Monitoring of Chinese White Dolphins in Southwest Lantau Waters

1st Monthly Progress Report (March 2015)
submitted to Environmental Project Office for the HZMB HKLR, HZMB HKBCF and TM-CLKL – Investigation

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1. Introduction

1.1. In March 2015, Hong Kong Cetacean Research Project (HKCRP) was appointed by the Environmental Project Office for the HZMB Hong Kong Projects to undertake a monitoring study of Chinese White Dolphins in Southwest Lantau (SWL) waters.

1.2. The objectives of the monitoring study are to quantify the abundance and density of Chinese White Dolphins in SWL waters, to identify individuals during the monitoring surveys, and to analyze their range use and movement patterns in Hong Kong and the wider Pearl River Estuary waters.

1.3. The monitoring study will supplement the on-going EM&A monitoring results of the HZMB Hong Kong Projects in North and West Lantau waters, and provide a more complete picture of dolphin usage and movements between different survey areas in western Hong Kong waters.

1.4. The present report is the first monthly progress report under this dolphin monitoring study submitted to the Environmental Project Office, summarizing the results of the surveys findings during the month of March 2015.

2. Monitoring Methodology

2.1. Vessel-based Line-transect Survey

2.1.1. According to the requirement of the technical proposal submitted to the Environmental

Project Office, dolphin monitoring programme should cover all transect lines in SWL survey area (see Figure 1) once per month upon instruction. The co-ordinates of all transect lines conducted during the dolphin monitoring survey are shown in Table 1.

Table 1. Co-ordinates of transect lines in SWL survey area (corresponding to transect line layout as shown in Figure 1)

Line #		Northing	Easting		Line #		Northing	Easting
SWL001	1	806180	802510		SWL007	13	807380	808520
	2	804250	802510			14	805600	808520
SWL002	3	806710	803480			15	804400	808520
	4	803450	803480			16	803000	808520
SWL003	5	807270	804500			17	802100	808520
	6	802690	804500			18	800470	808520
SWL004	7	807590	805450		SWL008	19	807380	809550
	8	802295	805450			20	805050	809550
SWL005	9	808490	806500			21	804400	809550
	10	801410	806500			22	800470	809550
SWL006	11	808500	807430		SWL009	23	807380	810550
	12	801250	807430			24	800470	810550
					SWL010	25	809410	811510
						26	801470	811510

2.1.2. The HKCRP survey team used standard line-transect methods (Buckland et al. 2001) to conduct the systematic vessel surveys, and followed the same technique of data collection that has been adopted over the last 17 years of marine mammal monitoring surveys in Hong Kong developed by HKCRP (see Hung 2014). For each monitoring vessel survey, a 15-m inboard vessel with an open upper deck (about 4.5 m above water surface) was used to make observations from the flying bridge area.

2.1.3. Two experienced observers from HKCRP (a data recorder and a primary observer) made up the on-effort survey team, and the survey vessel transited different transect lines at a

constant speed of 13-15 km per hour. The data recorder searched with unaided eyes and filled out the datasheets, while the primary observer searched for dolphins and porpoises continuously through 7 x 50 *Fujinon* marine binoculars. Both observers searched the sea ahead of the vessel, between 270^{o} and 90^{o} (in relation to the bow, which is defined as 0^{o}). One to two additional experienced observer was available on the boat to work in shift (i.e. rotate every 30 minutes) in order to minimize fatigue of the survey team members. All observers were experienced in small cetacean survey techniques and identifying local cetacean species.

2.1.4. During on-effort survey periods, the survey team recorded effort data including time, position (latitude and longitude), weather conditions (Beaufort sea state and visibility), and distance traveled in each series (a continuous period of search effort) with the assistance of a handheld GPS (*Garmin eTrex Legend*).

2.1.5. Data including time, position and vessel speed were also automatically and continuously logged by handheld GPS throughout the entire survey for subsequent review.

2.1.6. When dolphins were sighted, the survey team would end the survey effort, and immediately record the initial sighting distance and angle of the dolphin group from the survey vessel, as well as the sighting time and position. Then the research vessel was diverted from its course to approach the animals for species identification, group size estimation, assessment of group composition, and behavioural observations. The perpendicular distance (PSD) of the dolphin group to the transect line was later calculated from the initial sighting distance and angle.

2.1.7. Survey effort being conducted along the parallel transect lines that were perpendicular to the coastlines (as indicated in Figure 1) was labeled as “primary” survey effort, while the survey effort conducted along the connecting lines between parallel lines as well as the section around the Soko Islands was labeled as “secondary” survey effort. Both primary and secondary survey effort were presented as on-effort survey effort in this report.

2.1.8. Encounter rates of Chinese White Dolphins (number of on-effort sightings per 100 km of survey effort and number of dolphins from all on-effort sightings per 100 km of survey effort) were calculated in SWL survey area in relation to the amount of survey effort conducted during each month of monitoring survey. Only data collected under Beaufort 3 or below condition would be used for encounter rate analysis. Dolphin encounter rates were calculated using the combined survey effort from both primary and secondary lines for comparison to the historical data collected by HKCRP in this survey area. For the historical data, the encounter rates were calculated by pooling all relevant survey effort

and dolphin sightings to calculate a single index.

2.2. Photo-identification Work

2.2.1. When a group of Chinese White Dolphins were sighted during the line-transect survey, the survey team would end effort and approach the group slowly from the side and behind to take photographs of them. Every attempt was made to photograph every dolphin in the group, and even photograph both sides of the dolphins, since the colouration and markings on both sides may not be symmetrical.

2.2.2. A professional digital camera (*Canon* EOS 7D model), equipped with long telephoto lenses (100-400 mm zoom), were available on board for researchers to take sharp, close-up photographs of dolphins as they surfaced. The images were shot at the highest available resolution and stored on Compact Flash memory cards for downloading onto a computer.

2.2.3. All digital images taken in the field were first examined, and those containing potentially identifiable individuals were sorted out. These photographs would then be examined in greater detail, and were carefully compared to the existing Chinese White Dolphin photo-identification catalogue maintained by HKCRP since 1995. For individual dolphins that are not readily identifiable from the catalogue but have distinct features on their bodies, they will be placed in a pool of "potential new individuals", with decision being made at the end of each year on whether any of them should be incorporated into the photo-ID catalogue.

2.2.4. Chinese White Dolphins can be identified by their natural markings, such as nicks, cuts, scars and deformities on their dorsal fin and body, and their unique spotting patterns were also used as secondary identifying features (Jefferson 2000).

2.2.5. All photographs of each individual were then compiled and arranged in chronological order, with data including the date and location first identified (initial sighting), re-sightings, associated dolphins, distinctive features, and age classes entered into a computer database.

3. Monitoring Results

3.1. Vessel-based Line-transect Survey

3.1.1. One set of systematic line-transect vessel survey was conducted under the present

monitoring study on March 30th, 2015, to cover all transect lines in SWL survey area once (the survey route and track log are presented in Figure 2 and Appendix I respectively). In addition, one line-transect survey was also conducted under the AFCD long-term dolphin and porpoise monitoring programme in SWL survey area (with lines no. SWL002, SWL004, SWL006 and SWL008 covered) on March 27th, and such monitoring data was incorporated into the present study for various analyses.

3.1.2. For the present study alone, a total of 71.17 km of survey effort was collected from 11:00 to 16:07 (i.e. 5 hours and 7 minutes of survey time), with 100% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) in March 2015 (Appendix II). The total survey effort conducted on primary and secondary lines were 54.54 km and 16.63 km respectively. For the combined monitoring dataset from both the present study and AFCD monitoring study, a total of 95.27 km of survey effort was collected SWL waters in March 2015.

3.1.3. During this month, two groups of three Chinese White Dolphins were sighted from the present study's survey and AFCD monitoring survey conducted in SWL survey area (Appendix III). A single sighting of a lone dolphin was made on secondary line during on-effort search under the present study's survey, while another sighting of two dolphins was sighted during off-effort search under the AFCD monitoring survey. None of these dolphin groups was associated with operating fishing vessel.

3.1.4. In addition, three groups of seven Indo-Pacific finless porpoises were also sighted during the present study's survey and AFCD monitoring survey in SWL survey area in March 2015.

3.1.5. Distribution of the dolphin sightings made in March 2015 is shown in Figure 3. The on-effort sighting made during the present monitoring study was located in the coastal waters to the east of Fan Lau, while the off-effort sighting made during AFCD monitoring study was located just to the south of Fan Lau (Figure 3).

3.1.6. Encounter rates of Chinese White Dolphins deduced from the survey effort and on-effort sighting data made under favourable conditions (Beaufort 3 or below) in March 2014 are shown in Table 2. Comparison of encounter rates was also made to the one deduced in spring months (March-May) in the past decade (2005-14), as well as the one for the entire year of 2014 (Table 2).

3.1.7. Dolphin encounter rates deduced in March 2015 in Southwest Lantau waters were similar to the historical data during the spring months of 2004-15.

Table 2. Overall dolphin encounter rates (sightings per 100 km of survey effort) from the present monitoring survey and combined database with AFCD monitoring survey conducted in March 2015 (primary lines only, as well as both primary lines and secondary lines were used) in Southwest Lantau survey area in comparison to the ones deduced during spring months in the past decade (March-May 2005-14) and entire year of 2014 using the AFCD historical data

	Encounter rate (STG) (no. of on-effort dolphin sightings per 100 km of survey effort)		**Encounter rate (ANI)** (no. of dolphins from all on-effort sightings per 100 km of survey effort)	
	Primary Lines Only	Both Primary and Secondary Lines	Primary Lines Only	Both Primary and Secondary Lines
HYD-HZMB data (Mar 2015)	0.00	0.00	1.40	1.40
Combined data (Mar 2015)	1.41	1.05	1.41	1.05
Historical Data (Spring 2005-14)		1.54		4.14

3.1.8. The average group size of Chinese White Dolphins in March 2015 was 1.5 individuals per group. The sizes of both dolphin groups were very small, composed of only 1-2 animals.

3.2. Photo-identification Work

3.2.1. Attempts were made to photograph the three dolphins sighted during the March 2015 surveys. For the two dolphins sighted during AFCD survey on March 27th, no photograph was taken as the dolphins were too elusive and disappeared quickly after the sighting was made.

3.2.2. For the lone dolphin sighted during the present study's survey on March 30th, several photographs were taken on the individual, but it was moving and disappeared quickly while close approach was not feasible. Based on the photographs (see Appendix IV), the dolphin was not identifiable after comparison to the HKCRP photo-ID catalogue.

4. References

Buckland, S. T., Anderson, D. R., Burnham, K. P., Laake, J. L., Borchers, D. L., and Thomas, L. 2001. Introduction to distance sampling: estimating abundance of biological populations. Oxford University Press, London.

Hung, S. K. 2014. Monitoring of Marine Mammals in Hong Kong waters: final report

(2013-14). An unpublished report submitted to the Agriculture, Fisheries and Conservation Department, 231 pp.

Jefferson, T. A. 2000. Population biology of the Indo-Pacific hump-backed dolphin in Hong Kong waters. Wildlife Monographs 144:1-65.

