderate	SE	10 - 20 kts	E	1 - 2 m	

7/04/2016	07:00	7/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	19:02	7/04/2016	19:40	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	3 - Bad	3: Slight	E	0 - 10 kts	E	0 - 1 m	
7/04/2016	19:40	7/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	1 - 2 Km	0 - None	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
7/04/2016	21:30	7/04/2016	23:10	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	23:10	7/04/2016	23:40	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/04/2016	23:40	8/04/2016	00:23	Scott Sheehan	Kairei		Soft start observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
8/04/2016	00:23	8/04/2016	02:00	Scott Sheehan	Kairei		Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
8/04/2016	02:00	8/04/2016	05:05	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
8/04/2016	05:05	8/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
8/04/2016	07:00	8/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	3 - 5 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
8/04/2016	19:00	8/04/2016	20:56	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	1 - 2 Km	1 - Low	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
8/04/2016	20:56	8/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
8/04/2016	21:30	8/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	SE	0 - 10 kts	E	1 - 2 m	
8/04/2016	23:30	9/04/2016	00:47	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	2 - Medium	1: Rippled Calm	SE	0 - 10 kts	E	0 - 1 m	
9/04/2016	00:47	9/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	1: Rippled Calm	SE	0 - 10 kts	E	0 - 1 m	
9/04/2016	02:00	9/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
9/04/2016	05:00	9/04/2016	05:19	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	S	0 - 10 kts	E	0 - 1 m	

9/04/2016	05:19	9/04/2016	05:56	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	S	0 - 10 kts	E	0 - 1 m	
9/04/2016	05:56	9/04/2016	06:28	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	S	0 - 10 kts	E	0 - 1 m	
9/04/2016	06:28	9/04/2016	07:10	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	S	0 - 10 kts	E	0 - 1 m	
9/04/2016	07:10	9/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	2: Smooth	S	0 - 10 kts	E	0 - 1 m	
9/04/2016	19:01	9/04/2016	21:40	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	4/8 (50%) of sky covered	Less than 1 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
9/04/2016	21:40	9/04/2016	22:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
9/04/2016	22:30	9/04/2016	23:53	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
9/04/2016	23:53	10/04/2016	00:06	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	00:06	10/04/2016	00:40	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	00:40	10/04/2016	01:20	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	01:20	10/04/2016	04:10	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	04:10	10/04/2016	06:08	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
10/04/2016	06:08	10/04/2016	06:56	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	E	0 - 1 m	
10/04/2016	06:56	10/04/2016	07:29	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
10/04/2016	07:29	10/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	Low visibility	No phenomena - except clouds	2/8 (25%) of sky covered	1 - 2 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
10/04/2016	19:01	10/04/2016	19:41	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	19:41	10/04/2016	21:45	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	

10/04/2016	21:45	10/04/2016	23:00	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	23:00	10/04/2016	23:35	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	2 - Medium	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
10/04/2016	23:35	11/04/2016	02:37	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	3: Slight	NE	0 - 10 kts	E	0 - 1 m	
11/04/2016	02:37	11/04/2016	03:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
11/04/2016	03:00	11/04/2016	03:48	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
11/04/2016	03:48	11/04/2016	06:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	1 - Low	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
11/04/2016	06:00	11/04/2016	06:25	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
11/04/2016	06:25	11/04/2016	07:08	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
11/04/2016	07:08	11/04/2016	07:43	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
10/04/2016	19:07	11/04/2016	21:45	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
11/04/2016	21:45	11/04/2016	23:41	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
11/04/2016	23:41	12/04/2016	02:04	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
12/04/2016	02:04	12/04/2016	04:27	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
12/04/2016	04:27	12/04/2016	05:04	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	NE	0 - 1 m	
12/04/2016	05:04	12/04/2016	05:44	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	NE	0 - 1 m	

12/04/2016	05:44	12/04/2016	07:05	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	NE	0 - 1 m	
12/04/2016	07:05	12/04/2016	07:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	2 - 3 Km	0 - None	2: Smooth	SE	0 - 10 kts	NE	0 - 1 m	
11/04/2016	19:02	11/04/2016	19:40	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	2: Smooth	E	0 - 10 kts	SE	0 - 1 m	
11/04/2016	19:40	12/04/2016	21:28	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	SE	0 - 1 m	
11/04/2016	21:28	11/04/2016	22:06	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	Confused	0 - 1 m	
11/04/2016	22:06	11/04/2016	22:39	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	Confused	0 - 1 m	
11/04/2016	22:39	12/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
12/04/2016	23:30	13/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
13/04/2016	02:00	13/04/2016	02:20	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
13/04/2016	02:20	13/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
13/04/2016	05:00	13/04/2016	06:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	2 - Medium	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
13/04/2016	06:30	13/04/2016	07:06	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	Bad glare	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	10 - 20 kts	NE	0 - 1 m	
13/04/2016	07:06	13/04/2016	07:36	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	0 - 10 kts	NE	0 - 1 m	
12/04/2016	18:58	12/04/2016	19:38	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	1 - 2 m	
12/04/2016	19:38	13/04/2016	21:40	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	1 - 2 m	

12/04/2016	21:40	12/04/2016	22:43	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	Low visibility	Squalls	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
12/04/2016	22:43	13/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
13/04/2016	23:30	14/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
14/04/2016	02:00	14/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	7: High	SE	20 - 30 kts	SE	2 - 4 m	
14/04/2016	05:00	14/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
14/04/2016	07:00	14/04/2016	07:40	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	5: Rough	SE	20 - 30 kts	SE	1 - 2 m	
13/04/2016	18:58	13/04/2016	19:33	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	5: Rough	S	10 - 20 kts	S	1 - 2 m	
13/04/2016	19:33	14/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	5: Rough	S	10 - 20 kts	S	1 - 2 m	
13/04/2016	21:30	14/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
14/04/2016	23:30	15/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	2 - Medium	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
15/04/2016	02:00	15/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
15/04/2016	05:00	15/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	6: Very Rough	SE	20 - 30 kts	SE	1 - 2 m	
15/04/2016	07:00	15/04/2016	07:45	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	5: Rough	SE	20 - 30 kts	SE	1 - 2 m	
15/04/2016	18:55	15/04/2016	21:35	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	5/8 (62%) of sky covered	Less than 1 Km	0 - None	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
15/04/2016	21:35	15/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
15/04/2016	23:30	16/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	

16/04/2016	02:00	16/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
16/04/2016	05:00	16/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
16/04/2016	07:00	16/04/2016	07:50	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
15/04/2016	19:04	15/04/2016	19:40	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
15/04/2016	19:40	16/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	5: Rough	SE	10 - 20 kts	SE	1 - 2 m	
15/04/2016	21:30	16/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
16/04/2016	23:30	17/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
17/04/2016	02:00	17/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
17/04/2016	05:00	17/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
17/04/2016	07:00	17/04/2016	07:50	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
17/04/2016	19:05	17/04/2016	19:42	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
17/04/2016	19:42	17/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
17/04/2016	21:30	17/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	4: Moderate	E	10 - 20 kts	SE	0 - 1 m	
17/04/2016	23:30	18/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	4: Moderate	E	10 - 20 kts	SE	0 - 1 m	
18/04/2016	02:00	18/04/2016	04:56	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	SE	0 - 1 m	
18/04/2016	04:56	18/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	4: Moderate	E	10 - 20 kts	SE	0 - 1 m	

18/04/2016	07:00	18/04/2016	07:50	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No		No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
18/04/2016	19:06	18/04/2016	20:23	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	E	0 - 10 kts	SE	0 - 1 m	
18/04/2016	20:23	18/04/2016	21:35	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	E	0 - 1 m	
18/04/2016	21:35	18/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	NE	0 - 1 m	
18/04/2016	23:30	19/04/2016	02:20	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Poor visibility	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	W	0 - 10 kts	NE	0 - 1 m	
19/04/2016	02:20	19/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	S	0 - 10 kts	SE	0 - 1 m	
19/04/2016	05:00	19/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
19/04/2016	07:00	19/04/2016	08:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	SE	0 - 1 m	
18/04/2016	19:50	18/04/2016	21:00	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	3: Slight	S	0 - 10 kts	SE	0 - 1 m	
22/04/2016	03:45	22/04/2016	04:33	Becky - Scott	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	SE	0 - 1 m	
22/04/2016	04:33	22/04/2016	06:00	Becky Lindsay	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
22/04/2016	06:00	22/04/2016	07:00	Scott Sheehan	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
22/04/2016	07:00	22/04/2016	08:00	Becky Lindsay	Kairei	In Transit	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	SE	0 - 1 m	
22/04/2016	19:23	22/04/2016	20:25	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	6/8 (75%) of sky covered	Less than 1 Km	0 - None	2: Smooth	SW	0 - 10 kts	SW	0 - 1 m	
22/04/2016	20:25	22/04/2016	21:40	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	1 - Low	2: Smooth	SW	0 - 10 kts	SW	0 - 1 m	

22/04/2016	21:40	22/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SW	0 - 10 kts	E	1 - 2 m	
22/04/2016	23:30	23/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SW	0 - 10 kts	E	1 - 2 m	
23/04/2016	02:00	23/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SW	10 - 20 kts	E	1 - 2 m	
23/04/2016	05:00	23/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	SW	0 - 10 kts	E	0 - 1 m	
23/04/2016	07:00	23/04/2016	07:40	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	SW	0 - 10 kts	E	0 - 1 m	
23/04/2016	19:09	23/04/2016	19:35	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	6/8 (75%) of sky covered	1 - 2 Km	0 - None	4: Moderate	S	10 - 20 kts	S	2 - 4 m	
23/04/2016	19:35	23/04/2016	21:35	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	S	10 - 20 kts	S	2 - 4 m	
23/04/2016	21:35	23/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	S	10 - 20 kts	SE	0 - 1 m	
23/04/2016	23:30	24/04/2016	02:10	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	S	10 - 20 kts	More than 1	0 - 1 m	
24/04/2016	02:10	24/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	S	10 - 20 kts	SW	0 - 1 m	
24/04/2016	05:00	24/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	3: Slight	S	10 - 20 kts	SW	0 - 1 m	
24/04/2016	07:00	24/04/2016	07:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	S	10 - 20 kts	SW	0 - 1 m	
24/04/2016	19:04	24/04/2016	19:40	Scott Sheehan	Kairei		Routine observation	N/A	Yes	Dark	No phenomena - except clouds	5/8 (62%) of sky covered	1 - 2 Km	0 - None	3: Slight	S	0 - 10 kts	SW	0 - 1 m	
24/04/2016	19:40	24/04/2016	21:30	Scott Sheehan	Kairei		Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	3: Slight	S	0 - 10 kts	SW	0 - 1 m	
23/04/2016	21:30	24/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	0 - 10 kts	S	1 - 2 m	
24/04/2016	23:30	24/04/2016	23:33	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	3: Slight	E	10 - 20 kts	SW	1 - 2 m	
24/04/2016	23:33	25/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	3: Slight	E	10 - 20 kts	SW	1 - 2 m	

25/04/2016	02:00	25/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	3: Slight	E	0 - 10 kts	SW	2 - 4 m	
25/04/2016	05:00	25/04/2016	06:55	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	SE	10 - 20 kts	SE	2 - 4 m	
25/04/2016	06:55	25/04/2016	07:37	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Squalls	7/8 (87%) of sky covered or more, but not 8/8	1 - 2 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	1 - 2 m	
25/04/2016	19:04	25/04/2016	19:32	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	7: High	SE	30 - 50 kts	SE	2 - 4 m	
25/04/2016	19:32	25/04/2016	20:24	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	1 - 2 Km	0 - None	7: High	SE	30 - 50 kts	SE	2 - 4 m	
25/04/2016	20:24	25/04/2016	21:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	7: High	SE	30 - 50 kts	SE	2 - 4 m	
25/04/2016	21:30	25/04/2016	23:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	
26/04/2016	19:02	26/04/2016	19:36	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	
26/04/2016	19:36	26/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	Sea Beam to start at 0800
26/04/2016	21:30	26/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	3 - 5 Km	2 - Medium	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
26/04/2016	23:30	27/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
27/04/2016	02:00	27/04/2016	03:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	1 - Low	6: Very Rough	SE	20 - 30 kts	SE	2 - 4 m	
27/04/2016	03:30	27/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Drizzle - occasional - not falling as showers	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	1 - Low	7: High	SE	20 - 30 kts	SE	2 - 4 m	
27/04/2016	05:00	27/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	

27/04/2016	07:00	27/04/2016	07:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	
27/04/2016	19:01	27/04/2016	19:53	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	7: High	SE	20 - 30 kts	SE	2 - 4 m	
27/04/2016	19:53	27/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	3 - 5 Km	1 - Low	7: High	SE	20 - 30 kts	SE	2 - 4 m	
26/04/2016	21:30	27/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	2 - Medium	6: Very Rough	E	20 - 30 kts	SE	2 - 4 m	
27/04/2016	23:30	28/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	6: Very Rough	E	20 - 30 kts	SW	2 - 4 m	
28/04/2016	02:00	28/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	6: Very Rough	E	20 - 30 kts	SE	Greater than 4 m	
28/04/2016	05:00	28/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	Break	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	6: Very Rough	E	20 - 30 kts	SE	2 - 4 m	
28/04/2016	07:00	28/04/2016	07:35	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	3 - 5 Km	0 - None	6: Very Rough	E	20 - 30 kts	SE	2 - 4 m	
28/04/2016	19:03	28/04/2016	19:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	6: Very Rough	E	20 - 30 kts	SE	2 - 4 m	
28/04/2016	19:30	28/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	5: Rough	E	10 - 20 kts	SE	2 - 4 m	
28/04/2016	21:30	28/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	SE	1 - 2 m	
28/04/2016	23:30	28/04/2016	23:49	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
28/04/2016	23:49	29/04/2016	00:25	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	1 - 2 m	Prewatch started
29/04/2016	00:25	29/04/2016	00:32	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	1 - 2 m	Guntest started
29/04/2016	00:32	29/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
29/04/2016	02:00	29/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	5: Rough	E	10 - 20 kts	E	1 - 2 m	

29/04/2016	05:00	29/04/2016	05:48	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	5: Rough	E	10 - 20 kts	E	1 - 2 m	Prewatch
29/04/2016	05:48	29/04/2016	06:23	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	5: Rough	E	10 - 20 kts	E	1 - 2 m	Soft Start
29/04/2016	06:23	29/04/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	3 - 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	E	0 - 1 m	Full Power
29/04/2016	07:00	29/04/2016	07:50	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	3 - 5 Km	0 - None	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
29/04/2016	19:00	29/04/2016	19:33	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	5/8 (62%) of sky covered	Less than 1 Km	0 - None	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
29/04/2016	19:33	29/04/2016	21:35	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
29/04/2016	21:35	29/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
29/04/2016	23:30	30/04/2016	00:50	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	E	0 - 10 kts	E	0 - 1 m	
30/04/2016	00:50	30/04/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	E	0 - 10 kts	E	0 - 1 m	
30/04/2016	02:00	30/04/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No		No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	3: Slight	E	0 - 10 kts	E	0 - 1 m	
30/04/2016	05:00	30/04/2016	06:55	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	0: Glassy Calm	E	0 - 10 kts	E	0 - 1 m	
30/04/2016	06:55	30/04/2016	07:32	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No		No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	E	0 - 1 m	
30/04/2016	19:07	30/04/2016	19:26	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	5/8 (62%) of sky covered	Less than 1 Km	0 - None	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
30/04/2016	19:26	30/04/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	0 - None	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
30/04/2016	21:30	30/04/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
30/04/2016	23:30	1/05/2016	00:01	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	0 - 10 kts	E	0 - 1 m	
1/05/2016	00:01	1/05/2016	00:27	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	4: Moderate	E	10 - 20 kts	E	0 - 1 m	

1/05/2016	00:27	1/05/2016	00:50	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
1/05/2016	00:50	1/05/2016	01:35	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
1/05/2016	01:35	1/05/2016	02:05	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
1/05/2016	02:05	1/05/2016	02:44	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
1/05/2016	02:44	1/05/2016	02:51	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
1/05/2016	02:51	1/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
1/05/2016	05:00	1/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	4: Moderate	E	10 - 20 kts	E	0 - 1 m	
1/05/2016	07:00	1/05/2016	07:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	1 - 2 Km	0 - None	4: Moderate	E	10 - 20 kts	E	1 - 2 m	
1/05/2016	19:06	1/05/2016	19:41	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
1/05/2016	19:41	1/05/2016	21:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
1/05/2016	21:00	1/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
30/04/2016	21:30	30/04/2016	21:50	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
30/04/2016	21:50	30/04/2016	22:23	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
30/04/2016	22:23	1/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
1/05/2016	23:30	2/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	2 - Medium	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	

2/05/2016	02:00	2/05/2016	02:44	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
2/05/2016	02:44	2/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
2/05/2016	05:00	2/05/2016	06:01	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	Prewatch
2/05/2016	06:01	2/05/2016	06:33	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	SoftStart
2/05/2016	06:33	2/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Low visibility	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	1 - 2 Km	0 - None	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	FullPower
2/05/2016	07:00	2/05/2016	07:25	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	1 - 2 Km	0 - None	4: Moderate	NE	10 - 20 kts	E	1 - 2 m	
2/05/2016	19:02	2/05/2016	19:49	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
2/05/2016	19:49	2/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
1/05/2016	21:30	2/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
2/05/2016	23:30	3/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
3/05/2016	02:00	3/05/2016	02:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
3/05/2016	02:30	3/05/2016	03:18	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
3/05/2016	03:18	3/05/2016	03:49	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	5: Rough	NE	10 - 20 kts	NE	1 - 2 m	
3/05/2016	03:49	3/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	

3/05/2016	05:00	3/05/2016	06:05	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
3/05/2016	06:05	3/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	Drizzle - occasional - not falling as showers	8/8 (100%) of sky completely covered, no breaks	3 - 5 Km	0 - None	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
3/05/2016	19:02	3/05/2016	19:25	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	Less than 1 Km	0 - None	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
3/05/2016	19:25	3/05/2016	20:24	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
3/05/2016	20:24	3/05/2016	21:04	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Poor visibility	Rain - continuous showers	8/8 (100%) of sky completely covered, no breaks	1 - 2 Km	0 - None	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
3/05/2016	21:04	3/05/2016	21:43	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	Rain - continuous showers	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	N	10 - 20 kts	NE	0 - 1 m	
2/05/2016	21:43	3/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	3: Slight	N	0 - 10 kts	NE	0 - 1 m	
3/05/2016	23:30	4/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	3: Slight	N	0 - 10 kts	N	0 - 1 m	
4/05/2016	02:00	4/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No		No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	2 - Medium	3: Slight	N	0 - 10 kts	NE	0 - 1 m	
4/05/2016	05:00	4/05/2016	06:50	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	2 - Medium	3: Slight	N	0 - 10 kts	NE	0 - 1 m	
4/05/2016	06:50	4/05/2016	07:15	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	Mist or Shallow fog - visibility more than 1 km	7/8 (87%) of sky covered or more, but not 8/8	2 - 3 Km	0 - None	3: Slight	NE	0 - 10 kts	NE	0 - 1 m	
4/05/2016	19:00	4/05/2016	19:39	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	S	10 - 20 kts	E	0 - 1 m	
4/05/2016	19:39	4/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	0 - None	3: Slight	S	10 - 20 kts	E	0 - 1 m	
4/05/2016	21:30	4/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
4/05/2016	23:30	4/05/2016	23:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	E	0 - 1 m	