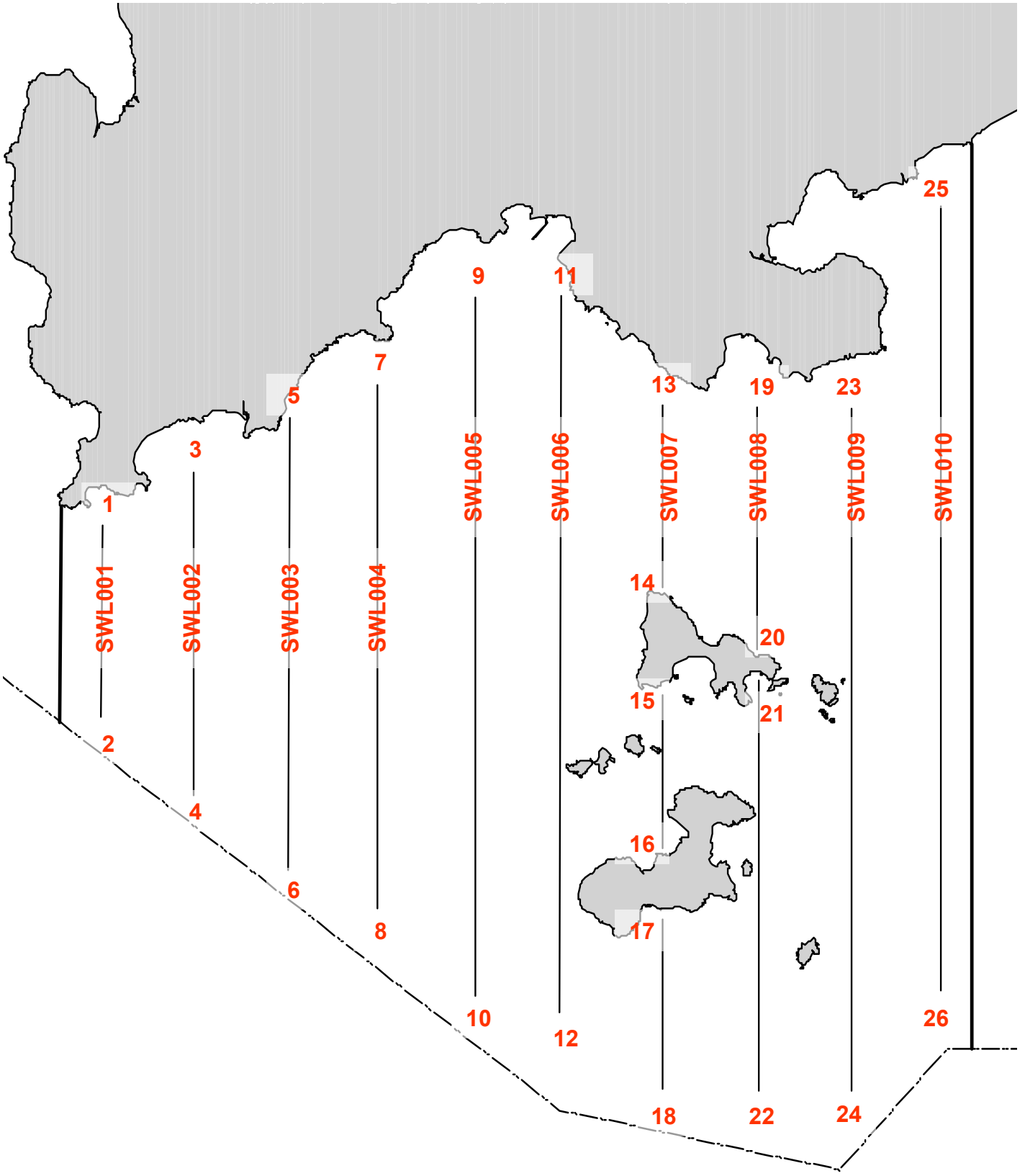

Figure 1. Survey Lines and associated coordinates in Southwest Lantau survey area

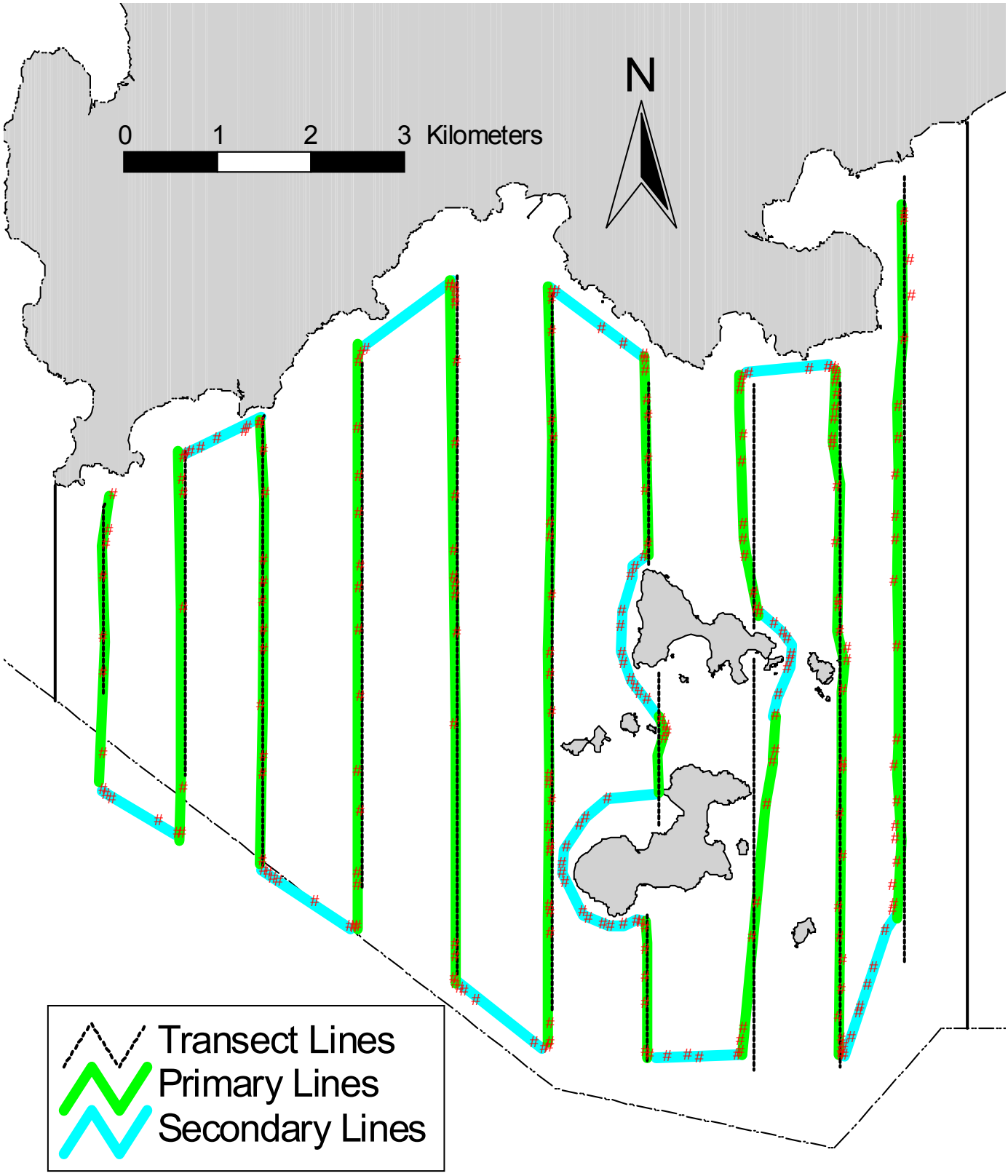

Figure 2. Survey Route on March 30th, 2015 (note: red dots represent the tracked positions of survey boat logged continuously by GPS throughout the course of the survey)

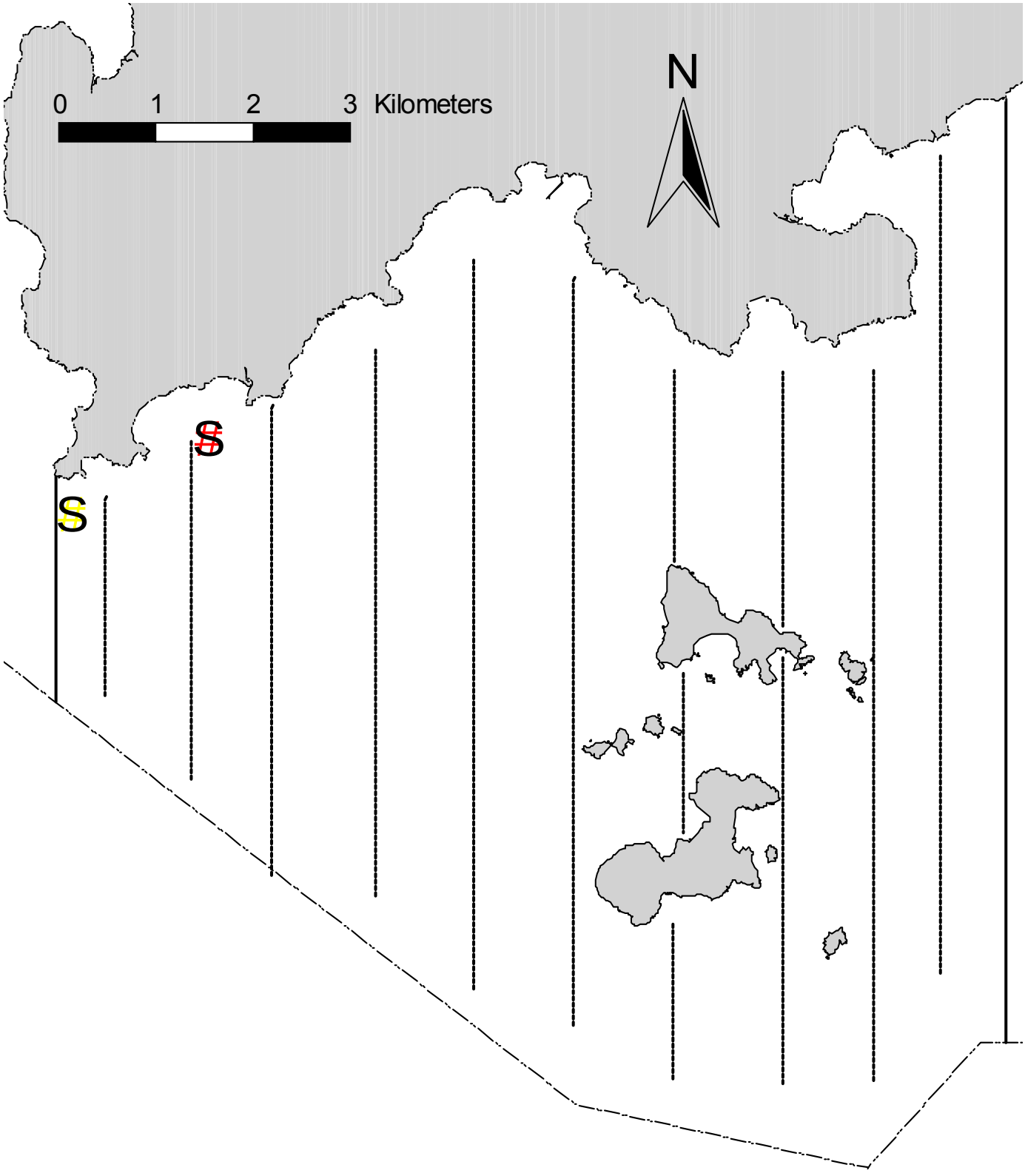

Figure 3. Distribution of Chinese White Dolphin Sighting during March 2015 Monitoring Surveys in Southwest Lantau Survey Area
(red dot: HYD-HZMB sighting; yellow dot: AFCD sighting)

Appendix I. Track Log of SWL Survey on March 30th, 2015

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 11:00	ON	N22.19505 E113.85099			
30/3/2015 11:00	ON	N22.19467 E113.85114	46 m	0:00:13	13 kph
30/3/2015 11:00	ON	N22.19408 E113.85106	66 m	0:00:17	14 kph
30/3/2015 11:00	ON	N22.19349 E113.85100	67 m	0:00:17	14 kph
30/3/2015 11:01	ON	N22.19283 E113.85088	74 m	0:00:19	14 kph
30/3/2015 11:01	ON	N22.19214 E113.85077	78 m	0:00:20	14 kph
30/3/2015 11:01	ON	N22.19138 E113.85065	85 m	0:00:22	14 kph
30/3/2015 11:02	ON	N22.19080 E113.85054	66 m	0:00:17	14 kph
30/3/2015 11:02	ON	N22.19021 E113.85044	66 m	0:00:17	14 kph
30/3/2015 11:02	ON	N22.18951 E113.85034	79 m	0:00:20	14 kph
30/3/2015 11:03	ON	N22.18879 E113.85028	81 m	0:00:20	15 kph
30/3/2015 11:03	ON	N22.18804 E113.85020	84 m	0:00:21	14 kph
30/3/2015 11:03	ON	N22.18724 E113.85013	89 m	0:00:22	14 kph
30/3/2015 11:04	ON	N22.18674 E113.85014	56 m	0:00:14	14 kph
30/3/2015 11:04	ON	N22.18621 E113.85013	59 m	0:00:15	14 kph
30/3/2015 11:04	ON	N22.18560 E113.85009	67 m	0:00:17	14 kph
30/3/2015 11:04	ON	N22.18503 E113.85015	64 m	0:00:16	14 kph
30/3/2015 11:05	ON	N22.18445 E113.85014	65 m	0:00:16	15 kph
30/3/2015 11:05	ON	N22.18390 E113.85011	61 m	0:00:15	15 kph
30/3/2015 11:05	ON	N22.18340 E113.85011	56 m	0:00:14	14 kph
30/3/2015 11:05	ON	N22.18286 E113.85011	60 m	0:00:15	14 kph
30/3/2015 11:06	ON	N22.18224 E113.85009	69 m	0:00:17	15 kph
30/3/2015 11:06	ON	N22.18170 E113.85006	61 m	0:00:15	15 kph
30/3/2015 11:06	ON	N22.18109 E113.85011	68 m	0:00:17	14 kph
30/3/2015 11:06	ON	N22.18047 E113.85018	70 m	0:00:17	15 kph
30/3/2015 11:07	ON	N22.17980 E113.85021	74 m	0:00:18	15 kph
30/3/2015 11:07	ON	N22.17926 E113.85020	60 m	0:00:15	14 kph
30/3/2015 11:07	ON	N22.17842 E113.85023	93 m	0:00:23	15 kph
30/3/2015 11:08	ON	N22.17784 E113.85022	65 m	0:00:16	15 kph
30/3/2015 11:08	ON	N22.17716 E113.85017	76 m	0:00:19	14 kph
30/3/2015 11:08	ON	N22.17658 E113.85015	65 m	0:00:16	15 kph
30/3/2015 11:09	ON	N22.17595 E113.85015	69 m	0:00:17	15 kph
30/3/2015 11:09	ON	N22.17538 E113.85013	64 m	0:00:16	14 kph
30/3/2015 11:09	ON	N22.17477 E113.85012	69 m	0:00:17	15 kph
30/3/2015 11:09	ON	N22.17419 E113.85012	64 m	0:00:16	14 kph
30/3/2015 11:10	ON	N22.17349 E113.85008	78 m	0:00:19	15 kph
30/3/2015 11:10	ON	N22.17290 E113.85006	66 m	0:00:16	15 kph
30/3/2015 11:10	ON	N22.17230 E113.85005	67 m	0:00:16	15 kph
30/3/2015 11:10	ON	N22.17163 E113.85006	75 m	0:00:18	15 kph
30/3/2015 11:11	ON	N22.17103 E113.85008	67 m	0:00:16	15 kph
30/3/2015 11:11	ON	N22.17042 E113.85011	68 m	0:00:16	15 kph
30/3/2015 11:11	ON	N22.16978 E113.85010	71 m	0:00:17	15 kph
30/3/2015 11:12	ON	N22.16914 E113.85007	71 m	0:00:17	15 kph
30/3/2015 11:12	ON	N22.16842 E113.85007	80 m	0:00:19	15 kph
30/3/2015 11:12	ON	N22.16778 E113.85012	72 m	0:00:17	15 kph
30/3/2015 11:12	ON	N22.16736 E113.85041	56 m	0:00:14	14 kph
30/3/2015 11:13	ON	N22.16699 E113.85102	75 m	0:00:19	14 kph
30/3/2015 11:13	ON	N22.16672 E113.85177	83 m	0:00:21	14 kph
30/3/2015 11:13	ON	N22.16646 E113.85242	73 m	0:00:18	15 kph
30/3/2015 11:14	ON	N22.16608 E113.85319	90 m	0:00:22	15 kph
30/3/2015 11:14	ON	N22.16579 E113.85387	78 m	0:00:19	15 kph
30/3/2015 11:14	ON	N22.16549 E113.85448	71 m	0:00:17	15 kph
30/3/2015 11:15	ON	N22.16520 E113.85520	81 m	0:00:20	15 kph
30/3/2015 11:15	ON	N22.16488 E113.85588	78 m	0:00:19	15 kph
30/3/2015 11:15	ON	N22.16458 E113.85652	74 m	0:00:18	15 kph
30/3/2015 11:16	ON	N22.16428 E113.85720	78 m	0:00:19	15 kph
30/3/2015 11:16	ON	N22.16391 E113.85795	87 m	0:00:21	15 kph
30/3/2015 11:16	ON	N22.16390 E113.85840	47 m	0:00:14	12 kph
30/3/2015 11:16	ON	N22.16419 E113.85847	33 m	0:00:12	10 kph
30/3/2015 11:17	ON	N22.16480 E113.85836	68 m	0:00:19	13 kph
30/3/2015 11:17	ON	N22.16537 E113.85835	64 m	0:00:17	13 kph
30/3/2015 11:17	ON	N22.16611 E113.85836	83 m	0:00:22	14 kph
30/3/2015 11:18	ON	N22.16674 E113.85836	71 m	0:00:19	13 kph
30/3/2015 11:18	ON	N22.16735 E113.85840	67 m	0:00:18	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 11:18	ON	N22.16788 E113.85845	60 m	0:00:16	13 kph
30/3/2015 11:19	ON	N22.16838 E113.85848	56 m	0:00:15	13 kph
30/3/2015 11:19	ON	N22.16902 E113.85848	71 m	0:00:19	13 kph
30/3/2015 11:19	ON	N22.16959 E113.85848	64 m	0:00:17	13 kph
30/3/2015 11:19	ON	N22.17023 E113.85846	71 m	0:00:19	14 kph
30/3/2015 11:20	ON	N22.17085 E113.85846	69 m	0:00:18	14 kph
30/3/2015 11:20	ON	N22.17140 E113.85845	61 m	0:00:16	14 kph
30/3/2015 11:20	ON	N22.17205 E113.85845	73 m	0:00:19	14 kph
30/3/2015 11:21	ON	N22.17278 E113.85844	80 m	0:00:21	14 kph
30/3/2015 11:21	ON	N22.17333 E113.85845	62 m	0:00:16	14 kph
30/3/2015 11:21	ON	N22.17392 E113.85843	65 m	0:00:17	14 kph
30/3/2015 11:22	ON	N22.17455 E113.85842	70 m	0:00:18	14 kph
30/3/2015 11:22	ON	N22.17534 E113.85841	88 m	0:00:22	14 kph
30/3/2015 11:22	ON	N22.17599 E113.85842	72 m	0:00:18	14 kph
30/3/2015 11:22	ON	N22.17667 E113.85841	76 m	0:00:19	14 kph
30/3/2015 11:23	ON	N22.17732 E113.85842	73 m	0:00:18	15 kph
30/3/2015 11:23	ON	N22.17793 E113.85843	68 m	0:00:17	14 kph
30/3/2015 11:23	ON	N22.17855 E113.85845	68 m	0:00:17	14 kph
30/3/2015 11:24	ON	N22.17934 E113.85846	88 m	0:00:22	14 kph
30/3/2015 11:24	ON	N22.17995 E113.85845	68 m	0:00:17	14 kph
30/3/2015 11:24	ON	N22.18053 E113.85843	64 m	0:00:16	14 kph
30/3/2015 11:25	ON	N22.18118 E113.85843	72 m	0:00:18	14 kph
30/3/2015 11:25	ON	N22.18186 E113.85847	76 m	0:00:19	14 kph
30/3/2015 11:25	ON	N22.18253 E113.85849	75 m	0:00:19	14 kph
30/3/2015 11:25	ON	N22.18311 E113.85848	65 m	0:00:16	15 kph
30/3/2015 11:26	ON	N22.18379 E113.85849	76 m	0:00:19	14 kph
30/3/2015 11:26	ON	N22.18437 E113.85850	64 m	0:00:16	14 kph
30/3/2015 11:26	ON	N22.18509 E113.85849	79 m	0:00:20	14 kph
30/3/2015 11:27	ON	N22.18567 E113.85848	65 m	0:00:16	15 kph
30/3/2015 11:27	ON	N22.18624 E113.85847	64 m	0:00:16	14 kph
30/3/2015 11:27	ON	N22.18686 E113.85846	69 m	0:00:17	15 kph
30/3/2015 11:27	ON	N22.18745 E113.85845	65 m	0:00:16	15 kph
30/3/2015 11:28	ON	N22.18807 E113.85845	69 m	0:00:17	15 kph
30/3/2015 11:28	ON	N22.18884 E113.85845	86 m	0:00:21	15 kph
30/3/2015 11:28	ON	N22.18954 E113.85844	77 m	0:00:19	15 kph
30/3/2015 11:29	ON	N22.19032 E113.85844	87 m	0:00:21	15 kph
30/3/2015 11:29	ON	N22.19083 E113.85843	57 m	0:00:14	15 kph
30/3/2015 11:29	ON	N22.19149 E113.85840	73 m	0:00:18	15 kph
30/3/2015 11:30	ON	N22.19215 E113.85837	73 m	0:00:18	15 kph
30/3/2015 11:30	ON	N22.19282 E113.85837	75 m	0:00:18	15 kph
30/3/2015 11:30	ON	N22.19354 E113.85835	80 m	0:00:20	14 kph
30/3/2015 11:31	ON	N22.19412 E113.85837	64 m	0:00:16	14 kph
30/3/2015 11:31	ON	N22.19481 E113.85839	77 m	0:00:19	15 kph
30/3/2015 11:31	ON	N22.19547 E113.85835	73 m	0:00:18	15 kph
30/3/2015 11:31	ON	N22.19610 E113.85832	70 m	0:00:17	15 kph
30/3/2015 11:32	ON	N22.19684 E113.85835	83 m	0:00:20	15 kph