4/05/2016	23:00	5/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	1 - Low	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	02:00	5/05/2016	04:40	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	04:40	5/05/2016	05:04	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	Shutdown @ 14:40
5/05/2016	05:04	5/05/2016	05:35	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	05:35	5/05/2016	06:10	Scott Sheehan	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	SoftStart
5/05/2016	06:10	5/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	FullPower
5/05/2016	07:00	5/05/2016	07:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	5/8 (62%) of sky covered	3 - 5 Km	0 - None	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	19:04	5/05/2016	19:38	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	S	0 - 10 kts	E	0 - 1 m	
5/05/2016	19:38	5/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	S	0 - 10 kts	E	0 - 1 m	
4/05/2016	21:30	4/05/2016	22:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
4/05/2016	22:30	5/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	23:30	6/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
6/05/2016	02:00	6/05/2016	05:02	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	1 - 2 m	
6/05/2016	05:02	6/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
6/05/2016	07:00	6/05/2016	07:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	3 - 5 Km	0 - None	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
6/05/2016	19:06	6/05/2016	19:49	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
6/05/2016	19:49	6/05/2016	21:17	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	

6/05/2016	21:17	6/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	2: Smooth	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	21:30	5/05/2016	21:49	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	No	N/A	No phenomena - except clouds	2/8 (25%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	21:49	5/05/2016	22:23	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
5/05/2016	22:23	6/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
6/05/2016	23:30	7/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
7/05/2016	02:00	7/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	0 - 10 kts	E	0 - 1 m	
7/05/2016	05:00	7/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/05/2016	07:00	7/05/2016	07:40	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	4/8 (50%) of sky covered	3 - 5 Km	0 - None	3: Slight	SE	10 - 20 kts	E	0 - 1 m	
7/05/2016	19:07	7/05/2016	19:40	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
7/05/2016	19:40	7/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	SE	10 - 20 kts	SE	0 - 1 m	
7/05/2016	21:30	7/05/2016	22:10	Becky Lindsay	Kairei	On survey area	Pre-shooting observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
7/05/2016	22:10	7/05/2016	22:45	Becky Lindsay	Kairei	On survey area	Soft start observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
7/05/2016	22:45	7/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
7/05/2016	23:30	8/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
8/05/2016	02:00	8/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
8/05/2016	05:00	8/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	High seastate	No phenomena - except clouds	5/8 (62%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	
8/05/2016	07:00	8/05/2016	07:35	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	4/8 (50%) of sky covered	3 - 5 Km	0 - None	4: Moderate	SE	10 - 20 kts	SE	0 - 1 m	

8/05/2016	19:07	8/05/2016	19:58	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	6/8 (75%) of sky covered	Less than 1 Km	0 - None	3: Slight	E	0 - 10 kts	E	0 - 1 m	
8/05/2016	19:58	8/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	3: Slight	E	0 - 10 kts	E	0 - 1 m	
7/05/2016	21:30	8/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	Mist or Shallow fog - visibility more than 1 km	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
8/05/2016	23:30	9/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	2 - Medium	2: Smooth	E	0 - 10 kts	E	0 - 1 m	
9/05/2016	02:00	9/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	NE	0 - 10 kts	E	0 - 1 m	
9/05/2016	05:00	9/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	More than 5 Km	3 - Bad	2: Smooth	N	0 - 10 kts	E	0 - 1 m	
9/05/2016	07:00	9/05/2016	07:50	Becky Lindsay	Kairei	On survey area	Full power observation	N/A	No	N/A	No phenomena - except clouds	3/8 (37%) of sky covered	3 - 5 Km	0 - None	2: Smooth	N	0 - 10 kts	E	0 - 1 m	
9/05/2016	19:12	9/05/2016	19:57	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	Dark	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	Less than 1 Km	0 - None	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	
9/05/2016	19:57	9/05/2016	20:47	Scott Sheehan	Kairei	On survey area	Full power observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	
9/05/2016	20:47	9/05/2016	21:30	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	0 - None	4: Moderate	NE	10 - 20 kts	NE	1 - 2 m	
9/05/2016	21:30	9/05/2016	23:30	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	2 - Medium	4: Moderate	N	10 - 20 kts	NE	1 - 2 m	
9/05/2016	23:30	10/05/2016	02:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	N	10 - 20 kts	NE	0 - 1 m	
10/05/2016	02:00	10/05/2016	05:00	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	More than 5 Km	3 - Bad	4: Moderate	NW	10 - 20 kts	NE	0 - 1 m	
10/05/2016	05:00	10/05/2016	07:00	Scott Sheehan	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	7/8 (87%) of sky covered or more, but not 8/8	More than 5 Km	1 - Low	4: Moderate	NW	10 - 20 kts	SE	0 - 1 m	
10/05/2016	07:00	10/05/2016	07:50	Becky Lindsay	Kairei	On survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	6/8 (75%) of sky covered	2 - 3 Km	0 - None	4: Moderate	NW	10 - 20 kts	NE	0 - 1 m	
10/05/2016	19:06	10/05/2016	20:15	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	Yes	Dark	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	Less than 1 Km	0 - None	4: Moderate	SW	20 - 30 kts	SE	0 - 1 m	

10/05/2016	20:15	10/05/2016	20:40	Scott Sheehan	Kairei	Off survey area	Routine observation	N/A	Yes	High seastate	No phenomena - except clouds	8/8 (100%) of sky completely covered, no breaks	More than 5 Km	0 - None	4: Moderate	SW	20 - 30 kts	SE	0 - 1 m	
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## Survey operations report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

Linename	Activity	Vessel Status	Start Date	Start Time (UTC)	Start Latitude	Start Longitude	End Date	End Time (UTC)	End Latitude	End Longitude
Gun test	Other	Off survey area	3/04/2016	01:32	27° 06' 58.320" S	155° 26' 30.840" E	3/04/2016	01:41	27° 06' 24.150" S	155° 25' 14.844" E
EWobs_0	Soft Start	On survey area	3/04/2016	06:58	27° 15' 27.282" S	155° 41' 17.430" E	3/04/2016	07:34	27° 15' 34.350" S	155° 44' 10.110" E
EWobs_0	Online - acquiring data	On survey area	3/04/2016	07:34	27° 15' 34.350" S	155° 44' 10.110" E	3/04/2016	14:00	27° 15' 34.350" S	155° 44' 10.110" E
EWobs_0	Online - acquiring data	On survey area	5/04/2016	14:00	27° 15' 34.350" S	155° 44' 10.110" E	6/04/2016	04:46	27° 23' 00.000" S	161° 21' 54.000" E
Gun test	Other	On survey area	6/04/2016	21:17	27° 33' 00.000" S	160° 54' 24.000" E	6/04/2016	21:26	27° 32' 32.820" S	160° 54' 00.120" E
EWobs_1	Soft Start	On survey area	7/04/2016	00:09	27° 22' 58.200" S	160° 55' 03.000" E	7/04/2016	00:43	27° 22' 58.860" S	160° 57' 44.880" E
EWobs_1	Run in to line	On survey area	7/04/2016	00:43	27° 22' 58.860" S	160° 57' 44.880" E	7/04/2016	00:43	27° 22' 58.860" S	160° 57' 44.880" E
EWobs_1	Online - acquiring data	On survey area	7/04/2016	00:43	27° 22' 58.860" S	160° 57' 44.880" E	7/04/2016	09:34	27° 23' 04.980" S	161° 42' 55.320" E
EWobs_1	Soft Start	On survey area	7/04/2016	10:53	27° 23' 04.980" S	161° 49' 11.580" E	7/04/2016	11:25	27° 23' 04.740" S	161° 51' 58.860" E
EWobs_1	Online - acquiring data	On survey area	7/04/2016	11:25	27° 23' 04.740" S	161° 51' 58.860" E	7/04/2016	11:25	27° 23' 04.740" S	161° 51' 58.860" E
EWobs_1	Online - acquiring data	On survey area	7/04/2016	11:25	27° 23' 04.740" S	161° 51' 58.860" E	7/04/2016	14:00	27° 23' 04.740" S	161° 51' 58.860" E
EWobs_1	Online - acquiring data	On survey area	7/04/2016	14:00	27° 23' 04.740" S	161° 51' 58.860" E	7/04/2016	18:06	27° 22' 57.480" S	162° 31' 01.080" E
EWobs_1	Run in to line	On survey area	7/04/2016	18:15	27° 22' 57.000" S	162° 27' 17.520" E	7/04/2016	18:15	27° 22' 57.000" S	162° 27' 17.520" E
EWobs_1	Online - acquiring data	On survey area	7/04/2016	18:15	27° 22' 57.000" S	162° 27' 17.520" E	7/04/2016	19:40	27° 22' 54.480" S	162° 34' 33.420" E
EWobs_1	Line change or turn	On survey area	7/04/2016	19:40	27° 22' 54.480" S	162° 34' 33.420" E	7/04/2016	19:40	27° 22' 54.480" S	162° 34' 33.420" E
EWobs_2	Soft Start	On survey area	7/04/2016	23:39	27° 23' 19.800" S	162° 30' 42.300" E	8/04/2016	00:23	27° 22' 57.000" S	162° 27' 47.640" E
EWobs_2	Run in to line	On survey area	8/04/2016	00:23	27° 22' 57.000" S	162° 27' 47.640" E	8/04/2016	00:23	27° 22' 57.000" S	162° 27' 47.640" E
EWobs_2	Online - acquiring data	On survey area	8/04/2016	00:23	27° 22' 57.000" S	162° 27' 47.640" E	8/04/2016	10:47	27° 23' 05.460" S	161° 39' 12.960" E
EWobs_2	Offline	On survey area	8/04/2016	10:47	27° 23' 05.460" S	161° 39' 12.960" E	8/04/2016	10:47	27° 23' 05.460" S	161° 39' 12.960" E
D3A-Line2_0	Soft Start	On survey area	8/04/2016	20:56	27° 17' 54.180" S	161° 29' 23.280" E	8/04/2016	21:30	27° 19' 07.500" S	161° 31' 50.940" E
D3A-Line2_0	Run in to line	On survey area	8/04/2016	21:30	27° 19' 07.500" S	161° 31' 50.940" E	8/04/2016	21:30	27° 19' 07.500" S	161° 31' 50.940" E
D3A-Line2_0	Online - acquiring data	On survey area	8/04/2016	21:30	27° 19' 07.500" S	161° 31' 50.940" E	9/04/2016	00:47	27° 26' 51.120" S	161° 47' 21.660" E
D3A-Line2_0	Run out from line	On survey area	9/04/2016	00:47	27° 26' 51.120" S	161° 47' 21.660" E	9/04/2016	00:47	27° 26' 51.120" S	161° 47' 21.660" E
D3A-Line7_0	Soft Start	On survey area	9/04/2016	05:56	27° 14' 40.500" S	161° 45' 00.720" E	9/04/2016	06:28	27° 16' 52.680" S	161° 43' 39.240" E
D3A-Line7_0	Run in to line	On survey area	9/04/2016	06:28	27° 16' 52.680" S	161° 43' 39.240" E	9/04/2016	06:28	27° 16' 52.680" S	161° 43' 39.240" E
D3A-Line7_0	Online - acquiring data	On survey area	9/04/2016	06:28	27° 16' 52.680" S	161° 43' 39.240" E	9/04/2016	09:54	27° 30' 46.440" S	161° 34' 58.140" E

D3A-Line7_0	Run out from line	On survey area	9/04/2016	09:54	27° 30' 46.440" S	161° 34' 58.140" E	9/04/2016	09:54	27° 30' 46.440" S	161° 34' 58.140" E
D3A-Line4_0	Soft Start	On survey area	9/04/2016	14:57	27° 19' 18.840" S	161° 28' 27.060" E	9/04/2016	15:30	27° 20' 32.580" S	161° 30' 53.880" E
D3A-Line4_0	Run in to line	On survey area	9/04/2016	15:30	27° 20' 32.580" S	161° 30' 53.880" E	9/04/2016	15:30	27° 20' 32.580" S	161° 30' 53.880" E
D3A-Line4_0	Online - acquiring data	On survey area	9/04/2016	15:30	27° 20' 32.580" S	161° 30' 53.880" E	9/04/2016	18:39	27° 28' 17.820" S	161° 46' 28.680" E
D3A-Line4_0	Run out from line	On survey area	9/04/2016	18:39	27° 28' 17.820" S	161° 46' 28.680" E	9/04/2016	18:39	27° 28' 17.820" S	161° 46' 28.680" E
D3A-Line5_0	Soft Start	On survey area	10/04/2016	00:06	27° 14' 03.420" S	161° 43' 46.740" E	10/04/2016	00:40	27° 16' 18.360" S	161° 42' 26.280" E
D3A-Line5_0	Run in to line	On survey area	10/04/2016	00:40	27° 16' 18.360" S	161° 42' 26.280" E	10/04/2016	00:40	27° 16' 18.360" S	161° 42' 26.280" E
D3A-Line5_0	Online - acquiring data	On survey area	10/04/2016	00:40	27° 16' 18.360" S	161° 42' 26.280" E	10/04/2016	01:20	27° 18' 49.320" S	161° 40' 54.420" E
D3A-Line5_1	Soft Start	On survey area	10/04/2016	06:56	27° 30' 54.600" S	161° 33' 20.820" E	10/04/2016	07:29	27° 28' 41.100" S	161° 34' 44.280" E
D3A-Line5_1	Online - acquiring data	On survey area	10/04/2016	07:29	27° 28' 41.100" S	161° 34' 44.280" E	10/04/2016	07:29	27° 28' 41.100" S	161° 34' 44.280" E
D3A-Line5_1	Online - acquiring data	On survey area	10/04/2016	07:29	27° 28' 41.100" S	161° 34' 44.280" E	10/04/2016	10:42	27° 14' 46.200" S	161° 43' 22.080" E
D3A-Line5_1	Offline	On survey area	10/04/2016	10:42	27° 14' 46.200" S	161° 43' 22.080" E	10/04/2016	10:42	27° 14' 46.200" S	161° 43' 22.080" E
D3A-Line5_1	Run out from line	On survey area	10/04/2016	10:42	27° 14' 46.200" S	161° 43' 22.080" E	10/04/2016	10:42	27° 14' 46.200" S	161° 43' 22.080" E
D1B-Line08_0	Soft Start	On survey area	10/04/2016	23:00	26° 35' 07.740" S	160° 55' 14.700" E	10/04/2016	23:35	26° 32' 43.680" S	160° 56' 06.780" E
D1B-Line08_0	Run in to line	On survey area	10/04/2016	23:35	26° 32' 43.680" S	160° 56' 06.780" E	10/04/2016	23:35	26° 32' 43.680" S	160° 56' 06.780" E
D1B-Line08_0	Online - acquiring data	On survey area	10/04/2016	23:35	26° 32' 43.680" S	160° 56' 06.780" E	11/04/2016	03:48	26° 16' 36.074" S	161° 01' 55.277" E
D1B-Line08_0	Run out from line	On survey area	11/04/2016	03:48	26° 16' 36.074" S	161° 01' 55.277" E	11/04/2016	03:48	26° 16' 36.074" S	161° 01' 55.277" E
D1B-Line09_0	Soft Start	On survey area	11/04/2016	07:08	26° 22' 35.520" S	161° 05' 49.200" E	11/04/2016	07:43	26° 23' 03.060" S	161° 03' 02.460" E
D1B-Line09_0	Online - acquiring data	On survey area	11/04/2016	07:43	26° 23' 03.060" S	161° 03' 02.460" E	11/04/2016	07:43	26° 23' 03.060" S	161° 03' 02.460" E
D1B-Line09_0	Online - acquiring data	On survey area	11/04/2016	07:43	26° 23' 03.060" S	161° 03' 02.460" E	11/04/2016	09:16	26° 24' 18.360" S	160° 55' 26.580" E
D1B-Line10_0	Soft Start	On survey area	11/04/2016	14:51	26° 27' 55.800" S	160° 48' 17.760" E	11/04/2016	15:24	26° 27' 28.800" S	160° 51' 04.440" E
D1B-Line10_0	Run in to line	On survey area	11/04/2016	15:24	26° 27' 28.800" S	160° 51' 04.440" E	11/04/2016	15:24	26° 27' 28.800" S	160° 51' 04.440" E
D1B-Line10_0	Online - acquiring data	On survey area	11/04/2016	15:24	26° 27' 28.800" S	160° 51' 04.440" E	11/04/2016	18:05	26° 25' 05.220" S	161° 05' 36.720" E
D1B-Line10_0	Run out from line	On survey area	11/04/2016	18:05	26° 25' 05.220" S	161° 05' 36.720" E	11/04/2016	18:05	26° 25' 05.220" S	161° 05' 36.720" E
D3A-Line3_0	Soft Start	On survey area	12/04/2016	05:09	27° 18' 25.380" S	161° 29' 00.780" E	12/04/2016	05:42	27° 19' 39.420" S	161° 31' 31.020" E
D3A-Line3_0	Online - acquiring data	On survey area	12/04/2016	05:42	27° 19' 39.420" S	161° 31' 31.020" E	12/04/2016	05:42	27° 19' 39.420" S	161° 31' 31.020" E
D3A-Line3_0	Online - acquiring data	On survey area	12/04/2016	05:42	27° 19' 39.420" S	161° 31' 31.020" E	12/04/2016	09:07	27° 27' 23.760" S	161° 47' 03.780" E
D3A-Line3_0	Offline	On survey area	12/04/2016	09:07	27° 27' 23.760" S	161° 47' 03.780" E	12/04/2016	09:07	27° 27' 23.760" S	161° 47' 03.780" E
D3A-Line6_0	Soft Start	On survey area	12/04/2016	13:40	27° 31' 12.840" S	161° 33' 55.680" E	12/04/2016	14:00	27° 31' 12.840" S	161° 33' 55.680" E