30/3/2015 11:32	ON	N22.19748 E113.85839	71 m	0:00:17	15 kph
30/3/2015 11:32	ON	N22.19807 E113.85842	65 m	0:00:16	15 kph
30/3/2015 11:33	ON	N22.19849 E113.85868	54 m	0:00:14	14 kph
30/3/2015 11:33	ON	N22.19868 E113.85922	59 m	0:00:15	14 kph
30/3/2015 11:33	ON	N22.19887 E113.85990	73 m	0:00:18	15 kph
30/3/2015 11:33	ON	N22.19903 E113.86031	46 m	0:00:17	10 kph
30/3/2015 11:34	OFF	N22.19917 E113.86058	32 m	0:00:19	6 kph
30/3/2015 11:34	OFF	N22.19928 E113.86080	25 m	0:00:16	6 kph
30/3/2015 11:34	OFF	N22.19940 E113.86106	30 m	0:00:18	6 kph
30/3/2015 11:35	OFF	N22.19950 E113.86131	29 m	0:00:17	6 kph
30/3/2015 11:35	OFF	N22.19960 E113.86155	26 m	0:00:19	5 kph
30/3/2015 11:35	OFF	N22.19961 E113.86156	1 m	0:00:01	4 kph
30/3/2015 11:35	OFF	N22.19968 E113.86167	14 m	0:00:15	3 kph
30/3/2015 11:35	OFF	N22.19974 E113.86176	11 m	0:00:14	3 kph
30/3/2015 11:36	OFF	N22.19981 E113.86187	14 m	0:00:14	4 kph
30/3/2015 11:36	OFF	N22.19986 E113.86195	10 m	0:00:14	3 kph
30/3/2015 11:36	OFF	N22.19990 E113.86201	8 m	0:00:13	2 kph
30/3/2015 11:36	OFF	N22.19994 E113.86240	40 m	0:00:16	9 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 11:37	OFF	N22.20009 E113.86305	69 m	0:00:19	13 kph
30/3/2015 11:37	OFF	N22.20018 E113.86345	42 m	0:00:16	9 kph
30/3/2015 11:37	OFF	N22.20028 E113.86378	36 m	0:00:18	7 kph
30/3/2015 11:37	OFF	N22.20036 E113.86406	30 m	0:00:16	7 kph
30/3/2015 11:38	OFF	N22.20046 E113.86434	31 m	0:00:17	7 kph
30/3/2015 11:38	OFF	N22.20046 E113.86436	2 m	0:00:01	6 kph
30/3/2015 11:38	OFF	N22.20048 E113.86442	7 m	0:00:04	6 kph
30/3/2015 11:38	OFF	N22.20053 E113.86460	20 m	0:00:14	5 kph
30/3/2015 11:38	OFF	N22.20054 E113.86463	3 m	0:00:03	4 kph
30/3/2015 11:38	OFF	N22.20055 E113.86465	2 m	0:00:02	4 kph
30/3/2015 11:38	OFF	N22.20056 E113.86469	5 m	0:00:05	3 kph
30/3/2015 11:38	OFF	N22.20060 E113.86478	9 m	0:00:11	3 kph
30/3/2015 11:39	OFF	N22.20064 E113.86483	7 m	0:00:11	2 kph
30/3/2015 11:39	OFF	N22.20066 E113.86489	6 m	0:00:15	1.5 kph
30/3/2015 11:39	OFF	N22.20069 E113.86491	3 m	0:00:10	1.3 kph
30/3/2015 11:39	OFF	N22.20069 E113.86492	1 m	0:00:11	0.3 kph
30/3/2015 11:39	OFF	N22.20072 E113.86492	3 m	0:00:17	0.6 kph
30/3/2015 11:40	OFF	N22.20074 E113.86493	3 m	0:00:17	0.6 kph
30/3/2015 11:40	OFF	N22.20076 E113.86494	2 m	0:00:13	0.5 kph
30/3/2015 11:40	OFF	N22.20097 E113.86518	34 m	0:00:14	9 kph
30/3/2015 11:40	ON	N22.20116 E113.86567	56 m	0:00:14	14 kph
30/3/2015 11:41	ON	N22.20131 E113.86625	61 m	0:00:15	15 kph
30/3/2015 11:41	ON	N22.20118 E113.86654	34 m	0:00:10	12 kph
30/3/2015 11:41	ON	N22.20079 E113.86663	44 m	0:00:13	12 kph
30/3/2015 11:41	ON	N22.20020 E113.86661	66 m	0:00:17	14 kph
30/3/2015 11:42	ON	N22.19953 E113.86672	76 m	0:00:19	14 kph
30/3/2015 11:42	ON	N22.19885 E113.86681	76 m	0:00:19	14 kph
30/3/2015 11:42	ON	N22.19832 E113.86685	59 m	0:00:15	14 kph
30/3/2015 11:42	ON	N22.19787 E113.86684	50 m	0:00:13	14 kph
30/3/2015 11:43	ON	N22.19741 E113.86685	51 m	0:00:13	14 kph
30/3/2015 11:43	ON	N22.19685 E113.86684	63 m	0:00:16	14 kph
30/3/2015 11:43	ON	N22.19624 E113.86685	67 m	0:00:17	14 kph
30/3/2015 11:44	ON	N22.19556 E113.86693	76 m	0:00:19	14 kph
30/3/2015 11:44	ON	N22.19491 E113.86696	72 m	0:00:18	14 kph
30/3/2015 11:44	ON	N22.19422 E113.86695	77 m	0:00:19	15 kph
30/3/2015 11:44	ON	N22.19368 E113.86695	61 m	0:00:15	15 kph
30/3/2015 11:45	ON	N22.19299 E113.86694	76 m	0:00:19	14 kph
30/3/2015 11:45	ON	N22.19228 E113.86689	80 m	0:00:20	14 kph
30/3/2015 11:45	ON	N22.19159 E113.86691	77 m	0:00:19	15 kph
30/3/2015 11:46	ON	N22.19080 E113.86688	88 m	0:00:22	14 kph
30/3/2015 11:46	ON	N22.19007 E113.86686	81 m	0:00:20	15 kph
30/3/2015 11:46	ON	N22.18950 E113.86692	65 m	0:00:16	15 kph
30/3/2015 11:47	ON	N22.18880 E113.86694	77 m	0:00:19	15 kph
30/3/2015 11:47	ON	N22.18812 E113.86691	76 m	0:00:19	14 kph
30/3/2015 11:47	ON	N22.18746 E113.86686	73 m	0:00:18	15 kph
30/3/2015 11:48	ON	N22.18679 E113.86679	76 m	0:00:19	14 kph
30/3/2015 11:48	ON	N22.18621 E113.86674	64 m	0:00:16	14 kph
30/3/2015 11:48	ON	N22.18556 E113.86671	72 m	0:00:18	14 kph
30/3/2015 11:48	ON	N22.18502 E113.86671	60 m	0:00:15	14 kph
30/3/2015 11:49	ON	N22.18428 E113.86674	83 m	0:00:21	14 kph
30/3/2015 11:49	ON	N22.18363 E113.86680	72 m	0:00:18	14 kph
30/3/2015 11:49	ON	N22.18306 E113.86684	64 m	0:00:16	14 kph
30/3/2015 11:50	ON	N22.18235 E113.86686	79 m	0:00:20	14 kph
30/3/2015 11:50	ON	N22.18156 E113.86684	88 m	0:00:22	14 kph
30/3/2015 11:50	ON	N22.18098 E113.86682	64 m	0:00:16	14 kph
30/3/2015 11:51	ON	N22.18045 E113.86678	59 m	0:00:15	14 kph
30/3/2015 11:51	ON	N22.17989 E113.86674	63 m	0:00:16	14 kph
30/3/2015 11:51	ON	N22.17932 E113.86677	63 m	0:00:16	14 kph
30/3/2015 11:51	ON	N22.17861 E113.86676	80 m	0:00:20	14 kph
30/3/2015 11:52	ON	N22.17797 E113.86671	71 m	0:00:18	14 kph
30/3/2015 11:52	ON	N22.17729 E113.86666	76 m	0:00:19	14 kph
30/3/2015 11:52	ON	N22.17653 E113.86664	85 m	0:00:21	14 kph
30/3/2015 11:53	ON	N22.17598 E113.86664	61 m	0:00:15	15 kph
30/3/2015 11:53	ON	N22.17543 E113.86663	62 m	0:00:15	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 11:53	ON	N22.17477 E113.86663	73 m	0:00:18	15 kph
30/3/2015 11:53	ON	N22.17405 E113.86673	80 m	0:00:20	14 kph
30/3/2015 11:54	ON	N22.17344 E113.86675	69 m	0:00:17	15 kph
30/3/2015 11:54	ON	N22.17275 E113.86680	77 m	0:00:19	15 kph
30/3/2015 11:54	ON	N22.17215 E113.86683	66 m	0:00:16	15 kph
30/3/2015 11:55	ON	N22.17148 E113.86685	74 m	0:00:18	15 kph
30/3/2015 11:55	ON	N22.17082 E113.86688	74 m	0:00:18	15 kph
30/3/2015 11:55	ON	N22.17006 E113.86686	85 m	0:00:20	15 kph
30/3/2015 11:56	ON	N22.16932 E113.86680	83 m	0:00:20	15 kph
30/3/2015 11:56	ON	N22.16862 E113.86678	78 m	0:00:19	15 kph
30/3/2015 11:56	ON	N22.16786 E113.86677	84 m	0:00:20	15 kph
30/3/2015 11:57	ON	N22.16713 E113.86679	82 m	0:00:19	15 kph
30/3/2015 11:57	ON	N22.16636 E113.86679	85 m	0:00:20	15 kph
30/3/2015 11:57	ON	N22.16559 E113.86680	85 m	0:00:20	15 kph
30/3/2015 11:58	ON	N22.16487 E113.86679	81 m	0:00:19	15 kph
30/3/2015 11:58	ON	N22.16410 E113.86680	85 m	0:00:20	15 kph
30/3/2015 11:58	ON	N22.16341 E113.86679	77 m	0:00:18	15 kph
30/3/2015 11:59	ON	N22.16272 E113.86678	77 m	0:00:18	15 kph
30/3/2015 11:59	ON	N22.16192 E113.86678	88 m	0:00:21	15 kph
30/3/2015 11:59	ON	N22.16128 E113.86681	71 m	0:00:17	15 kph
30/3/2015 12:00	ON	N22.16046 E113.86691	92 m	0:00:22	15 kph
30/3/2015 12:00	ON	N22.16005 E113.86727	59 m	0:00:15	14 kph
30/3/2015 12:00	ON	N22.15980 E113.86787	68 m	0:00:17	14 kph
30/3/2015 12:00	ON	N22.15950 E113.86852	75 m	0:00:18	15 kph
30/3/2015 12:01	ON	N22.15924 E113.86905	62 m	0:00:15	15 kph
30/3/2015 12:01	ON	N22.15893 E113.86966	72 m	0:00:17	15 kph
30/3/2015 12:01	ON	N22.15859 E113.87028	74 m	0:00:18	15 kph
30/3/2015 12:01	ON	N22.15826 E113.87091	74 m	0:00:18	15 kph
30/3/2015 12:02	ON	N22.15791 E113.87156	78 m	0:00:19	15 kph
30/3/2015 12:02	ON	N22.15758 E113.87215	71 m	0:00:17	15 kph
30/3/2015 12:02	ON	N22.15721 E113.87280	79 m	0:00:19	15 kph
30/3/2015 12:03	ON	N22.15685 E113.87344	78 m	0:00:19	15 kph
30/3/2015 12:03	ON	N22.15647 E113.87405	75 m	0:00:18	15 kph
30/3/2015 12:03	ON	N22.15605 E113.87479	90 m	0:00:22	15 kph
30/3/2015 12:04	ON	N22.15579 E113.87531	61 m	0:00:15	15 kph
30/3/2015 12:04	ON	N22.15542 E113.87587	70 m	0:00:17	15 kph
30/3/2015 12:04	ON	N22.15516 E113.87641	64 m	0:00:16	14 kph
30/3/2015 12:04	ON	N22.15530 E113.87673	36 m	0:00:12	11 kph
30/3/2015 12:05	ON	N22.15571 E113.87669	46 m	0:00:14	12 kph
30/3/2015 12:05	ON	N22.15626 E113.87669	61 m	0:00:16	14 kph
30/3/2015 12:05	ON	N22.15667 E113.87669	46 m	0:00:12	14 kph
30/3/2015 12:05	ON	N22.15722 E113.87667	61 m	0:00:16	14 kph
30/3/2015 12:06	ON	N22.15780 E113.87666	64 m	0:00:17	14 kph
30/3/2015 12:06	ON	N22.15817 E113.87666	41 m	0:00:11	14 kph
30/3/2015 12:06	ON	N22.15862 E113.87668	50 m	0:00:13	14 kph
30/3/2015 12:06	ON	N22.15910 E113.87668	53 m	0:00:14	14 kph
30/3/2015 12:07	ON	N22.15960 E113.87664	57 m	0:00:15	14 kph
30/3/2015 12:07	ON	N22.16015 E113.87661	61 m	0:00:16	14 kph
30/3/2015 12:07	ON	N22.16060 E113.87662	50 m	0:00:13	14 kph
30/3/2015 12:07	ON	N22.16118 E113.87664	65 m	0:00:17	14 kph
30/3/2015 12:08	ON	N22.16170 E113.87667	58 m	0:00:15	14 kph
30/3/2015 12:08	ON	N22.16225 E113.87670	61 m	0:00:16	14 kph
30/3/2015 12:08	ON	N22.16262 E113.87671	42 m	0:00:11	14 kph
30/3/2015 12:08	ON	N22.16317 E113.87673	61 m	0:00:16	14 kph
30/3/2015 12:08	ON	N22.16369 E113.87673	58 m	0:00:15	14 kph
30/3/2015 12:09	ON	N22.16414 E113.87674	50 m	0:00:13	14 kph
30/3/2015 12:09	ON	N22.16466 E113.87678	57 m	0:00:15	14 kph
30/3/2015 12:09	ON	N22.16526 E113.87685	68 m	0:00:18	14 kph
30/3/2015 12:10	ON	N22.16585 E113.87689	65 m	0:00:17	14 kph
30/3/2015 12:10	ON	N22.16639 E113.87688	60 m	0:00:16	14 kph
30/3/2015 12:10	ON	N22.16683 E113.87681	49 m	0:00:13	14 kph
30/3/2015 12:10	ON	N22.16729 E113.87675	52 m	0:00:14	13 kph
30/3/2015 12:11	ON	N22.16782 E113.87668	60 m	0:00:16	13 kph
30/3/2015 12:11	ON	N22.16840 E113.87664	65 m	0:00:17	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 12:11	ON	N22.16877 E113.87662	42 m	0:00:11	14 kph
30/3/2015 12:11	ON	N22.16916 E113.87662	43 m	0:00:11	14 kph
30/3/2015 12:11	ON	N22.16954 E113.87661	42 m	0:00:11	14 kph
30/3/2015 12:12	ON	N22.17003 E113.87663	55 m	0:00:14	14 kph
30/3/2015 12:12	ON	N22.17057 E113.87668	61 m	0:00:16	14 kph
30/3/2015 12:12	ON	N22.17106 E113.87670	54 m	0:00:14	14 kph
30/3/2015 12:12	ON	N22.17141 E113.87674	39 m	0:00:10	14 kph
30/3/2015 12:12	ON	N22.17183 E113.87679	47 m	0:00:12	14 kph
30/3/2015 12:13	ON	N22.17229 E113.87681	51 m	0:00:13	14 kph
30/3/2015 12:13	ON	N22.17278 E113.87683	55 m	0:00:14	14 kph
30/3/2015 12:13	ON	N22.17319 E113.87682	46 m	0:00:12	14 kph
30/3/2015 12:13	ON	N22.17361 E113.87683	47 m	0:00:12	14 kph
30/3/2015 12:14	ON	N22.17418 E113.87684	63 m	0:00:16	14 kph
30/3/2015 12:14	ON	N22.17463 E113.87684	51 m	0:00:13	14 kph
30/3/2015 12:14	ON	N22.17512 E113.87684	54 m	0:00:14	14 kph
30/3/2015 12:14	ON	N22.17562 E113.87686	55 m	0:00:14	14 kph
30/3/2015 12:15	ON	N22.17626 E113.87689	72 m	0:00:18	14 kph
30/3/2015 12:15	ON	N22.17678 E113.87685	58 m	0:00:15	14 kph
30/3/2015 12:15	ON	N22.17742 E113.87680	71 m	0:00:18	14 kph
30/3/2015 12:15	ON	N22.17808 E113.87681	74 m	0:00:19	14 kph
30/3/2015 12:16	ON	N22.17869 E113.87680	67 m	0:00:17	14 kph
30/3/2015 12:16	ON	N22.17923 E113.87678	60 m	0:00:15	14 kph
30/3/2015 12:16	ON	N22.17983 E113.87677	68 m	0:00:17	14 kph
30/3/2015 12:17	ON	N22.18051 E113.87675	76 m	0:00:19	14 kph
30/3/2015 12:17	ON	N22.18118 E113.87675	75 m	0:00:19	14 kph
30/3/2015 12:17	ON	N22.18186 E113.87669	75 m	0:00:19	14 kph
30/3/2015 12:17	ON	N22.18239 E113.87668	59 m	0:00:15	14 kph
30/3/2015 12:18	ON	N22.18291 E113.87676	59 m	0:00:15	14 kph
30/3/2015 12:18	ON	N22.18355 E113.87677	71 m	0:00:18	14 kph
30/3/2015 12:18	ON	N22.18416 E113.87672	67 m	0:00:17	14 kph
30/3/2015 12:19	ON	N22.18484 E113.87673	76 m	0:00:19	14 kph
30/3/2015 12:19	ON	N22.18556 E113.87670	80 m	0:00:20	14 kph
30/3/2015 12:19	ON	N22.18628 E113.87673	80 m	0:00:20	14 kph
30/3/2015 12:20	ON	N22.18704 E113.87679	85 m	0:00:21	15 kph
30/3/2015 12:20	ON	N22.18754 E113.87684	56 m	0:00:14	14 kph
30/3/2015 12:20	ON	N22.18821 E113.87690	75 m	0:00:19	14 kph
30/3/2015 12:20	ON	N22.18889 E113.87688	75 m	0:00:19	14 kph
30/3/2015 12:21	ON	N22.18955 E113.87681	74 m	0:00:19	14 kph
30/3/2015 12:21	ON	N22.19021 E113.87674	74 m	0:00:19	14 kph
30/3/2015 12:21	ON	N22.19092 E113.87673	79 m	0:00:20	14 kph
30/3/2015 12:22	ON	N22.19159 E113.87671	75 m	0:00:19	14 kph
30/3/2015 12:22	ON	N22.19238 E113.87670	87 m	0:00:22	14 kph
30/3/2015 12:22	ON	N22.19306 E113.87670	76 m	0:00:19	14 kph
30/3/2015 12:23	ON	N22.19386 E113.87674	89 m	0:00:23	14 kph
30/3/2015 12:23	ON	N22.19454 E113.87675	76 m	0:00:19	14 kph
30/3/2015 12:23	ON	N22.19518 E113.87672	72 m	0:00:18	14 kph
30/3/2015 12:24	ON	N22.19572 E113.87673	60 m	0:00:15	14 kph
30/3/2015 12:24	ON	N22.19640 E113.87678	76 m	0:00:19	14 kph
30/3/2015 12:24	ON	N22.19718 E113.87675	86 m	0:00:22	14 kph
30/3/2015 12:25	ON	N22.19789 E113.87671	80 m	0:00:20	14 kph
30/3/2015 12:25	ON	N22.19874 E113.87670	94 m	0:00:24	14 kph
30/3/2015 12:25	ON	N22.19938 E113.87665	72 m	0:00:18	14 kph
30/3/2015 12:26	ON	N22.20007 E113.87661	77 m	0:00:19	15 kph
30/3/2015 12:26	ON	N22.20083 E113.87660	85 m	0:00:21	15 kph
30/3/2015 12:26	ON	N22.20159 E113.87662	85 m	0:00:21	14 kph
30/3/2015 12:27	ON	N22.20225 E113.87666	74 m	0:00:18	15 kph
30/3/2015 12:27	ON	N22.20302 E113.87665	86 m	0:00:21	15 kph
30/3/2015 12:27	ON	N22.20374 E113.87667	79 m	0:00:19	15 kph
30/3/2015 12:28	ON	N22.20440 E113.87670	74 m	0:00:18	15 kph
30/3/2015 12:28	ON	N22.20502 E113.87673	69 m	0:00:17	15 kph
30/3/2015 12:28	ON	N22.20577 E113.87672	83 m	0:00:20	15 kph
30/3/2015 12:29	ON	N22.20639 E113.87668	69 m	0:00:17	15 kph
30/3/2015 12:29	ON	N22.20695 E113.87672	63 m	0:00:15	15 kph
30/3/2015 12:29	ON	N22.20768 E113.87695	85 m	0:00:21	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 12:29	ON	N22.20811 E113.87749	73 m	0:00:18	15 kph
30/3/2015 12:30	ON	N22.20848 E113.87804	70 m	0:00:17	15 kph
30/3/2015 12:30	ON	N22.20898 E113.87878	95 m	0:00:23	15 kph
30/3/2015 12:30	ON	N22.20942 E113.87944	83 m	0:00:20	15 kph
30/3/2015 12:31	ON	N22.20978 E113.88004	73 m	0:00:18	15 kph
30/3/2015 12:31	ON	N22.21020 E113.88070	82 m	0:00:20	15 kph
30/3/2015 12:32	ON	N22.21071 E113.88144	96 m	0:00:23	15 kph
30/3/2015 12:32	ON	N22.21117 E113.88213	87 m	0:00:21	15 kph
30/3/2015 12:32	ON	N22.21161 E113.88277	83 m	0:00:20	15 kph
30/3/2015 12:33	ON	N22.21210 E113.88344	88 m	0:00:21	15 kph