D3A-Line6_0	Soft Start	On survey area	12/04/2016	14:00	27° 31' 12.840" S	161° 33' 55.680" E	12/04/2016	14:13	27° 29' 01.399" S	161° 35' 17.426" E
D3A-Line6_0	Run in to line	On survey area	12/04/2016	14:13	27° 29' 01.399" S	161° 35' 17.426" E	12/04/2016	14:13	27° 29' 01.399" S	161° 35' 17.424" E
D3A-Line6_0	Online - acquiring data	On survey area	12/04/2016	14:13	27° 29' 01.399" S	161° 35' 17.424" E	12/04/2016	17:30	27° 15' 06.600" S	161° 43' 59.640" E
D3A-Line6_0	Offline	On survey area	12/04/2016	17:30	27° 15' 06.600" S	161° 43' 59.640" E	12/04/2016	17:30	27° 15' 06.600" S	161° 43' 59.640" E
D3A-Line1_0	Soft Start	On survey area	12/04/2016	22:06	27° 17' 21.000" S	161° 29' 40.920" E	12/04/2016	22:39	27° 18' 35.160" S	161° 32' 09.720" E
D3A-Line1_0	Run in to line	On survey area	12/04/2016	22:39	27° 18' 35.160" S	161° 32' 09.720" E	12/04/2016	22:39	27° 18' 35.160" S	161° 32' 09.720" E
D3A-Line1_0	Online - acquiring data	On survey area	12/04/2016	22:39	27° 18' 35.160" S	161° 32' 09.720" E	13/04/2016	02:20	27° 26' 17.934" S	161° 47' 39.296" E
D3A-Line1_0	Run out from line	On survey area	13/04/2016	02:20	27° 26' 17.934" S	161° 47' 39.296" E	13/04/2016	02:20	27° 26' 17.933" S	161° 47' 39.294" E
D3A-Line8_0	Soft Start	On survey area	13/04/2016	07:06	27° 31' 47.400" S	161° 35' 07.500" E	13/04/2016	07:36	27° 29' 36.300" S	161° 36' 29.598" E
D3A-Line8_0	Online - acquiring data	On survey area	13/04/2016	07:36	27° 29' 36.300" S	161° 36' 29.598" E	13/04/2016	07:36	27° 29' 36.300" S	161° 36' 29.598" E
D3A-Line8_0	Online - acquiring data	On survey area	13/04/2016	07:36	27° 29' 36.300" S	161° 36' 29.598" E	13/04/2016	10:36	27° 15' 44.100" S	161° 45' 08.820" E
D3A-Line8_0	Offline	On survey area	13/04/2016	10:36	27° 15' 44.100" S	161° 45' 08.820" E	13/04/2016	10:36	27° 15' 44.100" S	161° 45' 08.820" E
EWmcs_0	Soft Start	On survey area	13/04/2016	15:20	27° 21' 50.820" S	162° 02' 34.380" E	13/04/2016	16:00	27° 23' 03.780" S	161° 59' 41.520" E
EWmcs_0	Run in to line	On survey area	13/04/2016	16:00	27° 23' 03.780" S	161° 59' 41.520" E	13/04/2016	16:00	27° 23' 03.780" S	161° 59' 41.520" E
EWmcs_0	Online - acquiring data	On survey area	13/04/2016	16:00	27° 23' 03.780" S	161° 59' 41.520" E	13/04/2016	22:42	27° 23' 04.080" S	161° 22' 03.420" E
EWmcs_0	Run out from line	On survey area	13/04/2016	22:42	27° 23' 04.080" S	161° 22' 03.420" E	13/04/2016	22:42	27° 23' 04.080" S	161° 22' 03.420" E
Gun test	Other	On survey area	29/04/2016	00:25	26° 34' 09.000" S	160° 49' 18.120" E	29/04/2016	00:32	26° 34' 11.160" S	160° 49' 36.960" E
D1B-Line13_0	Soft Start	On survey area	29/04/2016	05:48	26° 31' 37.920" S	161° 05' 09.300" E	29/04/2016	06:23	26° 29' 57.480" S	161° 03' 04.860" E
D1B-Line13_0	Run in to line	On survey area	29/04/2016	06:23	26° 29' 57.480" S	161° 03' 04.860" E	29/04/2016	06:23	26° 29' 57.480" S	161° 03' 04.860" E
D1B-Line13_0	Online - acquiring data	On survey area	29/04/2016	06:23	26° 29' 57.480" S	161° 03' 04.860" E	29/04/2016	09:48	26° 19' 56.040" S	160° 50' 30.060" E
D1B-Line13_0	Run out from line	On survey area	29/04/2016	09:48	26° 19' 56.040" S	160° 50' 30.060" E	29/04/2016	09:48	26° 19' 56.040" S	160° 50' 30.060" E
D1B-Line09B_0	Soft Start	On survey area	29/04/2016	14:53	26° 23' 28.620" S	161° 00' 29.280" E	29/04/2016	15:24	26° 23' 56.520" S	160° 57' 40.320" E
D1B-Line09B_0	Online - acquiring data	On survey area	29/04/2016	15:24	26° 23' 56.520" S	160° 57' 40.320" E	29/04/2016	15:24	26° 23' 56.520" S	160° 57' 40.320" E
D1B-Line09B_0	Online - acquiring data	On survey area	29/04/2016	15:24	26° 23' 56.520" S	160° 57' 40.320" E	29/04/2016	17:47	26° 25' 55.680" S	160° 45' 31.320" E
D1B-Line09B_0	Offline	On survey area	29/04/2016	17:47	26° 25' 55.680" S	160° 45' 31.320" E	29/04/2016	17:47	26° 25' 55.680" S	160° 45' 31.320" E
D1B-Line11_0	Soft Start	On survey area	29/04/2016	21:03	26° 21' 47.280" S	160° 46' 30.300" E	29/04/2016	21:35	26° 23' 46.500" S	160° 48' 16.140" E
D1B-Line11_0	Online - acquiring data	On survey area	29/04/2016	21:35	26° 23' 46.500" S	160° 48' 16.140" E	29/04/2016	21:35	26° 23' 46.500" S	160° 48' 16.140" E
D1B-Line11_0	Online - acquiring data	On survey area	29/04/2016	21:35	26° 23' 46.500" S	160° 48' 16.140" E	30/04/2016	00:50	26° 36' 05.700" S	160° 59' 15.780" E
D1B-Line11_0	Offline	On survey area	30/04/2016	00:50	26° 36' 05.700" S	160° 59' 15.780" E	30/04/2016	00:50	26° 36' 05.700" S	160° 59' 15.780" E

D1B-Line12_0	Soft Start	On survey area	30/04/2016	08:00	26° 17' 37.020" S	160° 57' 55.320" E	30/04/2016	08:33	26° 20' 03.840" S	160° 57' 10.440" E
D1B-Line12_0	Run in to line	On survey area	30/04/2016	08:33	26° 20' 03.840" S	160° 57' 10.440" E	30/04/2016	08:33	26° 20' 03.840" S	160° 57' 10.440" E
D1B-Line12_0	Online - acquiring data	On survey area	30/04/2016	08:33	26° 20' 03.840" S	160° 57' 10.440" E	30/04/2016	11:43	26° 33' 46.260" S	160° 52' 56.400" E
D1B-Line12_0	Run out from line	On survey area	30/04/2016	11:43	26° 33' 46.260" S	160° 52' 56.400" E	30/04/2016	11:43	26° 33' 46.260" S	160° 52' 56.400" E
D2A-Line2_0	Soft Start	On survey area	30/04/2016	14:34	26° 45' 33.480" S	160° 58' 05.460" E	30/04/2016	15:07	26° 45' 34.036" S	161° 00' 50.823" E
D2A-Line2_0	Online - acquiring data	On survey area	30/04/2016	15:07	26° 45' 34.036" S	161° 00' 50.823" E	30/04/2016	15:07	26° 45' 34.036" S	161° 00' 50.823" E
D2A-Line2_0	Online - acquiring data	On survey area	30/04/2016	15:07	26° 45' 34.036" S	161° 00' 50.823" E	30/04/2016	19:36	26° 45' 33.840" S	161° 24' 40.920" E
D2A-Line2_0	Offline	On survey area	30/04/2016	19:36	26° 45' 33.840" S	161° 24' 40.920" E	30/04/2016	19:36	26° 45' 33.840" S	161° 24' 40.920" E
Gun test	Other	On survey area	1/05/2016	02:44	26° 46' 19.848" S	161° 55' 04.380" E	1/05/2016	02:51	26° 46' 47.880" S	161° 54' 56.700" E
BB1B_0	Soft Start	On survey area	1/05/2016	21:50	27° 24' 09.240" S	162° 45' 40.080" E	1/05/2016	22:23	27° 26' 01.260" S	162° 47' 36.120" E
BB1B_0	Online - acquiring data	On survey area	1/05/2016	22:23	27° 26' 01.260" S	162° 47' 36.120" E	1/05/2016	22:23	27° 26' 01.260" S	162° 47' 36.120" E
BB1B_0	Online - acquiring data	On survey area	1/05/2016	22:23	27° 26' 01.260" S	162° 47' 36.120" E	2/05/2016	02:44	27° 41' 34.380" S	163° 03' 57.960" E
BB1B_0	Offline	On survey area	2/05/2016	02:44	27° 41' 34.380" S	163° 03' 57.960" E	2/05/2016	02:44	27° 41' 34.380" S	163° 03' 57.960" E
BV1B_0	Soft Start	On survey area	2/05/2016	06:00	27° 42' 15.300" S	162° 58' 14.580" E	2/05/2016	06:33	27° 40' 32.280" S	163° 00' 19.800" E
BV1B_0	Online - not acquiring data	On survey area	2/05/2016	06:33	27° 40' 32.280" S	163° 00' 19.800" E	2/05/2016	06:33	27° 40' 32.280" S	163° 00' 19.800" E
BV1B_0	Online - acquiring data	On survey area	2/05/2016	06:33	27° 40' 32.280" S	163° 00' 19.800" E	2/05/2016	11:07	27° 26' 04.080" S	163° 17' 49.140" E
BV1B_0	Gear deployment or retrieval	On survey area	2/05/2016	11:07	27° 26' 04.080" S	163° 17' 49.140" E	2/05/2016	11:07	27° 26' 04.080" S	163° 17' 49.140" E
EWmcs_1	Soft Start	On survey area	3/05/2016	03:18	27° 21' 06.060" S	164° 42' 42.480" E	3/05/2016	03:49	27° 21' 09.810" S	164° 39' 57.510" E
EWmcs_1	Run in to line	On survey area	3/05/2016	03:49	27° 21' 09.810" S	164° 39' 57.510" E	3/05/2016	03:49	27° 21' 09.810" S	164° 39' 57.510" E
EWmcs_1	Online - acquiring data	On survey area	3/05/2016	03:49	27° 21' 09.810" S	164° 39' 57.510" E	3/05/2016	09:36	27° 21' 44.238" S	164° 10' 36.852" E
Gun test	Other	On survey area	3/05/2016	10:43	27° 23' 08.280" S	164° 06' 21.360" E	3/05/2016	10:51	27° 23' 40.260" S	164° 06' 05.640" E
EWmcs_2	Soft Start	On survey area	3/05/2016	15:02	27° 21' 39.000" S	164° 15' 04.080" E	3/05/2016	15:35	27° 21' 42.779" S	164° 12' 18.833" E
EWmcs_2	Online - acquiring data	On survey area	3/05/2016	15:35	27° 21' 42.779" S	164° 12' 18.833" E	3/05/2016	15:35	27° 21' 42.779" S	164° 12' 18.833" E
EWmcs_2	Online - acquiring data	On survey area	3/05/2016	15:35	27° 21' 42.779" S	164° 12' 18.833" E	4/05/2016	14:00	27° 21' 42.779" S	164° 12' 18.833" E
EWmcs_2	Online - acquiring data	On survey area	4/05/2016	14:00	27° 21' 42.779" S	164° 12' 18.833" E	5/05/2016	04:40	27° 23' 04.740" S	161° 26' 52.260" E
EWmcs_2(b)	Soft Start	On survey area	5/05/2016	05:35	27° 23' 04.260" S	161° 23' 51.480" E	5/05/2016	06:10	27° 23' 04.200" S	161° 22' 00.240" E
EWmcs_2(b)	Online - acquiring data	On survey area	5/05/2016	06:10	27° 23' 04.200" S	161° 22' 00.240" E	5/05/2016	06:10	27° 23' 04.200" S	161° 22' 00.240" E

EWmcs_2(b)	Online - acquiring data	On survey area	5/05/2016	06:10	27° 23' 04.200" S	161° 22' 00.240" E	5/05/2016	07:45	27° 23' 03.240" S	161° 14' 54.120" E
EWmcs_3	Soft Start	On survey area	5/05/2016	12:52	27° 02' 03.900" S	161° 19' 43.620" E	5/05/2016	13:30	27° 23' 03.420" S	161° 16' 54.660" E
EWmcs_3	Online - acquiring data	On survey area	5/05/2016	13:30	27° 23' 03.420" S	161° 16' 54.660" E	5/05/2016	13:30	27° 23' 03.420" S	161° 16' 54.660" E
EWmcs_3	Online - acquiring data	On survey area	5/05/2016	13:30	27° 23' 03.420" S	161° 16' 54.660" E	5/05/2016	14:00	27° 23' 03.420" S	161° 16' 54.660" E
EWmcs_3	Online - acquiring data	On survey area	5/05/2016	14:00	27° 23' 03.420" S	161° 16' 54.660" E	5/05/2016	22:30	27° 22' 50.220" S	160° 34' 09.900" E
Gun test	Other	On survey area	6/05/2016	04:55	27° 46' 54.300" S	160° 33' 03.600" E	6/05/2016	05:02	27° 47' 22.320" S	160° 33' 08.640" E
BV2A_0	Soft Start	On survey area	6/05/2016	08:48	28° 00' 16.122" S	160° 40' 23.724" E	6/05/2016	09:23	27° 58' 55.440" S	160° 40' 23.724" E
BV2A_0	Online - acquiring data	On survey area	6/05/2016	09:23	27° 58' 55.440" S	160° 40' 23.724" E	6/05/2016	09:23	27° 58' 55.440" S	160° 40' 23.724" E
BV2A_0	Online - acquiring data	On survey area	6/05/2016	09:23	27° 58' 55.440" S	160° 40' 23.724" E	6/05/2016	13:52	27° 47' 40.800" S	161° 03' 13.620" E
BV2A_0	Offline	On survey area	6/05/2016	13:52	27° 47' 40.800" S	161° 03' 13.620" E	6/05/2016	13:52	27° 47' 40.800" S	161° 03' 13.620" E
EWmcs_4	Soft Start	On survey area	6/05/2016	21:49	27° 22' 52.320" S	160° 39' 04.500" E	6/05/2016	22:23	27° 22' 50.940" S	160° 36' 15.060" E
EWmcs_4	Online - acquiring data	On survey area	6/05/2016	22:23	27° 22' 50.940" S	160° 36' 15.060" E	6/05/2016	22:23	27° 22' 50.940" S	160° 36' 15.060" E
EWmcs_4	Online - acquiring data	On survey area	6/05/2016	22:23	27° 22' 50.940" S	160° 36' 15.060" E	7/05/2016	07:54	27° 22' 22.254" S	159° 50' 00.606" E
EWmcs_5	Soft Start	On survey area	7/05/2016	22:10	27° 22' 25.920" S	159° 54' 46.620" E	7/05/2016	22:45	27° 22' 23.520" S	159° 51' 59.040" E
EWmcs_5	Online - acquiring data	On survey area	7/05/2016	22:45	27° 22' 23.520" S	159° 51' 59.040" E	7/05/2016	22:45	27° 22' 23.520" S	159° 51' 59.040" E
EWmcs_5	Online - acquiring data	On survey area	7/05/2016	22:45	27° 22' 23.520" S	159° 51' 59.040" E	8/05/2016	14:00	27° 22' 23.520" S	159° 51' 59.040" E
EWmcs_5	Online - acquiring data	On survey area	9/05/2016	14:00	27° 22' 23.520" S	159° 51' 59.040" E	9/05/2016	14:49	27° 16' 51.790" S	156° 16' 12.945" E
EWmcs_6	Soft Start	On survey area	9/05/2016	16:43	27° 16' 31.260" S	156° 07' 15.960" E	9/05/2016	17:20	27° 16' 24.180" S	156° 04' 19.620" E
EWmcs_6	Online - acquiring data	On survey area	9/05/2016	17:20	27° 16' 24.180" S	156° 04' 19.620" E	9/05/2016	17:20	27° 16' 24.180" S	156° 04' 19.620" E
EWmcs_6	Online - acquiring data	On survey area	9/05/2016	17:20	27° 16' 24.180" S	156° 04' 19.620" E	9/05/2016	20:46	27° 15' 44.748" S	155° 48' 15.048" E
EWmcs_6	Offline	On survey area	9/05/2016	20:46	27° 15' 44.748" S	155° 48' 15.048" E	9/05/2016	20:46	27° 15' 44.760" S	155° 48' 15.060" E