30/3/2015 12:33	ON	N22.21250 E113.88403	75 m	0:00:18	15 kph
30/3/2015 12:33	ON	N22.21295 E113.88468	83 m	0:00:20	15 kph
30/3/2015 12:34	ON	N22.21348 E113.88541	95 m	0:00:23	15 kph
30/3/2015 12:34	ON	N22.21390 E113.88606	82 m	0:00:20	15 kph
30/3/2015 12:34	ON	N22.21387 E113.88654	50 m	0:00:14	13 kph
30/3/2015 12:34	ON	N22.21349 E113.88675	48 m	0:00:14	12 kph
30/3/2015 12:35	ON	N22.21281 E113.88679	76 m	0:00:20	14 kph
30/3/2015 12:35	ON	N22.21223 E113.88684	64 m	0:00:17	14 kph
30/3/2015 12:35	ON	N22.21151 E113.88684	80 m	0:00:21	14 kph
30/3/2015 12:36	ON	N22.21077 E113.88679	83 m	0:00:22	14 kph
30/3/2015 12:36	ON	N22.21012 E113.88678	73 m	0:00:19	14 kph
30/3/2015 12:36	ON	N22.20943 E113.88685	76 m	0:00:20	14 kph
30/3/2015 12:37	ON	N22.20881 E113.88685	69 m	0:00:18	14 kph
30/3/2015 12:37	ON	N22.20815 E113.88683	73 m	0:00:19	14 kph
30/3/2015 12:37	ON	N22.20750 E113.88685	73 m	0:00:19	14 kph
30/3/2015 12:38	ON	N22.20685 E113.88692	72 m	0:00:19	14 kph
30/3/2015 12:38	ON	N22.20626 E113.88688	66 m	0:00:17	14 kph
30/3/2015 12:38	ON	N22.20568 E113.88683	65 m	0:00:17	14 kph
30/3/2015 12:38	ON	N22.20516 E113.88683	58 m	0:00:15	14 kph
30/3/2015 12:39	ON	N22.20464 E113.88683	57 m	0:00:15	14 kph
30/3/2015 12:39	ON	N22.20413 E113.88683	57 m	0:00:15	14 kph
30/3/2015 12:39	ON	N22.20358 E113.88684	61 m	0:00:16	14 kph
30/3/2015 12:39	ON	N22.20295 E113.88682	70 m	0:00:18	14 kph
30/3/2015 12:40	ON	N22.20232 E113.88682	70 m	0:00:18	14 kph
30/3/2015 12:40	ON	N22.20158 E113.88680	82 m	0:00:21	14 kph
30/3/2015 12:40	ON	N22.20080 E113.88677	86 m	0:00:22	14 kph
30/3/2015 12:41	ON	N22.20017 E113.88671	71 m	0:00:18	14 kph
30/3/2015 12:41	ON	N22.19952 E113.88668	72 m	0:00:19	14 kph
30/3/2015 12:41	ON	N22.19886 E113.88672	73 m	0:00:19	14 kph
30/3/2015 12:42	ON	N22.19823 E113.88680	70 m	0:00:18	14 kph
30/3/2015 12:42	ON	N22.19753 E113.88681	79 m	0:00:20	14 kph
30/3/2015 12:42	ON	N22.19696 E113.88678	63 m	0:00:16	14 kph
30/3/2015 12:43	ON	N22.19644 E113.88677	58 m	0:00:15	14 kph
30/3/2015 12:43	ON	N22.19595 E113.88679	55 m	0:00:14	14 kph
30/3/2015 12:43	ON	N22.19523 E113.88678	80 m	0:00:20	14 kph
30/3/2015 12:43	ON	N22.19455 E113.88675	75 m	0:00:19	14 kph
30/3/2015 12:44	ON	N22.19384 E113.88672	79 m	0:00:20	14 kph
30/3/2015 12:44	ON	N22.19314 E113.88669	79 m	0:00:20	14 kph
30/3/2015 12:44	ON	N22.19250 E113.88674	71 m	0:00:18	14 kph
30/3/2015 12:45	ON	N22.19174 E113.88676	84 m	0:00:21	14 kph
30/3/2015 12:45	ON	N22.19102 E113.88674	81 m	0:00:20	15 kph
30/3/2015 12:45	ON	N22.19037 E113.88669	72 m	0:00:18	14 kph
30/3/2015 12:46	ON	N22.18970 E113.88666	75 m	0:00:19	14 kph
30/3/2015 12:46	ON	N22.18891 E113.88668	88 m	0:00:22	14 kph
30/3/2015 12:46	ON	N22.18808 E113.88671	92 m	0:00:23	14 kph
30/3/2015 12:47	ON	N22.18731 E113.88673	86 m	0:00:21	15 kph
30/3/2015 12:47	ON	N22.18646 E113.88676	94 m	0:00:23	15 kph
30/3/2015 12:48	ON	N22.18559 E113.88682	97 m	0:00:24	15 kph
30/3/2015 12:48	ON	N22.18471 E113.88684	98 m	0:00:24	15 kph
30/3/2015 12:48	ON	N22.18375 E113.88682	107 m	0:00:26	15 kph
30/3/2015 12:49	ON	N22.18284 E113.88684	101 m	0:00:25	15 kph
30/3/2015 12:49	ON	N22.18207 E113.88686	85 m	0:00:21	15 kph
30/3/2015 12:50	ON	N22.18131 E113.88684	85 m	0:00:21	15 kph
30/3/2015 12:50	ON	N22.18064 E113.88679	74 m	0:00:18	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 12:50	ON	N22.17999 E113.88675	73 m	0:00:18	15 kph
30/3/2015 12:51	ON	N22.17923 E113.88677	85 m	0:00:21	15 kph
30/3/2015 12:51	ON	N22.17861 E113.88674	69 m	0:00:17	15 kph
30/3/2015 12:51	ON	N22.17795 E113.88673	73 m	0:00:18	15 kph
30/3/2015 12:51	ON	N22.17742 E113.88677	60 m	0:00:15	14 kph
30/3/2015 12:52	ON	N22.17672 E113.88680	78 m	0:00:19	15 kph
30/3/2015 12:52	ON	N22.17605 E113.88674	75 m	0:00:18	15 kph
30/3/2015 12:52	ON	N22.17534 E113.88673	79 m	0:00:19	15 kph
30/3/2015 12:53	ON	N22.17455 E113.88675	87 m	0:00:21	15 kph
30/3/2015 12:53	ON	N22.17384 E113.88673	79 m	0:00:19	15 kph
30/3/2015 12:53	ON	N22.17300 E113.88674	94 m	0:00:23	15 kph
30/3/2015 12:54	ON	N22.17227 E113.88675	81 m	0:00:20	15 kph
30/3/2015 12:54	ON	N22.17153 E113.88678	82 m	0:00:20	15 kph
30/3/2015 12:54	ON	N22.17084 E113.88678	77 m	0:00:19	15 kph
30/3/2015 12:55	ON	N22.17019 E113.88681	73 m	0:00:18	15 kph
30/3/2015 12:55	ON	N22.16954 E113.88685	72 m	0:00:18	14 kph
30/3/2015 12:55	ON	N22.16887 E113.88684	74 m	0:00:18	15 kph
30/3/2015 12:56	ON	N22.16807 E113.88681	90 m	0:00:22	15 kph
30/3/2015 12:56	ON	N22.16726 E113.88681	90 m	0:00:22	15 kph
30/3/2015 12:56	ON	N22.16656 E113.88679	78 m	0:00:19	15 kph
30/3/2015 12:57	ON	N22.16595 E113.88680	68 m	0:00:17	14 kph
30/3/2015 12:57	ON	N22.16525 E113.88682	78 m	0:00:19	15 kph
30/3/2015 12:57	ON	N22.16446 E113.88684	87 m	0:00:21	15 kph
30/3/2015 12:58	ON	N22.16375 E113.88682	80 m	0:00:19	15 kph
30/3/2015 12:58	ON	N22.16293 E113.88679	92 m	0:00:22	15 kph
30/3/2015 12:58	ON	N22.16222 E113.88681	78 m	0:00:19	15 kph
30/3/2015 12:59	ON	N22.16133 E113.88683	99 m	0:00:24	15 kph
30/3/2015 12:59	ON	N22.16055 E113.88682	87 m	0:00:21	15 kph
30/3/2015 12:59	ON	N22.15993 E113.88680	70 m	0:00:17	15 kph
30/3/2015 13:00	ON	N22.15922 E113.88677	78 m	0:00:19	15 kph
30/3/2015 13:00	ON	N22.15852 E113.88680	79 m	0:00:19	15 kph
30/3/2015 13:00	ON	N22.15768 E113.88681	93 m	0:00:23	15 kph
30/3/2015 13:01	ON	N22.15704 E113.88684	71 m	0:00:17	15 kph
30/3/2015 13:01	ON	N22.15625 E113.88683	88 m	0:00:21	15 kph
30/3/2015 13:01	ON	N22.15559 E113.88680	74 m	0:00:18	15 kph
30/3/2015 13:02	ON	N22.15484 E113.88680	83 m	0:00:20	15 kph
30/3/2015 13:02	ON	N22.15429 E113.88681	62 m	0:00:15	15 kph
30/3/2015 13:02	ON	N22.15366 E113.88684	70 m	0:00:17	15 kph
30/3/2015 13:02	ON	N22.15306 E113.88685	66 m	0:00:16	15 kph
30/3/2015 13:03	ON	N22.15255 E113.88687	58 m	0:00:14	15 kph
30/3/2015 13:03	ON	N22.15199 E113.88683	62 m	0:00:15	15 kph
30/3/2015 13:03	ON	N22.15136 E113.88678	71 m	0:00:17	15 kph
30/3/2015 13:03	ON	N22.15062 E113.88673	82 m	0:00:20	15 kph
30/3/2015 13:04	ON	N22.15008 E113.88688	62 m	0:00:16	14 kph
30/3/2015 13:04	ON	N22.14969 E113.88725	57 m	0:00:15	14 kph
30/3/2015 13:04	ON	N22.14937 E113.88776	64 m	0:00:16	14 kph
30/3/2015 13:05	ON	N22.14895 E113.88840	80 m	0:00:20	14 kph
30/3/2015 13:05	ON	N22.14856 E113.88900	76 m	0:00:19	14 kph
30/3/2015 13:05	ON	N22.14815 E113.88966	81 m	0:00:20	15 kph
30/3/2015 13:05	ON	N22.14780 E113.89024	72 m	0:00:18	14 kph
30/3/2015 13:06	ON	N22.14742 E113.89085	76 m	0:00:19	14 kph
30/3/2015 13:06	ON	N22.14710 E113.89138	65 m	0:00:16	15 kph
30/3/2015 13:06	ON	N22.14678 E113.89193	68 m	0:00:17	14 kph
30/3/2015 13:07	ON	N22.14642 E113.89251	72 m	0:00:18	14 kph
30/3/2015 13:07	ON	N22.14606 E113.89305	68 m	0:00:17	14 kph
30/3/2015 13:07	ON	N22.14566 E113.89372	82 m	0:00:20	15 kph
30/3/2015 13:08	ON	N22.14527 E113.89434	78 m	0:00:19	15 kph
30/3/2015 13:08	ON	N22.14479 E113.89509	94 m	0:00:23	15 kph
30/3/2015 13:08	ON	N22.14449 E113.89562	64 m	0:00:16	15 kph
30/3/2015 13:09	ON	N22.14424 E113.89619	65 m	0:00:17	14 kph
30/3/2015 13:09	ON	N22.14442 E113.89656	43 m	0:00:13	12 kph
30/3/2015 13:09	ON	N22.14484 E113.89674	50 m	0:00:14	13 kph
30/3/2015 13:09	ON	N22.14544 E113.89674	67 m	0:00:18	13 kph
30/3/2015 13:10	ON	N22.14596 E113.89675	57 m	0:00:15	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 13:10	ON	N22.14653 E113.89678	64 m	0:00:17	14 kph
30/3/2015 13:10	ON	N22.14704 E113.89677	57 m	0:00:15	14 kph
30/3/2015 13:10	ON	N22.14762 E113.89675	64 m	0:00:17	14 kph
30/3/2015 13:11	ON	N22.14819 E113.89675	64 m	0:00:17	14 kph
30/3/2015 13:11	ON	N22.14873 E113.89676	60 m	0:00:16	14 kph
30/3/2015 13:11	ON	N22.14913 E113.89677	45 m	0:00:12	13 kph
30/3/2015 13:11	ON	N22.14977 E113.89679	71 m	0:00:19	14 kph
30/3/2015 13:12	ON	N22.15038 E113.89680	67 m	0:00:18	13 kph
30/3/2015 13:12	ON	N22.15096 E113.89682	64 m	0:00:17	14 kph
30/3/2015 13:12	ON	N22.15150 E113.89682	60 m	0:00:16	14 kph
30/3/2015 13:13	ON	N22.15214 E113.89676	72 m	0:00:19	14 kph
30/3/2015 13:13	ON	N22.15282 E113.89671	76 m	0:00:20	14 kph
30/3/2015 13:13	ON	N22.15349 E113.89670	75 m	0:00:20	13 kph
30/3/2015 13:14	ON	N22.15413 E113.89672	72 m	0:00:19	14 kph
30/3/2015 13:14	ON	N22.15468 E113.89672	61 m	0:00:16	14 kph
30/3/2015 13:14	ON	N22.15535 E113.89676	74 m	0:00:20	13 kph
30/3/2015 13:15	ON	N22.15608 E113.89678	82 m	0:00:22	13 kph
30/3/2015 13:15	ON	N22.15649 E113.89677	45 m	0:00:17	10 kph
30/3/2015 13:15	OFF	N22.15674 E113.89670	29 m	0:00:20	5 kph
30/3/2015 13:16	OFF	N22.15690 E113.89664	19 m	0:00:22	3 kph
30/3/2015 13:16	OFF	N22.15698 E113.89661	9 m	0:00:21	2 kph
30/3/2015 13:16	OFF	N22.15701 E113.89659	4 m	0:00:20	0.8 kph
30/3/2015 13:16	ON	N22.15715 E113.89658	16 m	0:00:13	4 kph
30/3/2015 13:17	ON	N22.15767 E113.89660	58 m	0:00:17	12 kph
30/3/2015 13:17	ON	N22.15838 E113.89662	79 m	0:00:20	14 kph
30/3/2015 13:17	ON	N22.15891 E113.89665	59 m	0:00:15	14 kph
30/3/2015 13:18	ON	N22.15941 E113.89668	55 m	0:00:14	14 kph
30/3/2015 13:18	ON	N22.16006 E113.89671	73 m	0:00:18	15 kph
30/3/2015 13:18	ON	N22.16081 E113.89672	84 m	0:00:21	14 kph
30/3/2015 13:19	ON	N22.16156 E113.89676	83 m	0:00:21	14 kph
30/3/2015 13:19	ON	N22.16219 E113.89677	71 m	0:00:18	14 kph
30/3/2015 13:19	ON	N22.16284 E113.89668	72 m	0:00:18	14 kph
30/3/2015 13:19	ON	N22.16353 E113.89662	78 m	0:00:20	14 kph
30/3/2015 13:20	ON	N22.16442 E113.89660	98 m	0:00:25	14 kph
30/3/2015 13:20	ON	N22.16519 E113.89668	87 m	0:00:22	14 kph
30/3/2015 13:21	ON	N22.16617 E113.89675	110 m	0:00:28	14 kph
30/3/2015 13:21	ON	N22.16688 E113.89678	79 m	0:00:20	14 kph
30/3/2015 13:21	ON	N22.16772 E113.89671	94 m	0:00:24	14 kph
30/3/2015 13:22	ON	N22.16839 E113.89661	75 m	0:00:19	14 kph
30/3/2015 13:22	ON	N22.16908 E113.89656	76 m	0:00:20	14 kph
30/3/2015 13:22	ON	N22.16992 E113.89662	94 m	0:00:24	14 kph
30/3/2015 13:23	ON	N22.17058 E113.89673	75 m	0:00:19	14 kph
30/3/2015 13:23	ON	N22.17150 E113.89679	102 m	0:00:26	14 kph
30/3/2015 13:24	ON	N22.17228 E113.89679	87 m	0:00:22	14 kph
30/3/2015 13:24	ON	N22.17314 E113.89679	95 m	0:00:24	14 kph
30/3/2015 13:24	ON	N22.17407 E113.89681	104 m	0:00:26	14 kph
30/3/2015 13:25	ON	N22.17500 E113.89688	104 m	0:00:26	14 kph
30/3/2015 13:25	ON	N22.17585 E113.89682	95 m	0:00:24	14 kph
30/3/2015 13:26	ON	N22.17672 E113.89676	96 m	0:00:24	14 kph
30/3/2015 13:26	ON	N22.17754 E113.89672	92 m	0:00:23	14 kph
30/3/2015 13:26	ON	N22.17825 E113.89668	79 m	0:00:20	14 kph
30/3/2015 13:27	ON	N22.17907 E113.89667	91 m	0:00:23	14 kph
30/3/2015 13:27	ON	N22.17961 E113.89666	60 m	0:00:15	14 kph
30/3/2015 13:27	ON	N22.18039 E113.89666	87 m	0:00:22	14 kph
30/3/2015 13:28	ON	N22.18103 E113.89667	72 m	0:00:18	14 kph
30/3/2015 13:28	ON	N22.18192 E113.89670	99 m	0:00:25	14 kph
30/3/2015 13:28	ON	N22.18269 E113.89673	85 m	0:00:22	14 kph
30/3/2015 13:29	ON	N22.18366 E113.89676	109 m	0:00:28	14 kph
30/3/2015 13:29	ON	N22.18454 E113.89680	97 m	0:00:25	14 kph
30/3/2015 13:30	ON	N22.18557 E113.89680	114 m	0:00:29	14 kph
30/3/2015 13:30	ON	N22.18659 E113.89672	115 m	0:00:29	14 kph
30/3/2015 13:31	ON	N22.18764 E113.89670	117 m	0:00:29	14 kph
30/3/2015 13:31	ON	N22.18848 E113.89669	93 m	0:00:23	15 kph
30/3/2015 13:32	ON	N22.18932 E113.89673	93 m	0:00:23	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 13:32	ON	N22.19017 E113.89671	95 m	0:00:23	15 kph
30/3/2015 13:32	ON	N22.19090 E113.89670	81 m	0:00:20	15 kph
30/3/2015 13:33	ON	N22.19159 E113.89666	77 m	0:00:19	15 kph
30/3/2015 13:33	ON	N22.19223 E113.89667	71 m	0:00:18	14 kph
30/3/2015 13:33	ON	N22.19283 E113.89670	68 m	0:00:17	14 kph
30/3/2015 13:34	ON	N22.19356 E113.89671	81 m	0:00:20	15 kph
30/3/2015 13:34	ON	N22.19428 E113.89672	80 m	0:00:20	14 kph
30/3/2015 13:34	ON	N22.19489 E113.89676	68 m	0:00:17	14 kph
30/3/2015 13:34	ON	N22.19551 E113.89676	69 m	0:00:17	15 kph
30/3/2015 13:35	ON	N22.19622 E113.89678	80 m	0:00:20	14 kph
30/3/2015 13:35	ON	N22.19696 E113.89678	81 m	0:00:20	15 kph
30/3/2015 13:36	ON	N22.19798 E113.89680	114 m	0:00:28	15 kph
30/3/2015 13:36	ON	N22.19889 E113.89686	101 m	0:00:25	15 kph
30/3/2015 13:36	ON	N22.19985 E113.89689	106 m	0:00:26	15 kph
30/3/2015 13:37	ON	N22.20072 E113.89678	98 m	0:00:24	15 kph
30/3/2015 13:37	ON	N22.20157 E113.89677	94 m	0:00:23	15 kph
30/3/2015 13:38	ON	N22.20258 E113.89680	112 m	0:00:27	15 kph
30/3/2015 13:38	ON	N22.20352 E113.89682	104 m	0:00:25	15 kph
30/3/2015 13:38	ON	N22.20435 E113.89680	93 m	0:00:22	15 kph
30/3/2015 13:39	ON	N22.20518 E113.89682	93 m	0:00:22	15 kph
30/3/2015 13:39	ON	N22.20612 E113.89682	105 m	0:00:25	15 kph
30/3/2015 13:40	ON	N22.20692 E113.89681	89 m	0:00:21	15 kph
30/3/2015 13:40	ON	N22.20784 E113.89685	102 m	0:00:24	15 kph
30/3/2015 13:40	ON	N22.20876 E113.89685	103 m	0:00:24	15 kph
30/3/2015 13:41	ON	N22.20972 E113.89683	106 m	0:00:25	15 kph
30/3/2015 13:41	ON	N22.21060 E113.89678	98 m	0:00:23	15 kph
30/3/2015 13:42	ON	N22.21169 E113.89679	121 m	0:00:29	15 kph
30/3/2015 13:42	ON	N22.21261 E113.89675	103 m	0:00:25	15 kph
30/3/2015 13:42	ON	N22.21327 E113.89684	75 m	0:00:19	14 kph
30/3/2015 13:43	ON	N22.21341 E113.89727	47 m	0:00:14	12 kph
30/3/2015 13:43	ON	N22.21314 E113.89773	57 m	0:00:15	14 kph
30/3/2015 13:43	ON	N22.21270 E113.89829	75 m	0:00:19	14 kph
30/3/2015 13:44	ON	N22.21218 E113.89892	88 m	0:00:22	14 kph
30/3/2015 13:44	ON	N22.21166 E113.89956	88 m	0:00:22	14 kph
30/3/2015 13:44	ON	N22.21121 E113.90017	80 m	0:00:20	14 kph
30/3/2015 13:45	ON	N22.21078 E113.90075	76 m	0:00:19	14 kph
30/3/2015 13:45	ON	N22.21034 E113.90132	76 m	0:00:19	14 kph
30/3/2015 13:45	ON	N22.20995 E113.90187	72 m	0:00:18	14 kph
30/3/2015 13:46	ON	N22.20950 E113.90253	85 m	0:00:21	14 kph
30/3/2015 13:46	ON	N22.20902 E113.90327	92 m	0:00:23	14 kph