# Passive Acoustic Monitoring Effort

Name	UTC Start Date	UTC Start Time	UTC End Date	UTC End Time	Source Activity	Water Depth (m)	Vessel Speed (Kt)	Start of watch comment
Patrick Lyne	3/04/2016	00:38	3/04/2016	01:32	Not Active	4500.00	2.00	Port side deployment complete. Prewatch started at 11:00
Patrick Lyne	3/04/2016	01:32	3/04/2016	01:41	Testing	4500.00	2.00	Testing commenced
Patrick Lyne	3/04/2016	04:59	3/04/2016	05:30	Not Active	4500.00	3.80	
Patrick Lyne	3/04/2016	05:30	3/04/2016	06:28	Not Active	4500.00	3.60	
Patrick Lyne	3/04/2016	06:28	3/04/2016	06:58	Not Active	4500.00	4.50	
Patrick Lyne	3/04/2016	06:58	3/04/2016	07:18	Soft Start	4500.00	4.40	
Patrick Lyne	3/04/2016	07:18	3/04/2016	07:34	Soft Start	4500.00	4.50	
Patrick Lyne	3/04/2016	07:34	3/04/2016	09:13	Full Power	4500.00	4.50	
Patrick Lyne	3/04/2016	09:13	3/04/2016	09:49	Full Power	4500.00	4.70	
Patrick Lyne	3/04/2016	09:49	3/04/2016	10:07	Full Power	4500.00	4.40	
Patrick Lyne	3/04/2016	10:07	3/04/2016	10:47	Full Power	4500.00	4.30	
Patrick Lyne	3/04/2016	10:47	3/04/2016	11:55	Full Power	4500.00	4.30	
Patrick Lyne	3/04/2016	11:55	3/04/2016	12:23	Full Power	4500.00	4.50	
Patrick Lyne	3/04/2016	12:23	3/04/2016	13:24	Full Power	4500.00	4.40	
Patrick Lyne	3/04/2016	13:24	3/04/2016	13:59	Full Power	4500.00	4.70	
Tim Lewis	3/04/2016	14:00	3/04/2016	14:01	Full Power	4789.00	4.50	
Tim Lewis	3/04/2016	14:01	3/04/2016	15:00	Full Power	4789.00	4.50	
Tim Lewis	3/04/2016	15:00	3/04/2016	16:00	Full Power	4791.00	4.50	
Tim Lewis	3/04/2016	16:00	3/04/2016	17:00	Full Power	4793.00	4.60	
Tim Lewis	3/04/2016	17:00	3/04/2016	17:26	Full Power	4791.00	4.80	
Tim Lewis	3/04/2016	17:26	3/04/2016	18:21	Full Power	4793.00	4.60	
Tim Lewis	3/04/2016	18:21	3/04/2016	19:05	Full Power	4794.00	4.40	
Tim Lewis	3/04/2016	19:05	3/04/2016	20:00	Full Power	4797.00	4.40	
Tim Lewis	3/04/2016	20:00	3/04/2016	21:00	Full Power	4798.00	4.50	
Tim Lewis	3/04/2016	21:00	3/04/2016	22:00	Full Power	4618.00	4.00	
Tim Lewis	3/04/2016	22:00	3/04/2016	23:00	Full Power	3075.00	4.40	
Tim Lewis	3/04/2016	23:00	4/04/2016	00:00	Full Power	3064.00	4.40	
Tim Lewis	4/04/2016	00:00	4/04/2016	01:00	Full Power	3110.00	4.50	
Tim Lewis	4/04/2016	01:00	4/04/2016	02:06	Full Power	3055.00	4.70	
Patrick Lyne	4/04/2016	02:06	4/04/2016	03:06	Full Power	3055.00	4.70	
Patrick Lyne	4/04/2016	03:06	4/04/2016	04:04	Full Power	3137.00	4.30	
Patrick Lyne	4/04/2016	04:04	4/04/2016	04:52	Full Power	3386.00	4.30	
Patrick Lyne	4/04/2016	04:52	4/04/2016	05:40	Full Power	3343.00	4.20	
Patrick Lyne	4/04/2016	05:40	4/04/2016	06:37	Full Power	3154.00	4.50	
Patrick Lyne	4/04/2016	06:37	4/04/2016	07:07	Full Power	2953.00	4.80	
Patrick Lyne	4/04/2016	07:07	4/04/2016	08:00	Full Power	2855.00	4.80	
Patrick Lyne	4/04/2016	08:00	4/04/2016	08:58	Full Power	2784.00	4.10	Scott standing in
Patrick Lyne	4/04/2016	08:58	4/04/2016	09:53	Full Power	2773.00	3.10	
Patrick Lyne	4/04/2016	09:53	4/04/2016	10:41	Full Power	2545.00	3.60	
Patrick Lyne	4/04/2016	10:41	4/04/2016	11:36	Full Power	3038.00	3.70	
Patrick Lyne	4/04/2016	11:36	4/04/2016	12:35	Full Power	3013.00	4.20	
Patrick Lyne	4/04/2016	12:35	4/04/2016	13:35	Full Power	2680.00	4.30	
Patrick Lyne	4/04/2016	13:35	4/04/2016	13:59	Full Power	2736.00	5.00	
Tim Lewis	4/04/2016	14:00	4/04/2016	15:00	Full Power	2706.00	4.90	
Tim Lewis	4/04/2016	15:00	4/04/2016	16:00	Full Power	2840.00	4.30	
Tim Lewis	4/04/2016	16:00	4/04/2016	17:00	Full Power	3050.00	4.90	
Tim Lewis	4/04/2016	17:00	4/04/2016	18:00	Full Power	3311.00	4.50	
Tim Lewis	4/04/2016	18:00	4/04/2016	19:02	Full Power	3436.00	4.00	
Tim Lewis	4/04/2016	19:02	4/04/2016	20:00	Full Power	3439.00	4.50	
Tim Lewis	4/04/2016	20:00	4/04/2016	21:00	Full Power	3438.00	4.50	
Tim Lewis	4/04/2016	21:00	4/04/2016	21:07	Full Power	3438.00	4.60	
Andrew Carroll	4/04/2016	21:07	4/04/2016	21:37	Full Power	3435.00	4.50	
Tim Lewis	4/04/2016	21:37	4/04/2016	22:00	Full Power	3439.00	4.50	
Tim Lewis	4/04/2016	22:00	4/04/2016	23:00	Full Power	3441.00	4.20	
Tim Lewis	4/04/2016	23:00	5/04/2016	00:00	Full Power	3441.00	4.70	
Tim Lewis	5/04/2016	00:00	5/04/2016	01:00	Full Power	3442.00	4.50	
Tim Lewis	5/04/2016	01:00	5/04/2016	02:00	Full Power	3442.00	4.20	
Patrick Lyne	5/04/2016	02:00	5/04/2016	03:00	Full Power	3441.00	4.50	
Patrick Lyne	5/04/2016	03:00	5/04/2016	04:01	Full Power	3440.00	4.60	
Patrick Lyne	5/04/2016	04:01	5/04/2016	05:04	Full Power	3417.00	4.00	
Patrick Lyne	5/04/2016	05:04	5/04/2016	06:00	Full Power	3390.00	3.50	
Patrick Lyne	5/04/2016	06:00	5/04/2016	07:03	Full Power	3370.00	4.50	
Patrick Lyne	5/04/2016	07:03	5/04/2016	08:05	Full Power	3304.00	3.90	17:21 to 18:05 Scott stand in
Patrick Lyne	5/04/2016	08:05	5/04/2016	09:00	Full Power	3286.00	4.00	
Patrick Lyne	5/04/2016	09:00	5/04/2016	10:01	Full Power	3250.00	4.00	
Patrick Lyne	5/04/2016	10:01	5/04/2016	11:17	Full Power	3143.00	3.50	
Patrick Lyne	5/04/2016	11:17	5/04/2016	12:13	Full Power	2839.00	4.90	
Patrick Lyne	5/04/2016	12:13	5/04/2016	13:03	Full Power	2682.00	4.40	
Patrick Lyne	5/04/2016	13:03	5/04/2016	13:59	Full Power	2625.00	4.10	
Tim Lewis	5/04/2016	14:00	5/04/2016	15:00	Full Power	2430.00	4.20	
Tim Lewis	5/04/2016	15:00	5/04/2016	16:00	Full Power	2324.00	4.50	
Andrew Carroll	5/04/2016	16:00	5/04/2016	16:20	Full Power	2193.00	4.40	
Tim Lewis	5/04/2016	16:20	5/04/2016	17:00	Full Power	2174.10	4.10	
Tim Lewis	5/04/2016	17:00	5/04/2016	18:00	Full Power	2138.00	3.90	

Tim Lewis	5/04/2016	18:00	5/04/2016	19:03	Full Power	2089.00	3.80	
Tim Lewis	5/04/2016	19:03	5/04/2016	20:02	Full Power	2089.00	4.20	
Tim Lewis	5/04/2016	20:02	5/04/2016	21:00	Full Power	2080.00	4.30	
Andrew Carroll	5/04/2016	21:00	5/04/2016	21:33	Full Power	2041.00	3.90	
Tim Lewis	5/04/2016	21:33	5/04/2016	22:22	Full Power	1970.00	4.60	
Tim Lewis	5/04/2016	22:22	5/04/2016	23:00	Full Power	1950.00	4.50	
Tim Lewis	5/04/2016	23:00	6/04/2016	00:00	Full Power	1941.00	4.30	
Tim Lewis	6/04/2016	00:00	6/04/2016	01:00	Full Power	1880.00	4.10	
Tim Lewis	6/04/2016	01:00	6/04/2016	02:00	Full Power	1791.00	4.70	
Patrick Lyne	6/04/2016	02:00	6/04/2016	03:03	Full Power	1763.00	4.10	
Patrick Lyne	6/04/2016	03:03	6/04/2016	04:00	Full Power	1720.00	4.50	
Patrick Lyne	6/04/2016	04:00	6/04/2016	04:30	Full Power	1743.00	4.70	
Patrick Lyne	6/04/2016	04:30	6/04/2016	04:48	Full Power	1700.00	5.10	
Tim Lewis	6/04/2016	20:43	6/04/2016	21:16	Not Active	1912.00	3.30	
Tim Lewis	6/04/2016	21:16	6/04/2016	21:26	Testing	1931.00	4.30	
Tim Lewis	6/04/2016	23:08	7/04/2016	00:09	Not Active	1944.00	4.40	Acoustic pre-search
Tim Lewis	7/04/2016	00:09	7/04/2016	00:43	Soft Start	1919.00	4.60	
Tim Lewis	7/04/2016	00:43	7/04/2016	01:32	Full Power	1879.00	4.20	Resume survey line
Tim Lewis	7/04/2016	01:32	7/04/2016	02:00	Full Power	1814.00	4.50	
Patrick Lyne	7/04/2016	02:00	7/04/2016	02:56	Full Power	1775.00	4.80	
Patrick Lyne	7/04/2016	02:56	7/04/2016	03:24	Full Power	1759.00	4.40	
Patrick Lyne	7/04/2016	03:24	7/04/2016	04:31	Full Power	1728.00	4.50	
Patrick Lyne	7/04/2016	04:31	7/04/2016	05:42	Full Power	1746.00	4.50	
Patrick Lyne	7/04/2016	05:42	7/04/2016	06:55	Full Power	1673.00	4.60	
Patrick Lyne	7/04/2016	06:55	7/04/2016	08:27	Full Power	1517.00	4.80	
Patrick Lyne	7/04/2016	08:27	7/04/2016	09:28	Full Power	1540.00	4.90	
Patrick Lyne	7/04/2016	09:28	7/04/2016	10:35	Not Active	1510.00	4.20	
Patrick Lyne	7/04/2016	10:35	7/04/2016	10:53	Not Active	1491.00	4.00	
Patrick Lyne	7/04/2016	10:53	7/04/2016	11:25	Soft Start	1432.00	4.00	
Patrick Lyne	7/04/2016	11:25	7/04/2016	12:45	Full Power	1404.00	4.90	
Patrick Lyne	7/04/2016	12:45	7/04/2016	13:10	Full Power	1375.00	5.00	
Patrick Lyne	7/04/2016	13:10	7/04/2016	13:59	Full Power	1387.00	5.20	
Tim Lewis	7/04/2016	14:00	7/04/2016	15:00	Full Power	1455.00	4.50	
Tim Lewis	7/04/2016	15:00	7/04/2016	16:00	Full Power	1427.00	4.10	
Tim Lewis	7/04/2016	16:00	7/04/2016	17:00	Full Power	1419.00	4.50	
Tim Lewis	7/04/2016	17:00	7/04/2016	18:00	Full Power	1423.00	4.50	
Tim Lewis	7/04/2016	18:00	7/04/2016	18:06	Full Power	1412.00	4.70	
Tim Lewis	7/04/2016	18:06	7/04/2016	18:15	Not Active	1410.10	4.50	
Tim Lewis	7/04/2016	18:15	7/04/2016	19:00	Full Power	1405.10	4.50	
Tim Lewis	7/04/2016	19:00	7/04/2016	19:40	Full Power	1385.00	4.80	
Tim Lewis	7/04/2016	22:21	7/04/2016	23:21	Not Active	1373.00	4.40	Pre-search for E->W line
Tim Lewis	7/04/2016	23:21	7/04/2016	23:39	Not Active	1385.00	4.40	
Tim Lewis	7/04/2016	23:39	8/04/2016	00:23	Soft Start	1387.00	3.80	
Tim Lewis	8/04/2016	00:23	8/04/2016	01:23	Full Power	1410.00	3.90	
Tim Lewis	8/04/2016	01:23	8/04/2016	02:00	Full Power	1425.00	3.90	
Patrick Lyne	8/04/2016	02:00	8/04/2016	03:00	Full Power	1425.00	3.80	
Patrick Lyne	8/04/2016	03:00	8/04/2016	04:23	Full Power	1408.00	3.70	
Patrick Lyne	8/04/2016	04:23	8/04/2016	05:39	Full Power	1430.00	3.80	
Patrick Lyne	8/04/2016	05:39	8/04/2016	06:08	Full Power	1452.00	4.40	
Patrick Lyne	8/04/2016	06:08	8/04/2016	07:04	Full Power	1403.00	4.50	
Patrick Lyne	8/04/2016	07:04	8/04/2016	08:12	Full Power	1372.00	4.30	Scott Stand in for dinner
Patrick Lyne	8/04/2016	08:12	8/04/2016	09:28	Full Power	1398.00	4.50	
Patrick Lyne	8/04/2016	09:28	8/04/2016	10:09	Full Power	1475.00	4.60	
Patrick Lyne	8/04/2016	10:09	8/04/2016	10:47	Full Power	1513.00	4.50	
Tim Lewis	8/04/2016	18:45	8/04/2016	19:05	Not Active	1717.00	4.40	
Tim Lewis	8/04/2016	19:05	8/04/2016	19:45	Not Active	1726.00	5.10	
Tim Lewis	8/04/2016	19:45	8/04/2016	20:45	Not Active	1698.00	5.10	
Tim Lewis	8/04/2016	20:45	8/04/2016	20:56	Not Active	1557.00	4.70	
Tim Lewis	8/04/2016	20:56	8/04/2016	21:30	Soft Start	1520.00	4.40	D3A-Line2 0
Andrew Carroll	8/04/2016	21:30	8/04/2016	22:00	Full Power	1463.00	4.00	
Tim Lewis	8/04/2016	22:00	8/04/2016	23:00	Full Power	1491.00	4.80	
Tim Lewis	8/04/2016	23:00	9/04/2016	00:00	Full Power	1537.00	5.20	
Tim Lewis	9/04/2016	00:00	9/04/2016	00:47	Full Power	1517.00	5.00	
Patrick Lyne	9/04/2016	02:00	9/04/2016	03:01	Not Active	1403.00	4.60	
Patrick Lyne	9/04/2016	03:01	9/04/2016	04:17	Not Active	1385.00	4.30	
Patrick Lyne	9/04/2016	04:17	9/04/2016	04:33	Not Active	1424.00	4.40	
Patrick Lyne	9/04/2016	05:16	9/04/2016	05:51	Not Active	1453.00	4.40	Prewatch start
Patrick Lyne	9/04/2016	05:51	9/04/2016	05:56	Not Active	1449.00	4.60	All Clear for soft start given
Patrick Lyne	9/04/2016	05:56	9/04/2016	06:28	Soft Start	1452.00	4.70	Soft Start commenced
Patrick Lyne	9/04/2016	06:28	9/04/2016	07:28	Full Power	1473.00	4.90	Full Power and SOL
Patrick Lyne	9/04/2016	07:28	9/04/2016	08:24	Full Power	1509.00	4.60	
Patrick Lyne	9/04/2016	08:24	9/04/2016	09:27	Full Power	1566.00	4.70	
Patrick Lyne	9/04/2016	09:27	9/04/2016	09:54	Full Power	1578.00	5.10	
Patrick Lyne	9/04/2016	09:54	9/04/2016	10:56	Not Active	1568.00	4.60	EOL
Patrick Lyne	9/04/2016	11:36	9/04/2016	12:33	Not Active	1616.00	5.30	Line turn
Patrick Lyne	9/04/2016	12:33	9/04/2016	13:12	Not Active	1658.00	4.30	
Patrick Lyne	9/04/2016	13:12	9/04/2016	13:59	Not Active	1677.00	4.70	
Tim Lewis	9/04/2016	14:00	9/04/2016	14:57	Not Active	1674.00	4.80	
Tim Lewis	9/04/2016	14:57	9/04/2016	15:30	Soft Start	1553.00	4.70	D3A-Line4 0

Tim Lewis	9/04/2016	15:30	9/04/2016	16:30	Full Power	1498.00	4.70	
Tim Lewis	9/04/2016	16:30	9/04/2016	17:30	Full Power	1547.00	5.00	
Tim Lewis	9/04/2016	17:30	9/04/2016	18:30	Full Power	1576.00	4.80	
Tim Lewis	9/04/2016	18:30	9/04/2016	18:39	Full Power	1564.00	5.20	
Tim Lewis	9/04/2016	22:24	9/04/2016	22:36	Not Active	1442.00	4.70	
Tim Lewis	9/04/2016	22:36	9/04/2016	23:00	Not Active	1440.00	4.80	
Tim Lewis	9/04/2016	23:00	9/04/2016	23:55	Not Active	1440.00	4.50	
Tim Lewis	9/04/2016	23:55	10/04/2016	00:06	Not Active	1461.00	4.40	
Tim Lewis	10/04/2016	00:06	10/04/2016	00:40	Soft Start	1435.00	4.70	D3A-Line5 0
Tim Lewis	10/04/2016	00:40	10/04/2016	01:00	Full Power	1444.00	4.30	
Tim Lewis	10/04/2016	01:00	10/04/2016	01:20	Full Power	1464.10	4.30	
Tim Lewis	10/04/2016	01:20	10/04/2016	02:19	Not Active	1483.00	4.60	Shutdown due to whale
Patrick Lyne	10/04/2016	02:19	10/04/2016	03:21	Not Active	1483.00	4.10	Takeover after sperm whales gone
Patrick Lyne	10/04/2016	03:21	10/04/2016	04:33	Not Active	1567.00	4.80	
Patrick Lyne	10/04/2016	04:33	10/04/2016	05:29	Not Active	1574.00	5.00	
Patrick Lyne	10/04/2016	05:48	10/04/2016	06:07	Not Active	1548.00	4.50	
Patrick Lyne	10/04/2016	06:07	10/04/2016	06:56	Not Active	1560.00	4.70	Prewatch
Patrick Lyne	10/04/2016	06:56	10/04/2016	07:29	Soft Start	1568.00	4.60	Soft Start commenced
Patrick Lyne	10/04/2016	07:29	10/04/2016	08:31	Full Power	1594.00	4.80	SOL
Patrick Lyne	10/04/2016	08:31	10/04/2016	09:27	Full Power	1553.00	4.90	
Patrick Lyne	10/04/2016	09:27	10/04/2016	10:01	Full Power	1510.00	4.40	
Patrick Lyne	10/04/2016	10:01	10/04/2016	10:42	Full Power	1469.00	4.60	
Patrick Lyne	10/04/2016	10:42	10/04/2016	11:21	Not Active	1450.00	4.80	EOL
Patrick Lyne	10/04/2016	11:53	10/04/2016	12:30	Not Active	1389.00	5.00	
Patrick Lyne	10/04/2016	12:30	10/04/2016	13:18	Not Active	1363.00	5.20	
Patrick Lyne	10/04/2016	13:18	10/04/2016	13:59	Not Active	1404.00	4.70	
Tim Lewis	10/04/2016	14:00	10/04/2016	14:20	Not Active	1453.00	5.10	
Tim Lewis	10/04/2016	15:18	10/04/2016	16:00	Not Active	1585.00	5.20	
Tim Lewis	10/04/2016	16:00	10/04/2016	17:00	Not Active	1612.00	5.30	
Tim Lewis	10/04/2016	17:00	10/04/2016	18:00	Not Active	1644.00	5.00	
Tim Lewis	10/04/2016	18:32	10/04/2016	19:32	Not Active	1665.00	4.90	
Tim Lewis	10/04/2016	19:32	10/04/2016	20:32	Not Active	1650.00	4.90	
Tim Lewis	10/04/2016	20:32	10/04/2016	21:28	Not Active	1595.10	5.30	
Andrew Carroll	10/04/2016	21:28	10/04/2016	22:10	Not Active	1576.10	5.10	
Tim Lewis	10/04/2016	22:10	10/04/2016	23:00	Not Active	1597.00	4.60	
Tim Lewis	10/04/2016	23:00	10/04/2016	23:35	Soft Start	1582.00	4.30	D1B-Line08 0
Tim Lewis	10/04/2016	23:35	11/04/2016	00:35	Full Power	1602.00	4.30	
Tim Lewis	11/04/2016	00:35	11/04/2016	01:00	Full Power	1679.10	4.40	
Tim Lewis	11/04/2016	01:00	11/04/2016	02:00	Full Power	1657.00	4.10	
Patrick Lyne	11/04/2016	02:00	11/04/2016	03:05	Full Power	1640.00	3.70	
Patrick Lyne	11/04/2016	03:05	11/04/2016	03:48	Full Power	1621.00	4.10	
Patrick Lyne	11/04/2016	03:48	11/04/2016	04:02	Not Active	1647.00	4.30	EOL
Patrick Lyne	11/04/2016	04:29	11/04/2016	05:29	Not Active	1644.00	4.50	
Patrick Lyne	11/04/2016	05:29	11/04/2016	06:19	Not Active	1630.00	5.00	
Patrick Lyne	11/04/2016	06:19	11/04/2016	07:08	Not Active	1633.00	5.20	
Patrick Lyne	11/04/2016	07:08	11/04/2016	07:43	Soft Start	1660.00	4.50	
Patrick Lyne	11/04/2016	07:43	11/04/2016	08:51	Full Power	1621.00	4.30	Scott on
Patrick Lyne	11/04/2016	08:51	11/04/2016	09:16	Full Power	1656.00	4.70	Sperm whales
Patrick Lyne	11/04/2016	09:16	11/04/2016	10:00	Not Active	1669.00	4.80	Shutdown
Patrick Lyne	11/04/2016	10:00	11/04/2016	10:38	Not Active	1740.00	4.70	
Patrick Lyne	11/04/2016	10:38	11/04/2016	11:07	Not Active	1720.00	4.70	
Patrick Lyne	11/04/2016	11:07	11/04/2016	11:14	Not Active	1742.00	4.40	
Patrick Lyne	11/04/2016	11:14	11/04/2016	11:29	Not Active	1733.00	4.20	Multi-beam shutdown
Patrick Lyne	11/04/2016	11:29	11/04/2016	11:40	Not Active	1734.00	4.20	Multi-beam all clear to start
Patrick Lyne	11/04/2016	11:40	11/04/2016	12:20	Not Active	1732.00	4.30	Sperm Whales gone
Patrick Lyne	11/04/2016	12:20	11/04/2016	13:14	Not Active	1753.00	4.80	
Patrick Lyne	11/04/2016	13:14	11/04/2016	13:47	Not Active	1689.00	5.40	
Patrick Lyne	11/04/2016	13:47	11/04/2016	13:59	Not Active	1719.00	5.70	
Patrick Lyne	11/04/2016	14:00	11/04/2016	14:14	Not Active	1739.00	5.40	
Patrick Lyne	11/04/2016	14:14	11/04/2016	14:18	Not Active	1739.00	5.40	
Tim Lewis	11/04/2016	14:18	11/04/2016	14:51	Not Active	1738.00	5.10	Last SW tracked out of area
Tim Lewis	11/04/2016	14:51	11/04/2016	15:24	Soft Start	1745.00	4.60	D1B-Line10 0
Tim Lewis	11/04/2016	15:24	11/04/2016	16:24	Full Power	1718.00	4.50	
Tim Lewis	11/04/2016	16:24	11/04/2016	17:25	Full Power	1674.00	4.60	
Tim Lewis	11/04/2016	17:25	11/04/2016	18:05	Full Power	1627.00	5.40	
Tim Lewis	11/04/2016	20:00	11/04/2016	21:00	Not Active	1649.00	5.30	
Tim Lewis	11/04/2016	21:55	11/04/2016	22:55	Not Active	1642.00	5.40	
Tim Lewis	11/04/2016	22:55	11/04/2016	23:55	Not Active	1628.00	5.10	
Tim Lewis	11/04/2016	23:55	12/04/2016	00:55	Not Active	1642.00	5.30	
Tim Lewis	12/04/2016	00:55	12/04/2016	02:00	Not Active	1642.00	5.30	
Patrick Lyne	12/04/2016	02:00	12/04/2016	03:02	Not Active	1648.00	5.30	
Patrick Lyne	12/04/2016	03:02	12/04/2016	03:46	Not Active	1663.00	5.40	
Patrick Lyne	12/04/2016	03:46	12/04/2016	04:26	Not Active	1663.00	5.80	
Patrick Lyne	12/04/2016	04:26	12/04/2016	05:09	Not Active	1635.00	5.10	Prewatch
Patrick Lyne	12/04/2016	05:09	12/04/2016	05:42	Soft Start	1522.00	4.80	Soft Start begins
Patrick Lyne	12/04/2016	05:42	12/04/2016	06:59	Full Power	1464.00	4.40	Full Power/SOL
Patrick Lyne	12/04/2016	06:59	12/04/2016	07:15	Full Power	1528.00	4.60	
Patrick Lyne	12/04/2016	07:15	12/04/2016	07:45	Full Power	1537.00	4.80	
Patrick Lyne	12/04/2016	07:45	12/04/2016	09:07	Full Power	1536.00	4.80	Scott on

Patrick Lyne	12/04/2016	09:55	12/04/2016	11:03	Not Active	1550.00	4.30	
Patrick Lyne	12/04/2016	11:30	12/04/2016	12:28	Not Active	1450.00	5.00	
Patrick Lyne	12/04/2016	12:28	12/04/2016	12:59	Not Active	1475.00	5.20	
Patrick Lyne	12/04/2016	12:59	12/04/2016	13:40	Not Active	1517.00	5.00	Prewatch
Patrick Lyne	12/04/2016	13:40	12/04/2016	13:59	Soft Start	1567.00	5.10	Soft Start
Tim Lewis	12/04/2016	14:00	12/04/2016	14:13	Soft Start	1581.00	5.10	D3A-Line6 0
Tim Lewis	12/04/2016	14:13	12/04/2016	15:00	Full Power	1580.10	4.60	
Tim Lewis	12/04/2016	15:00	12/04/2016	16:00	Full Power	1577.00	4.90	
Tim Lewis	12/04/2016	16:00	12/04/2016	17:00	Full Power	1524.00	5.00	
Tim Lewis	12/04/2016	17:00	12/04/2016	17:30	Full Power	1452.00	5.00	
Tim Lewis	12/04/2016	17:30	12/04/2016	17:50	Full Power	1453.00	4.80	
Tim Lewis	12/04/2016	21:20	12/04/2016	22:06	Not Active	1593.00	4.70	D3A-Line1 0
Tim Lewis	12/04/2016	22:06	12/04/2016	22:39	Soft Start	1515.00	4.80	
Tim Lewis	12/04/2016	22:39	12/04/2016	23:39	Full Power	1449.00	4.60	
Tim Lewis	12/04/2016	23:39	13/04/2016	00:39	Full Power	1505.00	4.50	
Tim Lewis	13/04/2016	00:39	13/04/2016	01:00	Full Power	1520.00	4.20	
Tim Lewis	13/04/2016	01:00	13/04/2016	02:00	Full Power	1507.00	4.60	
Patrick Lyne	13/04/2016	02:00	13/04/2016	02:20	Full Power	1515.00	4.20	
Patrick Lyne	13/04/2016	02:20	13/04/2016	03:24	Not Active	1509.00	4.30	EOL
Patrick Lyne	13/04/2016	03:24	13/04/2016	04:00	Not Active	1551.00	4.60	
Patrick Lyne	13/04/2016	04:24	13/04/2016	04:58	Not Active	1494.00	5.10	
Patrick Lyne	13/04/2016	04:58	13/04/2016	06:01	Not Active	1443.00	4.80	
Patrick Lyne	13/04/2016	06:01	13/04/2016	06:26	Not Active	1477.00	5.30	
Patrick Lyne	13/04/2016	06:26	13/04/2016	07:06	Not Active	1500.00	4.90	Prewatch
Patrick Lyne	13/04/2016	07:06	13/04/2016	07:39	Soft Start	1547.00	4.20	Soft Start
Patrick Lyne	13/04/2016	07:39	13/04/2016	09:00	Full Power	1574.00	4.80	Full Power Scott
Patrick Lyne	13/04/2016	09:00	13/04/2016	10:27	Full Power	1537.00	5.00	
Patrick Lyne	13/04/2016	10:27	13/04/2016	10:55	Full Power	1486.00	5.20	
Patrick Lyne	13/04/2016	10:55	13/04/2016	11:36	Not Active	1461.00	5.20	EOL
Patrick Lyne	13/04/2016	12:45	13/04/2016	13:59	Not Active	1391.00	5.10	
Tim Lewis	13/04/2016	14:00	13/04/2016	15:00	Not Active	1390.00	4.90	
Tim Lewis	13/04/2016	15:00	13/04/2016	15:20	Not Active	1402.00	4.50	
Tim Lewis	13/04/2016	15:20	13/04/2016	16:00	Soft Start	1399.00	4.00	
Tim Lewis	13/04/2016	16:00	13/04/2016	17:00	Full Power	1378.00	4.90	
Tim Lewis	13/04/2016	17:00	13/04/2016	18:00	Full Power	1371.00	5.10	
Tim Lewis	13/04/2016	18:00	13/04/2016	19:00	Full Power	1440.00	4.90	
Tim Lewis	13/04/2016	19:00	13/04/2016	19:19	Full Power	1490.00	4.90	
Tim Lewis	13/04/2016	19:19	13/04/2016	20:00	Full Power	1522.00	5.40	
Tim Lewis	13/04/2016	20:00	13/04/2016	21:00	Full Power	1541.10	4.80	
Andrew Carroll	13/04/2016	21:00	13/04/2016	21:38	Full Power	1521.00	4.30	
Tim Lewis	13/04/2016	21:38	13/04/2016	22:42	Full Power	1539.00	4.50	
Patrick Lyne	28/04/2016	23:51	29/04/2016	00:25	Not Active	1732.00	4.50	PAM started
Patrick Lyne	29/04/2016	00:25	29/04/2016	00:32	Testing	1725.00	2.40	100 to 600 CI single gun tests
Tim Lewis	29/04/2016	04:45	29/04/2016	05:45	Not Active	1636.00	4.80	
Tim Lewis	29/04/2016	05:45	29/04/2016	05:48	Not Active	1670.00	4.30	
Tim Lewis	29/04/2016	05:48	29/04/2016	06:23	Soft Start	1671.00	4.40	
Tim Lewis	29/04/2016	06:23	29/04/2016	07:16	Full Power	1636.00	4.50	
Scott Sheehan	29/04/2016	07:16	29/04/2016	07:51	Full Power	1631.00	4.40	
Tim Lewis	29/04/2016	07:51	29/04/2016	08:51	Full Power	1655.00	4.20	
Tim Lewis	29/04/2016	08:51	29/04/2016	09:48	Full Power	1684.00	4.40	
Tim Lewis	29/04/2016	11:25	29/04/2016	12:25	Not Active	1684.00	4.30	
Tim Lewis	29/04/2016	12:25	29/04/2016	13:25	Not Active	1664.00	4.00	
Tim Lewis	29/04/2016	13:25	29/04/2016	13:59	Not Active	1630.00	4.70	
Patrick Lyne	29/04/2016	14:00	29/04/2016	14:20	Not Active	1616.00	4.50	
Patrick Lyne	29/04/2016	14:20	29/04/2016	14:53	Not Active	1619.00	4.80	Prewatch
Patrick Lyne	29/04/2016	14:53	29/04/2016	15:24	Soft Start	1633.00	4.90	Soft Start begin
Patrick Lyne	29/04/2016	15:24	29/04/2016	16:28	Full Power	1652.00	4.80	SOL
Patrick Lyne	29/04/2016	16:28	29/04/2016	17:26	Full Power	1666.00	4.70	
Patrick Lyne	29/04/2016	17:26	29/04/2016	17:47	Full Power	1735.00	4.50	
Patrick Lyne	29/04/2016	17:47	29/04/2016	18:02	Not Active	1744.00	4.90	EOL
Patrick Lyne	29/04/2016	18:40	29/04/2016	19:41	Not Active	1745.00	4.60	
Patrick Lyne	29/04/2016	19:41	29/04/2016	20:29	Not Active	1743.00	4.00	
Patrick Lyne	29/04/2016	20:29	29/04/2016	21:03	Not Active	1694.00	4.20	Prewatch
Patrick Lyne	29/04/2016	21:03	29/04/2016	21:35	Soft Start	1685.00	4.90	Soft start
Patrick Lyne	29/04/2016	21:35	29/04/2016	22:35	Full Power	1666.00	4.40	Full Power and SOL
Patrick Lyne	29/04/2016	22:35	29/04/2016	23:49	Full Power	1714.00	5.00	
Patrick Lyne	29/04/2016	23:49	30/04/2016	00:50	Full Power	1629.00	4.80	
Patrick Lyne	30/04/2016	00:50	30/04/2016	02:00	Not Active	1532.00	4.80	EOL
Tim Lewis	30/04/2016	04:25	30/04/2016	05:30	Not Active	1671.00	4.50	
Tim Lewis	30/04/2016	05:30	30/04/2016	05:51	Not Active	1622.00	4.50	
Tim Lewis	30/04/2016	06:15	30/04/2016	06:48	Not Active	1647.00	4.20	
Tim Lewis	30/04/2016	07:15	30/04/2016	08:00	Not Active	1653.00	4.70	
Tim Lewis	30/04/2016	08:00	30/04/2016	08:33	Soft Start	1662.00	4.60	
Tim Lewis	30/04/2016	08:33	30/04/2016	09:33	Full Power	1648.00	4.60	
Tim Lewis	30/04/2016	09:33	30/04/2016	10:25	Full Power	1644.00	4.40	
Scott Sheehan	30/04/2016	10:25	30/04/2016	10:37	Full Power	4.50	4.50	
Tim Lewis	30/04/2016	10:37	30/04/2016	11:43	Full Power	1703.00	4.20	
Tim Lewis	30/04/2016	13:31	30/04/2016	13:59	Not Active	1608.00	4.70	
Patrick Lyne	30/04/2016	14:00	30/04/2016	14:34	Not Active	1631.00	4.70	Already on Prewatch
Patrick Lyne	30/04/2016	14:34	30/04/2016	15:07	Soft Start	1649.00	4.60	Soft Start commences
Patrick Lyne	30/04/2016	15:07	30/04/2016	15:39	Full Power	1620.00	4.50	Full Power
Patrick Lyne	30/04/2016	15:39	30/04/2016	16:44	Full Power	1608.00	5.00	

Patrick Lyne	30/04/2016	16:44	30/04/2016	17:37	Full Power	1702.00	4.50	
Patrick Lyne	30/04/2016	17:37	30/04/2016	18:40	Full Power	1636.00	5.20	
Patrick Lyne	30/04/2016	18:40	30/04/2016	19:36	Full Power	1590.00	5.20	
Patrick Lyne	30/04/2016	19:36	30/04/2016	20:08	Not Active	1541.00	5.00	
Patrick Lyne	30/04/2016	20:08	30/04/2016	21:07	Not Active	1500.00	5.30	
Patrick Lyne	30/04/2016	22:03	30/04/2016	22:27	Not Active	1431.00	4.30	
Patrick Lyne	30/04/2016	22:27	30/04/2016	23:33	Not Active	1421.00	4.20	
Patrick Lyne	30/04/2016	23:33	1/05/2016	00:30	Not Active	1404.00	5.20	
Patrick Lyne	1/05/2016	00:30	1/05/2016	00:49	Not Active	1416.00	3.80	
Patrick Lyne	1/05/2016	00:49	1/05/2016	02:05	Not Active	1384.00	4.20	Prewatch commences
Tim Lewis	1/05/2016	02:05	1/05/2016	02:44	Not Active	1370.10	5.30	
Tim Lewis	1/05/2016	02:44	1/05/2016	02:51	Testing	1380.00	4.50	test each individual gun (max 600 cu in)
Tim Lewis	1/05/2016	02:51	1/05/2016	03:45	Not Active	1384.00	4.40	
Tim Lewis	1/05/2016	03:45	1/05/2016	04:45	Not Active	1368.00	4.10	
Tim Lewis	1/05/2016	04:45	1/05/2016	05:10	Not Active	1379.10	4.30	
Tim Lewis	1/05/2016	06:05	1/05/2016	07:05	Not Active	1389.00	4.60	
Tim Lewis	1/05/2016	07:33	1/05/2016	08:03	Not Active	1404.00	4.40	
Tim Lewis	1/05/2016	08:03	1/05/2016	08:39	Not Active	1392.00	4.40	
Tim Lewis	1/05/2016	08:39	1/05/2016	09:45	Not Active	1408.00	4.20	
Tim Lewis	1/05/2016	09:45	1/05/2016	10:23	Not Active	1453.00	4.30	
Tim Lewis	1/05/2016	10:23	1/05/2016	10:42	Not Active	1463.00	4.40	
Tim Lewis	1/05/2016	10:42	1/05/2016	11:42	Not Active	1502.00	4.10	
Tim Lewis	1/05/2016	11:42	1/05/2016	12:00	Not Active	1457.00	5.10	
Tim Lewis	1/05/2016	12:00	1/05/2016	13:00	Not Active	1410.00	5.20	
Tim Lewis	1/05/2016	13:00	1/05/2016	13:59	Not Active	1386.00	4.70	
Patrick Lyne	1/05/2016	14:00	1/05/2016	14:58	Not Active	1401.00	4.10	
Patrick Lyne	1/05/2016	14:58	1/05/2016	16:01	Not Active	1450.00	5.20	
Patrick Lyne	1/05/2016	16:01	1/05/2016	17:02	Not Active	1418.00	5.40	
Patrick Lyne	1/05/2016	17:02	1/05/2016	18:01	Not Active	1414.00	5.30	
Patrick Lyne	1/05/2016	18:01	1/05/2016	18:14	Not Active	1425.00	5.10	
Patrick Lyne	1/05/2016	18:14	1/05/2016	18:52	Not Active	1421.00	5.00	
Patrick Lyne	1/05/2016	18:52	1/05/2016	20:23	Not Active	1404.00	5.10	
Patrick Lyne	1/05/2016	20:23	1/05/2016	20:58	Not Active	1330.00	5.20	
Patrick Lyne	1/05/2016	20:58	1/05/2016	21:50	Not Active	1323.00	5.70	Prewatch
Patrick Lyne	1/05/2016	21:50	1/05/2016	22:23	Soft Start	1309.00	4.60	Soft Start
Patrick Lyne	1/05/2016	22:23	1/05/2016	23:26	Full Power	1284.00	4.30	Full Power
Patrick Lyne	1/05/2016	23:26	2/05/2016	00:11	Full Power	1234.00	5.00	
Patrick Lyne	2/05/2016	00:11	2/05/2016	01:06	Full Power	1228.00	4.90	
Patrick Lyne	2/05/2016	01:06	2/05/2016	02:00	Full Power	1233.00	4.40	
Tim Lewis	2/05/2016	02:00	2/05/2016	02:44	Full Power	1291.00	5.00	
Tim Lewis	2/05/2016	02:44	2/05/2016	03:37	Not Active	1265.00	5.10	
Tim Lewis	2/05/2016	04:01	2/05/2016	04:14	Not Active	1172.00	5.00	
Tim Lewis	2/05/2016	04:14	2/05/2016	05:00	Not Active	1183.00	4.90	
Tim Lewis	2/05/2016	05:00	2/05/2016	06:00	Not Active	1236.00	4.50	
Tim Lewis	2/05/2016	06:00	2/05/2016	06:33	Soft Start	1323.00	4.50	
Tim Lewis	2/05/2016	06:33	2/05/2016	07:25	Full Power	1325.00	4.50	
Scott Sheehan	2/05/2016	07:25	2/05/2016	07:45	Full Power	1269.00	5.10	
Tim Lewis	2/05/2016	07:45	2/05/2016	08:45	Full Power	1264.10	4.50	
Tim Lewis	2/05/2016	08:45	2/05/2016	09:45	Full Power	1221.00	4.70	
Tim Lewis	2/05/2016	09:45	2/05/2016	10:45	Full Power	1228.10	4.50	
Tim Lewis	2/05/2016	10:45	2/05/2016	11:07	Full Power	1245.00	5.20	
Tim Lewis	2/05/2016	11:07	2/05/2016	11:26	Not Active	1273.00	4.60	
Tim Lewis	2/05/2016	11:26	2/05/2016	12:31	Not Active	1248.00	6.00	
Tim Lewis	2/05/2016	13:02	2/05/2016	13:59	Not Active	1387.00	5.10	
Patrick Lyne	2/05/2016	14:00	2/05/2016	15:00	Not Active	1484.00	5.40	
Patrick Lyne	2/05/2016	15:00	2/05/2016	16:00	Not Active	1610.00	5.30	
Patrick Lyne	2/05/2016	16:00	2/05/2016	17:00	Not Active	1788.00	5.30	
Patrick Lyne	2/05/2016	17:00	2/05/2016	18:04	Not Active	2016.00	5.20	
Patrick Lyne	2/05/2016	18:04	2/05/2016	19:21	Not Active	2323.00	5.10	
Patrick Lyne	2/05/2016	19:21	2/05/2016	20:36	Not Active	2961.00	5.30	
Patrick Lyne	2/05/2016	20:36	2/05/2016	21:22	Not Active	3216.00	5.30	
Patrick Lyne	2/05/2016	23:08	2/05/2016	23:09	Not Active	3337.00	5.40	9:45 cable rubbing
Patrick Lyne	2/05/2016	23:09	3/05/2016	00:26	Not Active	3337.00	5.40	9:45 cable rubbing
Patrick Lyne	3/05/2016	00:26	3/05/2016	01:08	Not Active	3372.00	4.50	
Patrick Lyne	3/05/2016	01:08	3/05/2016	02:00	Not Active	3379.00	4.50	Streamer over to port side - current?
Tim Lewis	3/05/2016	02:00	3/05/2016	02:30	Not Active	3380.00	4.90	
Tim Lewis	3/05/2016	02:30	3/05/2016	03:00	Not Active	3350.00	5.00	
Tim Lewis	3/05/2016	03:00	3/05/2016	03:18	Not Active	3367.00	5.20	
Tim Lewis	3/05/2016	03:18	3/05/2016	03:49	Soft Start	3369.00	4.90	
Tim Lewis	3/05/2016	03:49	3/05/2016	04:49	Full Power	3352.00	4.80	
Tim Lewis	3/05/2016	04:49	3/05/2016	05:00	Full Power	3353.00	4.90	
Tim Lewis	3/05/2016	05:00	3/05/2016	06:00	Full Power	3349.00	5.00	
Tim Lewis	3/05/2016	06:00	3/05/2016	07:00	Full Power	3322.00	4.60	
Becky Lindsay	3/05/2016	07:00	3/05/2016	07:45	Full Power	3287.00	4.40	
Tim Lewis	3/05/2016	07:45	3/05/2016	08:00	Full Power	3265.10	4.40	
Tim Lewis	3/05/2016	08:00	3/05/2016	09:00	Full Power	3258.00	4.30	
Tim Lewis	3/05/2016	09:00	3/05/2016	09:36	Full Power	3169.00	4.30	
Tim Lewis	3/05/2016	09:36	3/05/2016	10:36	Not Active	3095.00	4.10	
Tim Lewis	3/05/2016	10:36	3/05/2016	10:43	Not Active	2868.00	4.00	
Tim Lewis	3/05/2016	10:43	3/05/2016	10:51	Testing	2826.00	4.00	
Tim Lewis	3/05/2016	10:51	3/05/2016	11:51	Not Active	2754.00	4.20	
Tim Lewis	3/05/2016	11:51	3/05/2016	12:51	Not Active	3047.10	5.10	

Tim Lewis	3/05/2016	12:51	3/05/2016	13:00	Not Active	3190.00	5.10	
Tim Lewis	3/05/2016	13:00	3/05/2016	13:59	Not Active	3206.00	5.10	
Patrick Lyne	3/05/2016	14:00	3/05/2016	14:24	Not Active	3241.00	5.80	
Patrick Lyne	3/05/2016	14:24	3/05/2016	15:02	Not Active	3241.00	5.60	Prewatch
Patrick Lyne	3/05/2016	15:02	3/05/2016	15:35	Soft Start	3211.00	4.40	Soft Start
Patrick Lyne	3/05/2016	15:35	3/05/2016	16:35	Full Power	3135.00	4.60	Full Volume
Patrick Lyne	3/05/2016	16:35	3/05/2016	17:35	Full Power	2862.00	4.90	
Patrick Lyne	3/05/2016	17:35	3/05/2016	18:40	Full Power	2369.00	4.50	
Patrick Lyne	3/05/2016	18:40	3/05/2016	19:35	Full Power	2079.00	4.50	
Patrick Lyne	3/05/2016	19:35	3/05/2016	20:26	Full Power	1904.00	4.50	
Patrick Lyne	3/05/2016	20:26	3/05/2016	21:16	Full Power	1747.00	4.50	
Patrick Lyne	3/05/2016	21:16	3/05/2016	22:51	Full Power	1641.00	4.70	
Patrick Lyne	3/05/2016	22:51	3/05/2016	23:31	Full Power	1490.00	4.40	
Patrick Lyne	3/05/2016	23:31	4/05/2016	00:41	Full Power	1416.00	4.00	
Patrick Lyne	4/05/2016	00:41	4/05/2016	01:03	Full Power	1342.00	4.30	
Patrick Lyne	4/05/2016	01:03	4/05/2016	02:00	Full Power	1307.00	4.10	
Tim Lewis	4/05/2016	02:00	4/05/2016	03:00	Full Power	1255.00	3.90	
Tim Lewis	4/05/2016	03:00	4/05/2016	04:00	Full Power	1246.10	4.10	
Tim Lewis	4/05/2016	04:00	4/05/2016	05:00	Full Power	1200.00	3.90	
Tim Lewis	4/05/2016	05:00	4/05/2016	06:00	Full Power	1195.00	3.90	
Tim Lewis	4/05/2016	06:00	4/05/2016	07:00	Full Power	1183.00	4.00	
Tim Lewis	4/05/2016	07:00	4/05/2016	07:10	Full Power	1202.00	3.70	
Scott Sheehan	4/05/2016	07:10	4/05/2016	07:41	Full Power	1206.00	3.60	
Tim Lewis	4/05/2016	07:41	4/05/2016	08:00	Full Power	1274.00	4.10	
Tim Lewis	4/05/2016	08:00	4/05/2016	09:00	Full Power	1238.00	3.80	
Tim Lewis	4/05/2016	09:00	4/05/2016	10:02	Full Power	1244.00	3.70	
Tim Lewis	4/05/2016	10:02	4/05/2016	10:38	Full Power	1268.00	3.30	
Scott Sheehan	4/05/2016	10:38	4/05/2016	10:50	Full Power	1369.00	3.40	
Tim Lewis	4/05/2016	10:50	4/05/2016	11:00	Full Power	1382.10	3.70	
Tim Lewis	4/05/2016	11:00	4/05/2016	12:00	Full Power	1390.00	3.20	
Tim Lewis	4/05/2016	12:00	4/05/2016	13:00	Full Power	1336.00	3.60	
Tim Lewis	4/05/2016	13:00	4/05/2016	13:59	Full Power	1359.00	3.30	
Patrick Lyne	4/05/2016	14:00	4/05/2016	14:46	Full Power	1381.00	3.60	
Patrick Lyne	4/05/2016	14:46	4/05/2016	16:24	Full Power	1401.00	3.70	
Patrick Lyne	4/05/2016	16:24	4/05/2016	17:00	Full Power	1426.00	3.90	
Patrick Lyne	4/05/2016	17:00	4/05/2016	18:18	Full Power	1425.00	4.00	
Patrick Lyne	4/05/2016	18:18	4/05/2016	19:18	Full Power	1424.00	3.80	
Patrick Lyne	4/05/2016	19:18	4/05/2016	20:33	Full Power	1437.00	4.20	
Patrick Lyne	4/05/2016	20:33	4/05/2016	21:11	Full Power	1450.00	3.80	
Patrick Lyne	4/05/2016	21:11	4/05/2016	22:08	Full Power	1381.00	4.10	
Patrick Lyne	4/05/2016	22:08	4/05/2016	23:11	Full Power	1372.00	4.50	
Patrick Lyne	4/05/2016	23:11	5/05/2016	00:02	Full Power	1409.00	4.00	
Patrick Lyne	5/05/2016	00:02	5/05/2016	01:10	Full Power	1483.00	3.90	
Patrick Lyne	5/05/2016	01:10	5/05/2016	01:59	Full Power	1513.00	4.00	
Patrick Lyne	5/05/2016	01:59	5/05/2016	02:00	Full Power	1541.00	3.60	
Tim Lewis	5/05/2016	02:00	5/05/2016	03:00	Full Power	1541.00	3.60	
Tim Lewis	5/05/2016	03:00	5/05/2016	03:40	Full Power	1555.00	3.90	
Tim Lewis	5/05/2016	03:40	5/05/2016	04:30	Full Power	1525.00	4.10	
Tim Lewis	5/05/2016	04:30	5/05/2016	04:40	Full Power	1553.00	4.70	
Tim Lewis	5/05/2016	04:40	5/05/2016	05:35	Not Active	1571.00	4.00	Shutdown, whales in MZ (visual)
Tim Lewis	5/05/2016	05:35	5/05/2016	06:10	Soft Start	1665.00	2.80	
Tim Lewis	5/05/2016	06:10	5/05/2016	06:50	Full Power	1691.00	3.70	
Tim Lewis	5/05/2016	06:50	5/05/2016	07:23	Full Power	1737.00	4.00	
Scott Sheehan	5/05/2016	07:23	5/05/2016	07:40	Full Power	1748.00	4.20	
Tim Lewis	5/05/2016	07:40	5/05/2016	07:45	Full Power	1716.00	4.00	Scott > Tim
Tim Lewis	5/05/2016	07:45	5/05/2016	08:32	Not Active	1709.00	4.40	Shutdown - SWs in 2km MZ (acoustically)
Tim Lewis	5/05/2016	08:32	5/05/2016	09:00	Not Active	1732.10	4.40	Individual whale
Tim Lewis	5/05/2016	09:00	5/05/2016	10:00	Not Active	1745.00	4.60	
Tim Lewis	5/05/2016	10:00	5/05/2016	11:00	Not Active	1734.00	5.00	
Tim Lewis	5/05/2016	11:00	5/05/2016	12:00	Not Active	1689.00	5.00	
Tim Lewis	5/05/2016	12:00	5/05/2016	12:52	Not Active	1674.00	4.70	
Tim Lewis	5/05/2016	12:52	5/05/2016	13:30	Soft Start	1714.00	3.80	
Tim Lewis	5/05/2016	13:30	5/05/2016	13:59	Full Power	1749.00	4.60	
Patrick Lyne	5/05/2016	14:00	5/05/2016	15:35	Full Power	1700.00	4.30	
Patrick Lyne	5/05/2016	15:35	5/05/2016	16:07	Full Power	1766.00	4.50	
Patrick Lyne	5/05/2016	16:07	5/05/2016	17:03	Full Power	1781.00	3.80	
Patrick Lyne	5/05/2016	17:03	5/05/2016	18:00	Full Power	1841.00	3.80	
Patrick Lyne	5/05/2016	18:00	5/05/2016	19:03	Full Power	1901.00	4.70	
Patrick Lyne	5/05/2016	19:03	5/05/2016	20:00	Full Power	1943.00	4.70	
Patrick Lyne	5/05/2016	20:00	5/05/2016	21:08	Full Power	1966.00	4.10	
Patrick Lyne	5/05/2016	21:08	5/05/2016	22:16	Full Power	2064.00	4.40	
Patrick Lyne	5/05/2016	22:16	5/05/2016	22:30	Full Power	2080.00	5.00	
Patrick Lyne	5/05/2016	22:30	5/05/2016	23:31	Not Active	2095.00	4.80	Source Stopped
Patrick Lyne	5/05/2016	23:31	6/05/2016	00:14	Not Active	2104.00	5.00	
Patrick Lyne	6/05/2016	00:14	6/05/2016	01:00	Not Active	2155.00	3.50	
Patrick Lyne	6/05/2016	01:00	6/05/2016	01:22	Not Active	2184.00	3.90	
Patrick Lyne	6/05/2016	01:22	6/05/2016	02:00	Not Active	2195.00	4.40	
Tim Lewis	6/05/2016	02:00	6/05/2016	03:00	Not Active	2153.00	3.50	
Tim Lewis	6/05/2016	03:00	6/05/2016	04:00	Not Active	2119.00	3.60	
Tim Lewis	6/05/2016	04:00	6/05/2016	04:55	Not Active	2104.00	4.30	
Tim Lewis	6/05/2016	04:55	6/05/2016	05:02	Testing	2082.00	4.40	
Tim Lewis	6/05/2016	05:02	6/05/2016	06:00	Not Active	2062.00	4.40	
Tim Lewis	6/05/2016	06:00	6/05/2016	07:02	Not Active	1990.00	4.80	

Tim Lewis	6/05/2016	07:02	6/05/2016	07:16	Not Active	1897.00	4.70	
Scott Sheehan	6/05/2016	07:16	6/05/2016	07:45	Not Active	1882.00	4.40	
Tim Lewis	6/05/2016	07:45	6/05/2016	08:35	Not Active	1859.00	4.70	
Tim Lewis	6/05/2016	08:35	6/05/2016	08:48	Not Active	1907.00	4.70	
Tim Lewis	6/05/2016	08:48	6/05/2016	09:23	Soft Start	1932.00	3.70	
Tim Lewis	6/05/2016	09:23	6/05/2016	10:00	Full Power	1970.00	4.60	1 x 150 cu in gun disabled for SS & line.
Tim Lewis	6/05/2016	10:00	6/05/2016	11:30	Full Power	1981.00	4.90	
Tim Lewis	6/05/2016	11:30	6/05/2016	12:00	Full Power	2019.00	4.30	
Tim Lewis	6/05/2016	12:00	6/05/2016	13:00	Full Power	2017.00	4.50	
Tim Lewis	6/05/2016	13:00	6/05/2016	13:52	Full Power	1919.00	4.90	
Tim Lewis	6/05/2016	13:52	6/05/2016	13:59	Not Active	1905.00	4.70	
Patrick Lyne	6/05/2016	14:00	6/05/2016	15:06	Not Active	1881.00	4.80	
Patrick Lyne	6/05/2016	15:06	6/05/2016	16:09	Not Active	1866.00	4.50	
Patrick Lyne	6/05/2016	16:09	6/05/2016	17:26	Not Active	1911.00	4.20	
Patrick Lyne	6/05/2016	17:26	6/05/2016	18:20	Not Active	1944.00	4.40	
Patrick Lyne	6/05/2016	18:20	6/05/2016	19:29	Not Active	1958.00	4.90	
Patrick Lyne	6/05/2016	19:29	6/05/2016	20:44	Not Active	1985.00	4.40	
Patrick Lyne	6/05/2016	20:44	6/05/2016	21:15	Not Active	2044.00	4.40	
Patrick Lyne	6/05/2016	21:15	6/05/2016	21:49	Not Active	2071.00	4.40	Prewatch
Patrick Lyne	6/05/2016	21:49	6/05/2016	22:23	Soft Start	2069.00	4.60	Soft Start
Patrick Lyne	6/05/2016	22:23	6/05/2016	23:19	Full Power	2078.00	4.80	Full Power SOL
Patrick Lyne	6/05/2016	23:19	7/05/2016	00:01	Full Power	2094.00	4.20	
Patrick Lyne	7/05/2016	00:01	7/05/2016	02:00	Full Power	2086.00	4.60	
Tim Lewis	7/05/2016	02:00	7/05/2016	03:00	Full Power	2210.00	4.40	
Tim Lewis	7/05/2016	03:00	7/05/2016	04:00	Full Power	2326.00	4.40	
Tim Lewis	7/05/2016	04:00	7/05/2016	05:00	Full Power	2439.00	4.30	
Tim Lewis	7/05/2016	05:00	7/05/2016	06:00	Full Power	2564.00	4.20	
Tim Lewis	7/05/2016	06:00	7/05/2016	07:00	Full Power	2756.00	4.20	
Tim Lewis	7/05/2016	07:00	7/05/2016	07:19	Full Power	2862.00	4.60	
Scott Sheehan	7/05/2016	07:19	7/05/2016	07:54	Full Power	2946.00	4.20	
Tim Lewis	7/05/2016	07:54	7/05/2016	09:00	Not Active	3094.00	4.30	
Tim Lewis	7/05/2016	09:00	7/05/2016	10:00	Not Active	3238.00	4.90	
Tim Lewis	7/05/2016	10:00	7/05/2016	10:46	Not Active	3020.00	4.00	
Tim Lewis	7/05/2016	10:46	7/05/2016	11:00	Not Active	2928.00	4.60	
Tim Lewis	7/05/2016	11:00	7/05/2016	12:00	Not Active	2884.10	3.90	
Tim Lewis	7/05/2016	12:00	7/05/2016	13:08	Not Active	2685.00	3.90	
Tim Lewis	7/05/2016	13:08	7/05/2016	13:59	Not Active	2492.00	4.30	
Patrick Lyne	7/05/2016	14:00	7/05/2016	14:41	Not Active	2514.00	4.30	
Patrick Lyne	7/05/2016	14:41	7/05/2016	15:12	Not Active	2626.00	4.30	
Patrick Lyne	7/05/2016	15:12	7/05/2016	16:01	Not Active	2707.00	3.90	Sperm whale
Patrick Lyne	7/05/2016	16:01	7/05/2016	17:10	Not Active	2858.00	4.30	Sperm whale gone
Patrick Lyne	7/05/2016	17:10	7/05/2016	18:15	Not Active	2839.00	4.40	
Patrick Lyne	7/05/2016	18:15	7/05/2016	19:21	Not Active	2654.00	4.10	
Patrick Lyne	7/05/2016	19:21	7/05/2016	20:13	Not Active	2484.00	4.20	
Patrick Lyne	7/05/2016	20:13	7/05/2016	20:59	Not Active	2542.00	4.50	
Patrick Lyne	7/05/2016	21:28	7/05/2016	22:10	Not Active	22790.00	4.30	Prewatch
Patrick Lyne	7/05/2016	22:10	7/05/2016	22:45	Soft Start	2862.00	4.40	Soft Start
Patrick Lyne	7/05/2016	22:45	7/05/2016	23:18	Full Power	2981.00	3.80	Full Power
Patrick Lyne	7/05/2016	23:18	8/05/2016	00:08	Full Power	3149.00	4.30	Knocking on hydrophone
Patrick Lyne	8/05/2016	00:08	8/05/2016	01:03	Full Power	3266.00	4.10	
Patrick Lyne	8/05/2016	01:03	8/05/2016	02:00	Full Power	3297.00	5.00	
Tim Lewis	8/05/2016	02:00	8/05/2016	03:00	Full Power	3317.00	5.00	
Tim Lewis	8/05/2016	03:00	8/05/2016	04:00	Full Power	3386.00	4.90	
Tim Lewis	8/05/2016	04:00	8/05/2016	05:00	Full Power	3418.00	4.60	
Tim Lewis	8/05/2016	05:00	8/05/2016	06:00	Full Power	3442.00	5.30	
Tim Lewis	8/05/2016	06:00	8/05/2016	07:20	Full Power	3447.00	4.80	
Scott Sheehan	8/05/2016	07:20	8/05/2016	07:55	Full Power	3449.00	4.40	
Tim Lewis	8/05/2016	07:55	8/05/2016	09:00	Full Power	3448.00	3.80	
Tim Lewis	8/05/2016	09:00	8/05/2016	10:00	Full Power	3448.00	4.70	
Tim Lewis	8/05/2016	10:00	8/05/2016	11:30	Full Power	3447.00	4.90	
Scott Sheehan	8/05/2016	11:30	8/05/2016	11:50	Full Power	3442.00	4.80	
Tim Lewis	8/05/2016	11:50	8/05/2016	13:00	Full Power	3442.00	5.20	
Tim Lewis	8/05/2016	13:00	8/05/2016	13:59	Full Power	3443.00	5.20	
Patrick Lyne	8/05/2016	14:00	8/05/2016	14:02	Full Power	3430.00	4.60	
Patrick Lyne	8/05/2016	14:02	8/05/2016	15:00	Full Power	3430.00	4.60	
Patrick Lyne	8/05/2016	15:00	8/05/2016	16:19	Full Power	3109.00	4.70	
Patrick Lyne	8/05/2016	16:19	8/05/2016	17:04	Full Power	2856.00	4.90	
Patrick Lyne	8/05/2016	17:04	8/05/2016	18:10	Full Power	2713.00	4.50	
Patrick Lyne	8/05/2016	18:10	8/05/2016	19:22	Full Power	2798.00	5.30	
Patrick Lyne	8/05/2016	19:22	8/05/2016	20:05	Full Power	3018.00	5.40	
Patrick Lyne	8/05/2016	20:05	8/05/2016	21:07	Full Power	3035.00	4.60	
Patrick Lyne	8/05/2016	21:07	8/05/2016	22:40	Full Power	2801.00	5.00	
Patrick Lyne	8/05/2016	22:40	8/05/2016	23:20	Full Power	2773.00	5.10	
Patrick Lyne	8/05/2016	23:20	9/05/2016	00:16	Full Power	2952.00	5.10	
Patrick Lyne	9/05/2016	00:16	9/05/2016	01:02	Full Power	3185.00	5.00	
Patrick Lyne	9/05/2016	01:02	9/05/2016	02:00	Full Power	3370.00	5.10	
Tim Lewis	9/05/2016	02:00	9/05/2016	03:03	Full Power	3210.00	5.20	
Tim Lewis	9/05/2016	03:03	9/05/2016	04:00	Full Power	3128.00	5.10	
Tim Lewis	9/05/2016	04:00	9/05/2016	05:03	Full Power	3084.00	5.00	
Tim Lewis	9/05/2016	05:03	9/05/2016	06:00	Full Power	3125.00	5.00	
Tim Lewis	9/05/2016	06:00	9/05/2016	07:00	Full Power	3054.00	5.10	
Tim Lewis	9/05/2016	07:00	9/05/2016	07:22	Full Power	3083.00	4.50	
Scott Sheehan	9/05/2016	07:22	9/05/2016	07:52	Full Power	3687.00	4.90	

Tim Lewis	9/05/2016	07:52	9/05/2016	09:00	Full Power	4601.00	4.70	
Tim Lewis	9/05/2016	09:00	9/05/2016	10:00	Full Power	4807.00	4.70	
Tim Lewis	9/05/2016	10:00	9/05/2016	11:00	Full Power	4808.00	4.60	
Tim Lewis	9/05/2016	11:00	9/05/2016	12:00	Full Power	4806.00	4.50	
Tim Lewis	9/05/2016	12:00	9/05/2016	13:00	Full Power	4805.00	4.30	
Tim Lewis	9/05/2016	13:00	9/05/2016	13:59	Full Power	4804.00	4.40	
Patrick Lyne	9/05/2016	14:00	9/05/2016	14:49	Full Power	4804.00	4.40	
Patrick Lyne	9/05/2016	14:49	9/05/2016	15:18	Not Active	4800.00	4.30	Shutdown for AD48
Patrick Lyne	9/05/2016	15:18	9/05/2016	16:43	Not Active	4802.00	4.60	Cont'd shutdown for AD49
Patrick Lyne	9/05/2016	16:43	9/05/2016	17:20	Soft Start	4801.00	3.90	Soft Start
Patrick Lyne	9/05/2016	17:20	9/05/2016	18:17	Full Power	4799.00	4.50	Full Power
Patrick Lyne	9/05/2016	18:17	9/05/2016	19:13	Full Power	4798.00	4.00	
Patrick Lyne	9/05/2016	19:13	9/05/2016	20:04	Full Power	4801.00	4.40	
Patrick Lyne	9/05/2016	20:04	9/05/2016	20:46	Full Power	4793.00	4.00	
Patrick Lyne	9/05/2016	20:46	9/05/2016	21:00	Not Active	4794.00	4.60	EOL

## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 1 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 2/04/2016	UTC Time of First Sighting: 04:02	On off lease: In Transit
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Common bottlenose dolphin [Tursiops truncatus]	Confidence level of identification: Probable	Sighting Cue: Body
Initial Observation Method: Eye	Water Depth (m): 0.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults: 3	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
1.1	04:02	50	65	Swimming	26° 46' 54.000" S	51° 17' 37.800" E	0	0	50.0	Eye/estimate	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 2/8 (25%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 2: Smooth	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: NE	Swell Height: 0 - 1 m

Name: Ms Becky - Scott	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 2 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 2/04/2016	UTC Time of First Sighting: 05:39	On off lease: In Transit
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Other	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Common bottlenose dolphin [Tursiops truncatus]	Confidence level of identification: Probable	Sighting Cue: Body
Initial Observation Method: Eye	Water Depth (m): 0.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
2.1	05:39	40	112	Swimming	26° 58' 13.800" S	153° 44' 10.200" E	0	0	40.0	Eye/estimate	Other	Other

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 2/8 (25%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 2: Smooth	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: NE	Swell Height: 0 - 1 m

Name: Ms Becky - Scott	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 1
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 3/04/2016	UTC Time of First Sighting: 17:26	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 4793.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves: 0		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	17:26	4000	45	Other	27° 17' 31.020" S	156° 33' 32.400" E	70	272	4048.1	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 2
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/04/2016	UTC Time of First Sighting: 09:14	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 3245.00	Total Number: 3	Certainty in Total Number: Definite
Number of Adults: 3	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	09:14	3000	165	Vocalising - clicking	27° 22' 20.280" S	159° 47' 25.800" E	70	271	3020.0	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 3
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 6/04/2016	UTC Time of First Sighting: 23:08	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_1	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Unidentifiable dolphin [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1944.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	23:08	800	45	Vocalising - whistling	27° 25' 29.712" S	160° 51' 09.612" E	730	225	1530.0	Estimate by PAM Operator by Signal Strength	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 4
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/04/2016	UTC Time of First Sighting: 02:56	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_1	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? Yes	Reason: High seastate

Species Category: Dolphin	Species: Unidentifiable dolphin [n/a]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 3245.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	02:56	4000	0	Vocalising - whistling	27° 23' 01.932" S	161° 09' 01.512" E	70	270	4000.6	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 4/8 (50%%) of sky covered	Visibility: More than 5 Km
Glare: 2 - Medium	Beaufort Sea State: 4: Moderate	Wind Direction: SE
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 1 - 2 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 5
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/04/2016	UTC Time of First Sighting: 09:28	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_1	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1510.00	Total Number: 7	Certainty in Total Number: Approximate
Number of Adults: 7	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	09:28	855	27	Vocalising - clicking	27° 23' 05.172" S	161° 42' 27.000" E	70	275	883.6	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 6
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/04/2016	UTC Time of First Sighting: 17:34	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWobs_1	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified pilot whale [Globicephala sp.]	Confidence level of identification: Probable	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1416.00	Total Number: 5	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	17:34	1200	30	Vocalising - clicking & whistling	27° 22' 58.116" S	162° 23' 47.868" E	70	265	1241.5	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 7
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/04/2016	UTC Time of First Sighting: 07:45	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line7_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Unidentifiable dolphin [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1530.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	07:45	3000	180	Vocalising - whistling	27° 22' 02.208" S	161° 40' 26.436" E	70	27	3062.5	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 4/8 (50%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 2: Smooth	Wind Direction: S
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 8
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/04/2016	UTC Time of First Sighting: 09:41	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line7_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Dolphin	Species: Unidentifiable dolphin [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1572.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	09:41	4000	0	Vocalising - whistling	27° 29' 53.952" S	161° 35' 31.128" E	70	36	3943.6	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 9
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/04/2016	UTC Time of First Sighting: 22:33	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1440.10	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	22:33	5213	300	Vocalising - clicking	27° 12' 30.996" S	161° 49' 48.828" E	70	126	5282.6	Localized by Software	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 4 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/04/2016	UTC Time of First Sighting: 22:51	On off lease: On survey area
Vessel: Kaiei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1572.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
4.1	22:51	1829	315	Milling	27° 11' 44.736" S	161° 48' 28.368" E	175	110	1989.0	Reticule binoculars	Line change or turn	No source
Resighting												
4.2	22:54	1592	315	Milling	0° 00' 00.000" N	0° 00' 00.000" E	175	100	1738	Reticule binoculars	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 5 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 00:51	On off lease: On survey area
Vessel: Kaiei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1440.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
5.1	00:51	3364	220	Swimming	27° 16' 35.760" S	161° 41' 35.412" E	175	127	3377.7	Reticule binoculars	Online - acquiring data	Full power
Resighting												
5.2	01:11	2500	200	Swimming	27° 18' 16.200" S	161° 41' 13.200" E	2500	200	0	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 6 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 01:02	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1468.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
6.1	01:02	2618	220	Milling	27° 17' 45.600" S	161° 41' 33.828" E	175	22	2785.0	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 10
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 01:03	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1466.10	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	01:03	4900	283	Vocalising - clicking	27° 17' 45.852" S	161° 41' 33.612" E	70	18	4906.6	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 5 PAM Detection Number: 11
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 01:07	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1470.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
5.1	01:07	4633	225	Vocalising - clicking	27° 17' 59.532" S	161° 41' 24.900" E	70	30	4700.6	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 7 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 01:08	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line5_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1440.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
7.1	01:08	3400	120	Swimming	27° 18' 08.496" S	161° 41' 10.212" E	175	130	3227.8	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 8 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 01:33	On off lease: On survey area
Vessel: Kaiei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1498.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
8.1	01:33	2491	340	Milling	27° 19' 30.648" S	161° 40' 28.164" E	175	22	2363.9	Reticule binoculars	Offline	No source
Resighting												
8.2	01:48	2151	355	Milling	27° 20' 15.120" S	161° 39' 59.700" E	175	22	1997	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 2 - Medium	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 12
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 11:53	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1389.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	11:53	1030	15	Vocalising - clicking	27° 09' 58.068" S	161° 40' 41.052" E	70	121	1051.4	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 13
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 10/04/2016	UTC Time of First Sighting: 20:44	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1555.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	20:44	5766	293	Vocalising - clicking	26° 43' 17.040" S	161° 01' 29.028" E	70	124	5834.7	Localized by Software	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 14
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 11/04/2016	UTC Time of First Sighting: 01:42	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D1B-Line08_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Unidentifiable dolphin [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1644.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	01:42	750	102	Vocalising - whistling	26° 24' 24.012" S	160° 59' 07.008" E	70	193	754.5	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 6/8 (75%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 3: Slight	Wind Direction: NE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 15
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 11/04/2016	UTC Time of First Sighting: 08:51	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D1B-Line09_0	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1656.00	Total Number: 6	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	08:51	1172	297	Vocalising - clicking	26° 23' 58.092" S	160° 57' 28.692" E	70	82	1230.0	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 16
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 11/04/2016	UTC Time of First Sighting: 10:38	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Online - not acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1720.00	Total Number: 2	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	10:38	3000	280	Vocalising - clicking	26° 25' 29.712" S	160° 48' 15.480" E	70	84	3067.3	Estimate by PAM Operator by Signal Strength	Online - not acquiring data	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 17
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 11/04/2016	UTC Time of First Sighting: 11:07	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Online - not acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1742.00	Total Number: 5	Certainty in Total Number: Definite
Number of Adults: 0	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	11:07	682	19	Vocalising - clicking	26° 25' 27.948" S	160° 45' 50.688" E	70	320	648.7	Localized by Software	Online - not acquiring data	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 18
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 11/04/2016	UTC Time of First Sighting: 13:47	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Run in to line	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1719.00	Total Number: 7	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	13:47	1834	32	Vocalising - clicking	26° 30' 09.792" S	160° 42' 39.060" E	70	230	1900.7	Localized by Software	Run in to line	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 10 PAM Detection Number: 19
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 12/04/2016	UTC Time of First Sighting: 03:02	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1663.00	Total Number: 5	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
10.1	03:02	3000	125	Vocalising - clicking	27° 08' 42.828" S	161° 23' 47.220" E	70	340	3057.6	Localized by Software	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 8/8 (100%) of sky completely covered, no breaks	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 2: Smooth	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: NE	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 10 PAM Detection Number: 19
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 12/04/2016	UTC Time of First Sighting: 03:17	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1670.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
10.1	03:17	2618	140	Milling	27° 10' 05.844" S	161° 24' 16.236" E	0	0	2618.0	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 8/8 (100%) of sky completely covered. no breaks	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 2: Smooth	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: NE	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 20
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 12/04/2016	UTC Time of First Sighting: 04:32	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D3A-Line3_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Run in to Soft Start	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1635.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	04:32	2469	181	Vocalising - clicking	27° 16' 24.312" S	161° 26' 29.580" E	70	320	2522.2	Localized by Software	Run in to Soft Start	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 8/8 (100%) of sky completely covered. no breaks	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 2: Smooth	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: NE	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 11 PAM Detection Number: 21
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 13/04/2016	UTC Time of First Sighting: 04:24	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Binoculars	Water Depth (m): 1494.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
11.1	04:24	3000	200	Vocalising - clicking	27° 33' 15.372" S	161° 44' 31.920" E	70	55	3057.6	Estimate by PAM Operator by Signal Strength	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (okcas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 11 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 13/04/2016	UTC Time of First Sighting: 04:32	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Binoculars	Water Depth (m): 1454.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults: 3	Number of Calves: 0		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
11.1	04:32	3364	200	Milling	27° 33' 42.696" S	161° 43' 42.996" E	175	49	3518.1	Reticule binoculars	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 22
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 13/04/2016	UTC Time of First Sighting: 19:19	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? Yes	Reason: Dark

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1555.10	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	19:19	4000	270	Vocalising - clicking	27° 23' 05.172" S	161° 41' 09.960" E	70	268	3930.0	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: Less than 1 Km
Glare: 0 - None	Beaufort Sea State: 5 - Rough	Wind Direction: S
Wind Speed: 10 - 20 kts	Swell Direction: S	Swell Height: 1 - 2 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 13 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 22/04/2016	UTC Time of First Sighting: 03:45	On off lease: In Transit
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Indo-Pacific bottlenose dolphin [Tursiops aduncus]	Confidence level of identification: Certain	Sighting Cue: Dorsal Fin
Initial Observation Method: Eye	Water Depth (m): 4780.00	Total Number: 1	Certainty in Total Number: Definite
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
13.1	03:45	170	30	Swimming	26° 42' 54.360" S	153° 13' 38.316" E	0	0	170.0	Eye/estimate	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 2: Smooth	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: SE	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 14 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 22/04/2016	UTC Time of First Sighting: 21:13	On off lease: On survey area
Vessel: Kaiei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 2792.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves: 0		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
14.1	21:13	2151	110	Swimming	27° 16' 16.500" S	158° 13' 32.196" E	0	0	2151.0	Reticule binoculars	Offline	No source
Resighting												
14.2	21:20	970	140	Swimming	27° 16' 12.000" S	158° 13' 30.000" E	0	0	970	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 2: Smooth	Wind Direction: SW
Wind Speed: 0 - 10 kts	Swell Direction: SW	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 15 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 22/04/2016	UTC Time of First Sighting: 21:20	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 3010.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves: 1		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
15.1	21:20	1051	30	Swimming	27° 16' 18.300" S	158° 15' 24.084" E	0	0	1051.0	Reticule binoculars	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 2: Smooth	Wind Direction: SW
Wind Speed: 0 - 10 kts	Swell Direction: SW	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 16 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 23/04/2016	UTC Time of First Sighting: 03:10	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 3010.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
16.1	03:10	1051	110	Swimming	27° 18' 33.732" S	159° 56' 20.400" E	0	0	1051.0	Reticule binoculars	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SW
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 1 - 2 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 17 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 23/04/2016	UTC Time of First Sighting: 03:20	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 2656.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
17.1	03:20	739	0	Swimming	27° 18' 40.500" S	159° 59' 10.716" E	0	0	739.0	Reticule binoculars	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SW
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 1 - 2 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 18 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 23/04/2016	UTC Time of First Sighting: 21:12	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Dolphin	Species: Common bottlenose dolphin [Tursiops truncatus]	Confidence level of identification: Possible	Sighting Cue: Splash
Initial Observation Method: Eye	Water Depth (m): 1721.00	Total Number: 40	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
18.1	21:12	2620	111	Swimming	27° 22' 56.676" S	161° 13' 35.616" E	0	0	2620.0	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 4: Moderate	Wind Direction: S
Wind Speed: 10 - 20 kts	Swell Direction: S	Swell Height: 2 - 4 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 18 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 23/04/2016	UTC Time of First Sighting: 21:12	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Unidentified	Species: Unidentified "blackfish" [n/a]	Confidence level of identification: Certain	Sighting Cue: Splash
Initial Observation Method: Eye	Water Depth (m): 1721.00	Total Number: 30	Certainty in Total Number: Approximate
Number of Adults: 30	Number of Calves: 0		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
18.1	21:12	2620	111	Swimming	27° 22' 56.676" S	161° 13' 35.622" E	0	0	2620.0	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 4: Moderate	Wind Direction: S
Wind Speed: 10 - 20 kts	Swell Direction: S	Swell Height: 2 - 4 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 19 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 24/04/2016	UTC Time of First Sighting: 21:18	On off lease: On survey area
Vessel: Kaiei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1397.00	Total Number: 1	Certainty in Total Number: Definite
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
19.1	21:18	1410	310	Swimming	27° 06' 41.832" S	162° 26' 44.664" E	0	0	1410.0	Reticule binoculars	Offline	No source
Resighting												
19.2	21:21	900	340	Dive	27° 06' 41.838" S	162° 46' 44.664" E	0	0	900	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 3: Slight	Wind Direction: S
Wind Speed: 0 - 10 kts	Swell Direction: SW	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 20 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 25/04/2016	UTC Time of First Sighting: 04:30	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Possible	Sighting Cue: Splash
Initial Observation Method: Eye	Water Depth (m): 1628.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
20.1	04:30	1000	270	Swimming	26° 25' 36.084" S	161° 02' 25.296" E	0	0	1000.0	Eye/estimate	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 4/8 (50%%) of sky covered	Visibility: More than 5 Km
Glare: 2 - Medium	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: SW	Swell Height: 2 - 4 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 23
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 30/04/2016	UTC Time of First Sighting: 04:25	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason:

Species Category: Unidentified	Species: Unidentified "blackfish" [n/a]	Confidence level of identification: Probable	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1671.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	04:25	3000	40	Vocalising - clicking	26° 25' 53.040" S	161° 04' 43.068" E	0	1	3000.0	Estimate by PAM Operator by Signal Strength	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 2 - Medium	Beaufort Sea State: 3: Slight	Wind Direction: E
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 24
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 30/04/2016	UTC Time of First Sighting: 15:39	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D2A-Line2_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1608.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	15:39	2256	31	Vocalising - clicking	26° 45' 28.008" S	161° 03' 41.292" E	70	180	2316.3	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 25
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 30/04/2016	UTC Time of First Sighting: 17:37	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: D2A-Line2_0	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1636.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	17:37	4701	30	Vocalising - clicking	26° 45' 34.200" S	161° 14' 05.100" E	70	270	4736.4	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 26
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 30/04/2016	UTC Time of First Sighting: 19:57	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Unidentified	Species: Unidentified "blackfish" [n/a]	Confidence level of identification: Probable	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1512.00	Total Number: 50	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	19:57	4000	65	Vocalising - whistling	26° 45' 59.940" S	161° 26' 35.988" E	70	31	3942.2	Estimate by PAM Operator by Signal Strength	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 0 - None	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 27
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 30/04/2016	UTC Time of First Sighting: 22:27	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: Delayed Soft Start
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1421.00	Total Number: 20	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	22:27	3360	3	Vocalising - clicking	26° 46' 58.044" S	161° 36' 59.580" E	70	270	3364.4	Localized by Software	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 4/8 (50%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 21 PAM Detection Number: 27
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 01:34	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: Gun test	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1370.00	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults: 3	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
21.1	01:34	1829	280	Milling	26° 42' 48.528" S	161° 50' 58.920" E	175	253	1675.0	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%) of sky covered or more, but not 8/8	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 22 PAM Detection Number: 27
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 01:36	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: Gun test	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1370.00	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
22.1	01:36	1051	70	Swimming	26° 42' 48.528" S	161° 50' 58.920" E	175	262	1222.7	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%) of sky covered or more, but not 8/8	Visibility: 2 - 3 Km
Glare: 0 - None	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 23 PAM Detection Number: 28
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 01:58	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: Gun test	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Binoculars	Water Depth (m): 1377.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
23.1	01:58	1410	100	Milling	26° 43' 11.424" S	161° 53' 15.540" E	175	300	1575.6	Reticule binoculars	Other	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 7/8 (87%) of sky covered or more, but not 8/8	Visibility: 2 - 3 Km
Glare: 0 - None	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 23 PAM Detection Number: 28
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 02:06	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: Gun test	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1370.10	Total Number: 2	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
23.1	02:06	550	195	Vocalising - clicking	26° 43' 27.660" S	161° 53' 42.360" E	70	135	518.6	Localized by Software	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 4/8 (50%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 29
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 02:44	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: Gun test	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Testing guns	Vessel Activity Prior to Sighting: Other	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1380.00	Total Number: 8	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	02:44	2800	280	Vocalising - clicking	26° 46' 19.848" S	161° 55' 04.368" E	70	200	2788.7	Localized by Software	Other	Testing guns

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 4/8 (50%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 24 PAM Detection Number: 30
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 06:05	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1389.00	Total Number: 6	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
24.1	06:05	2750	226	Vocalising - clicking	26° 56' 28.608" S	161° 46' 27.120" E	70	180	2701.8	Localized by Software	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 6/8 (75%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 24 PAM Detection Number: 30
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 06:18	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? Yes	Reason: High seastate

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Binoculars	Water Depth (m): 1394.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
24.1	06:18	1410	230	Milling	26° 57' 26.496" S	161° 46' 26.976" E	175	360	1528.4	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 6/8 (75%%) of sky covered	Visibility: More than 5 Km
Glare: 1 - Low	Beaufort Sea State: 4: Moderate	Wind Direction: E
Wind Speed: 10 - 20 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 31
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 08:39	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1408.00	Total Number: 2	Certainty in Total Number:
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	08:39	4250	220	Vocalising - clicking	27° 08' 07.800" S	161° 46' 27.048" E	70	180	4196.6	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 32
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 09:45	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified delphinid [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1453.00	Total Number: 50	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	09:45	1500	110	Vocalising - clicking & whistling	27° 12' 34.272" S	161° 46' 27.228" E	70	180	1477.5	Estimate by PAM Operator by Signal Strength	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 33
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 1/05/2016	UTC Time of First Sighting: 18:14	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified "blackfish" [n/a]	Confidence level of identification: Probable	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1421.00	Total Number: 20	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	18:14	739	10	Vocalising - clicking & whistling	27° 20' 13.020" S	162° 25' 33.312" E	70	180	808.0	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 34
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 2/05/2016	UTC Time of First Sighting: 11:21	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1255.10	Total Number: 14	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	11:21	5450	115	Vocalising - clicking	27° 25' 28.524" S	163° 18' 58.572" E	70	90	5386.6	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 35
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 2/05/2016	UTC Time of First Sighting: 13:15	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Dolphin	Species: Killer whale [Orcinus orca]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1407.00	Total Number: 6	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	13:15	2076	123	Vocalising - clicking & whistling	27° 25' 36.660" S	163° 31' 17.460" E	70	95	2014.5	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 36
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 4/05/2016	UTC Time of First Sighting: 14:09	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_2	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified "blackfish" [n/a]	Confidence level of identification: Possible	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 1391.00	Total Number: 12	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	14:09	3000	315	Vocalising - clicking & whistling	27° 22' 55.920" S	162° 31' 30.720" E	70	90	3049.9	Estimate by PAM Operator by Signal Strength	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 37
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/05/2016	UTC Time of First Sighting: 03:40	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_2	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1525.00	Total Number: 12	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	03:40	7300	248	Vocalising - clicking	27° 23' 05.028" S	161° 31' 35.508" E	70	270	7235.1	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 25 PAM Detection Number: 37
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/05/2016	UTC Time of First Sighting: 03:59	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_2	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 1520.00	Total Number: 12	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves: 0		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
25.1	03:59	3364	255	Milling	27° 23' 04.884" S	161° 30' 09.288" E	175	84	3537.0	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 38
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/05/2016	UTC Time of First Sighting: 06:50	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_2(b)	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1730.10	Total Number: 11	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	06:50	6100	282	Vocalising - clicking	27° 23' 03.840" S	161° 19' 03.612" E	70	270	6031.5	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 5/8 (62%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 39
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/05/2016	UTC Time of First Sighting: 08:32	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1716.00	Total Number: 1	Certainty in Total Number: Definite
Number of Adults: 1	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	08:32	1700	175	Vocalising - clicking	27° 24' 23.652" S	161° 11' 48.948" E	70	212	1644.6	Localized by Software	Line change or turn	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 40
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 5/05/2016	UTC Time of First Sighting: 12:47	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_3	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Run in to Soft Start	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1710.10	Total Number: 3	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	12:47	6149	349	Vocalising - clicking	27° 23' 04.308" S	161° 20' 08.988" E	70	270	6136.0	Localized by Software	Run in to Soft Start	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 26 PAM Detection Number: 41
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 6/05/2016	UTC Time of First Sighting: 01:20	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Line change or turn	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 2195.00	Total Number: 1	Certainty in Total Number: Definite
Number of Adults: 1	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
26.1	01:20	5000	128	Vocalising - clicking	27° 33' 21.852" S	160° 32' 15.828" E	70	0	5043.4	Estimate by PAM Operator by Signal Strength	Line change or turn	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 2/8 (25%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 26 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 6/05/2016	UTC Time of First Sighting: 01:42	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Body
Initial Observation Method: Eye	Water Depth (m): 2202.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults: 2	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
26.1	01:42	3364	100	Swimming	27° 34' 43.428" S	160° 32' 13.920" E	175	6	3380.7	Reticule binoculars	Offline	No source

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 2/8 (25%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 42
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 6/05/2016	UTC Time of First Sighting: 08:36	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: BV2A_0	Mitigation Undertaken: Delayed Soft Start
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Run in to Soft Start	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified delphinid [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 1909.10	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	08:36	2100	44	Vocalising - clicking	28° 00' 38.124" S	160° 39' 34.920" E	70	70	2037.3	Estimate by PAM Operator by Signal Strength	Run in to Soft Start	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 43
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/05/2016	UTC Time of First Sighting: 03:00	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_4	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 2326.00	Total Number: 9	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	03:00	5300	239	Vocalising - clicking	27° 22' 39.120" S	160° 14' 02.580" E	70	270	5240.1	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 27 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/05/2016	UTC Time of First Sighting: 03:44	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_4	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Binoculars	Water Depth (m): 2410.00	Total Number: 6	Certainty in Total Number: Approximate
Number of Adults: 0	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
27.1	03:44	2618	215	Milling	27° 22' 37.020" S	160° 10' 35.364" E	175	94	2712.3	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 3: Slight	Wind Direction: SE
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 44
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/05/2016	UTC Time of First Sighting: 10:33	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Unidentified	Species: Unidentified delphinid [n/a]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 2902.10	Total Number: 1	Certainty in Total Number: Approximate
Number of Adults: 1	Number of Calves: 0		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	10:33	1000	0	Vocalising - clicking	27° 15' 52.713" S	159° 51' 28.718" E	70	90	1002.4	Estimate by PAM Operator by Signal Strength	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 45
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 7/05/2016	UTC Time of First Sighting: 15:12	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Other	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 2707.00	Total Number: 1	Certainty in Total Number: Definite
Number of Adults: 1	Number of Calves:		

Note:

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	15:12	879	27	Vocalising - clicking	27° 22' 30.252" S	160° 00' 08.208" E	70	100	861.1	Localized by Software	Other	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 46
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 8/05/2016	UTC Time of First Sighting: 14:02	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_5	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 3430.00	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	14:02	3593	15		27° 20' 57.552" S	158° 30' 29.232" E	70	90	3575.5	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 28 PAM Detection Number:
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/05/2016	UTC Time of First Sighting: 06:18	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_5	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Blow
Initial Observation Method: Eye	Water Depth (m): 3052.00	Total Number: 6	Certainty in Total Number: Approximate
Number of Adults: 6	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
28.1	06:18	3364	307	Swimming	27° 18' 23.616" S	156° 58' 49.116" E	3516	97	6645.7	Reticule binoculars	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ocks): 3/8 (37%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 2: Smooth	Wind Direction: N
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 47
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/05/2016	UTC Time of First Sighting: 06:22	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_5	Mitigation Undertaken: No Action
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered? No	Reason: N/A

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: Other
Initial Observation Method: Other	Water Depth (m): 3076.10	Total Number: 2	Certainty in Total Number: Approximate
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	06:22	4300	296	Vocalising - clicking	27° 18' 24.180" S	156° 59' 02.166" E	70	270	4237.2	Localized by Software	Online - acquiring data	Full power

Weather Type: No phenomena - except clouds	Cloud Cover (ockas): 3/8 (37%%) of sky covered	Visibility: More than 5 Km
Glare: 3 - Bad	Beaufort Sea State: 2: Smooth	Wind Direction: N
Wind Speed: 0 - 10 kts	Swell Direction: E	Swell Height: 0 - 1 m

Name: Dr Tim Lewis	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 48
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/05/2016	UTC Time of First Sighting: 13:57	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line: EWmcs_5	Mitigation Undertaken: Shut Down
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 4806.00	Total Number: 2	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	13:57	6000	312	Vocalising - clicking	27° 17' 01.260" S	156° 20' 06.900" E	70	90	6052.2	Localized by Software	Online - acquiring data	Full power

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Cetacean Sighting Report</b>	Sighting Number: 0 PAM Detection Number: 49
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 9/05/2016	UTC Time of First Sighting: 15:18	On off lease: On survey area
Vessel: Kairei	Height of Observer above the Water: 12.5	Survey Line:	Mitigation Undertaken: Delayed Soft Start
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Were observations hampered?	Reason:

Species Category: Sperm Whale	Species: Sperm whale [Physeter macrocephalus]	Confidence level of identification: Certain	Sighting Cue: N/A
Initial Observation Method: Other	Water Depth (m): 4802.00	Total Number: 6	Certainty in Total Number: Definite
Number of Adults:	Number of Calves:		

**Note:**

If total number of adults/calves were unknown then 'Number of Adults' above has been intentionally left blank

Sightings	Observation Time	Distance to Cetaceans (m)	Bearing to Cetaceans	Behaviour	Vessel Latitude	Vessel Longitude	Distance of Observer to Source (m)	Bearing of Observer to Source	Distance of Cetaceans to Source (m)	Distance Calculated By	Vessel Activity	Source Status
0.1	15:18	1438	180	Vocalising - clicking	27° 16' 10.632" S	156° 13' 47.820" E	70	90	1439.7	Localized by Software	Offline	No source

Weather Type:	Cloud Cover (ockas):	Visibility:
Glare:	Beaufort Sea State:	Wind Direction:
Wind Speed:	Swell Direction:	Swell Height:

Name: Mr Patrick Lyne	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Non Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Non Cetacean Sighting Report</b>	Sighting Number: 3
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 6/04/2016	UTC Time of First Sighting: 04:10
On off lease: On survey area	Vessel: Kairei	Height of Observer above the Water: 12.5
Survey Line: EWobs 0	Vessel Latitude: 27° 23' 04.020" S	Vessel Longitude: 161° 19' 01.920" E
Gun Status Prior to Sighting: Full power	Vessel Activity Prior to Sighting: Online - acquiring data	Mitigation Undertaken: No Action
Were observations hampered? Yes	Reason: High wind	

Species Category: Sea turtle	Species: Unidentifiable sea turtle [n/a]	Confidence level of identification: Certain
Initial Observation Method: Eye	Total Number: 1	

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Name: Ms Becky Lindsay	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Non Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Non Cetacean Sighting Report</b>	Sighting Number: 9
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 12/04/2016	UTC Time of First Sighting: 01:08
On off lease: On survey area	Vessel: Kairei	Height of Observer above the Water: 12.5
Survey Line:	Vessel Latitude: 26° 59' 08.376" S	Vessel Longitude: 161° 20' 30.408" E
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Mitigation Undertaken: No Action
Were observations hampered? No	Reason: N/A	

Species Category: Shark	Species: Whale shark [Rhincodon typus]	Confidence level of identification: Certain
Initial Observation Method: Eye	Total Number: 1	

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Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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## Non Cetacean Sighting Report for Lord Howe Rise 2D MSS - SurveyId: 2015/7623

<b>Non Cetacean Sighting Report</b>	Sighting Number: 12
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Survey Name: Lord Howe Rise 2D MSS	Observation Date: 16/04/2016	UTC Time of First Sighting: 05:53
On off lease: On survey area	Vessel: Kairei	Height of Observer above the Water: 12.5
Survey Line:	Vessel Latitude: 27° 21' 56.808" S	Vessel Longitude: 159° 38' 33.900" E
Gun Status Prior to Sighting: No source	Vessel Activity Prior to Sighting: Offline	Mitigation Undertaken: No Action
Were observations hampered? Yes	Reason: High seastate	

Species Category: Shark	Species: Unidentifiable shark [n/a]	Confidence level of identification: Probable
Initial Observation Method: Eye	Total Number: 1	

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Name: Mr Scott Sheehan	Function: Dedicated observer	Employer's Email: ian.hawkshaw@rpsgroup.com.au
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