30/3/2015 13:46	ON	N22.20875 E113.90372	55 m	0:00:14	14 kph
30/3/2015 13:46	ON	N22.20848 E113.90422	60 m	0:00:15	14 kph
30/3/2015 13:47	ON	N22.20821 E113.90483	70 m	0:00:17	15 kph
30/3/2015 13:47	ON	N22.20800 E113.90534	57 m	0:00:14	15 kph
30/3/2015 13:47	ON	N22.20779 E113.90583	56 m	0:00:14	15 kph
30/3/2015 13:47	ON	N22.20757 E113.90627	51 m	0:00:13	14 kph
30/3/2015 13:48	ON	N22.20719 E113.90647	47 m	0:00:13	13 kph
30/3/2015 13:48	ON	N22.20654 E113.90648	72 m	0:00:18	14 kph
30/3/2015 13:48	ON	N22.20611 E113.90650	48 m	0:00:12	14 kph
30/3/2015 13:48	ON	N22.20546 E113.90650	73 m	0:00:18	15 kph
30/3/2015 13:49	ON	N22.20485 E113.90655	68 m	0:00:17	14 kph
30/3/2015 13:49	ON	N22.20423 E113.90664	69 m	0:00:17	15 kph
30/3/2015 13:49	ON	N22.20354 E113.90669	77 m	0:00:19	15 kph
30/3/2015 13:50	ON	N22.20286 E113.90673	77 m	0:00:19	15 kph
30/3/2015 13:50	ON	N22.20203 E113.90683	92 m	0:00:23	14 kph
30/3/2015 13:50	ON	N22.20134 E113.90682	77 m	0:00:19	15 kph
30/3/2015 13:51	ON	N22.20069 E113.90683	72 m	0:00:18	14 kph
30/3/2015 13:51	ON	N22.20004 E113.90682	72 m	0:00:18	14 kph
30/3/2015 13:51	ON	N22.19925 E113.90681	88 m	0:00:22	14 kph
30/3/2015 13:51	ON	N22.19871 E113.90682	60 m	0:00:15	14 kph
30/3/2015 13:52	ON	N22.19809 E113.90680	69 m	0:00:17	15 kph
30/3/2015 13:52	ON	N22.19758 E113.90679	57 m	0:00:14	15 kph
30/3/2015 13:52	ON	N22.19692 E113.90675	73 m	0:00:18	15 kph
30/3/2015 13:53	ON	N22.19619 E113.90669	81 m	0:00:20	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 13:53	ON	N22.19576 E113.90664	48 m	0:00:12	14 kph
30/3/2015 13:53	ON	N22.19516 E113.90661	68 m	0:00:17	14 kph
30/3/2015 13:53	ON	N22.19469 E113.90662	52 m	0:00:13	14 kph
30/3/2015 13:54	ON	N22.19408 E113.90666	68 m	0:00:17	14 kph
30/3/2015 13:54	ON	N22.19343 E113.90669	72 m	0:00:18	14 kph
30/3/2015 13:54	ON	N22.19289 E113.90668	60 m	0:00:18	12 kph
30/3/2015 13:55	ON	N22.19258 E113.90667	34 m	0:00:18	7 kph
30/3/2015 13:55	ON	N22.19257 E113.90666	1 m	0:00:01	5 kph
30/3/2015 13:55	ON	N22.19255 E113.90666	3 m	0:00:02	5 kph
30/3/2015 13:55	ON	N22.19249 E113.90666	6 m	0:00:04	6 kph
30/3/2015 13:55	ON	N22.19212 E113.90665	41 m	0:00:14	11 kph
30/3/2015 13:55	ON	N22.19141 E113.90669	80 m	0:00:21	14 kph
30/3/2015 13:55	ON	N22.19089 E113.90675	58 m	0:00:15	14 kph
30/3/2015 13:56	ON	N22.19026 E113.90682	71 m	0:00:18	14 kph
30/3/2015 13:56	ON	N22.18967 E113.90666	67 m	0:00:17	14 kph
30/3/2015 13:56	ON	N22.18920 E113.90639	60 m	0:00:15	14 kph
30/3/2015 13:57	ON	N22.18879 E113.90597	63 m	0:00:15	15 kph
30/3/2015 13:57	ON	N22.18817 E113.90547	86 m	0:00:21	15 kph
30/3/2015 13:57	ON	N22.18743 E113.90512	90 m	0:00:22	15 kph
30/3/2015 13:58	ON	N22.18665 E113.90487	90 m	0:00:22	15 kph
30/3/2015 13:58	ON	N22.18573 E113.90459	106 m	0:00:26	15 kph
30/3/2015 13:58	ON	N22.18488 E113.90433	99 m	0:00:25	14 kph
30/3/2015 13:59	ON	N22.18415 E113.90419	82 m	0:00:21	14 kph
30/3/2015 13:59	ON	N22.18349 E113.90410	74 m	0:00:19	14 kph
30/3/2015 14:00	ON	N22.18273 E113.90402	85 m	0:00:22	14 kph
30/3/2015 14:00	ON	N22.18190 E113.90408	93 m	0:00:24	14 kph
30/3/2015 14:00	ON	N22.18094 E113.90411	107 m	0:00:28	14 kph
30/3/2015 14:01	ON	N22.18028 E113.90413	74 m	0:00:19	14 kph
30/3/2015 14:01	ON	N22.17927 E113.90432	114 m	0:00:30	14 kph
30/3/2015 14:02	ON	N22.17859 E113.90472	86 m	0:00:22	14 kph
30/3/2015 14:02	ON	N22.17794 E113.90505	81 m	0:00:21	14 kph
30/3/2015 14:02	ON	N22.17729 E113.90545	83 m	0:00:21	14 kph
30/3/2015 14:03	ON	N22.17667 E113.90598	89 m	0:00:23	14 kph
30/3/2015 14:03	ON	N22.17612 E113.90668	94 m	0:00:24	14 kph
30/3/2015 14:03	ON	N22.17554 E113.90714	80 m	0:00:21	14 kph
30/3/2015 14:04	ON	N22.17492 E113.90766	88 m	0:00:23	14 kph
30/3/2015 14:04	ON	N22.17434 E113.90821	85 m	0:00:22	14 kph
30/3/2015 14:05	ON	N22.17370 E113.90866	86 m	0:00:22	14 kph
30/3/2015 14:05	ON	N22.17308 E113.90879	70 m	0:00:18	14 kph
30/3/2015 14:05	ON	N22.17252 E113.90859	65 m	0:00:17	14 kph
30/3/2015 14:05	ON	N22.17194 E113.90797	91 m	0:00:23	14 kph
30/3/2015 14:06	ON	N22.17120 E113.90709	122 m	0:00:31	14 kph
30/3/2015 14:07	ON	N22.17039 E113.90629	122 m	0:00:31	14 kph
30/3/2015 14:07	ON	N22.16971 E113.90556	106 m	0:00:26	15 kph
30/3/2015 14:07	ON	N22.16907 E113.90486	102 m	0:00:25	15 kph
30/3/2015 14:08	ON	N22.16837 E113.90406	113 m	0:00:28	15 kph
30/3/2015 14:08	ON	N22.16779 E113.90342	92 m	0:00:23	14 kph
30/3/2015 14:09	ON	N22.16699 E113.90262	121 m	0:00:30	15 kph
30/3/2015 14:09	ON	N22.16631 E113.90181	113 m	0:00:28	15 kph
30/3/2015 14:10	ON	N22.16579 E113.90106	97 m	0:00:24	14 kph
30/3/2015 14:10	ON	N22.16527 E113.90035	93 m	0:00:23	15 kph
30/3/2015 14:10	ON	N22.16458 E113.89967	104 m	0:00:26	14 kph
30/3/2015 14:11	ON	N22.16392 E113.89917	89 m	0:00:22	15 kph
30/3/2015 14:11	ON	N22.16327 E113.89868	89 m	0:00:22	15 kph
30/3/2015 14:11	ON	N22.16268 E113.89837	72 m	0:00:18	14 kph
30/3/2015 14:12	ON	N22.16195 E113.89814	85 m	0:00:21	15 kph
30/3/2015 14:12	ON	N22.16107 E113.89796	99 m	0:00:24	15 kph
30/3/2015 14:13	ON	N22.16015 E113.89800	103 m	0:00:25	15 kph
30/3/2015 14:13	ON	N22.15938 E113.89824	89 m	0:00:22	15 kph
30/3/2015 14:13	ON	N22.15863 E113.89870	95 m	0:00:24	14 kph
30/3/2015 14:14	ON	N22.15802 E113.89913	81 m	0:00:20	15 kph
30/3/2015 14:14	ON	N22.15725 E113.89958	98 m	0:00:24	15 kph
30/3/2015 14:14	ON	N22.15666 E113.90006	82 m	0:00:20	15 kph
30/3/2015 14:15	ON	N22.15613 E113.90074	92 m	0:00:23	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 14:15	ON	N22.15580 E113.90138	75 m	0:00:19	14 kph
30/3/2015 14:16	ON	N22.15545 E113.90220	93 m	0:00:24	14 kph
30/3/2015 14:16	ON	N22.15536 E113.90288	71 m	0:00:20	13 kph
30/3/2015 14:16	ON	N22.15543 E113.90368	82 m	0:00:23	13 kph
30/3/2015 14:17	ON	N22.15553 E113.90437	73 m	0:00:20	13 kph
30/3/2015 14:17	ON	N22.15567 E113.90507	73 m	0:00:20	13 kph
30/3/2015 14:17	ON	N22.15577 E113.90570	66 m	0:00:18	13 kph
30/3/2015 14:17	ON	N22.15573 E113.90624	56 m	0:00:16	13 kph
30/3/2015 14:18	ON	N22.15534 E113.90655	53 m	0:00:15	13 kph
30/3/2015 14:18	ON	N22.15464 E113.90659	78 m	0:00:20	14 kph
30/3/2015 14:18	ON	N22.15396 E113.90670	77 m	0:00:20	14 kph
30/3/2015 14:19	ON	N22.15331 E113.90668	72 m	0:00:18	14 kph
30/3/2015 14:19	ON	N22.15264 E113.90667	74 m	0:00:19	14 kph
30/3/2015 14:19	ON	N22.15201 E113.90670	71 m	0:00:18	14 kph
30/3/2015 14:20	ON	N22.15143 E113.90667	64 m	0:00:16	14 kph
30/3/2015 14:20	ON	N22.15079 E113.90665	71 m	0:00:18	14 kph
30/3/2015 14:20	ON	N22.15012 E113.90666	75 m	0:00:19	14 kph
30/3/2015 14:20	ON	N22.14957 E113.90668	61 m	0:00:15	15 kph
30/3/2015 14:21	ON	N22.14896 E113.90670	68 m	0:00:17	14 kph
30/3/2015 14:21	ON	N22.14842 E113.90672	61 m	0:00:15	15 kph
30/3/2015 14:21	ON	N22.14794 E113.90672	53 m	0:00:13	15 kph
30/3/2015 14:21	ON	N22.14740 E113.90673	61 m	0:00:15	15 kph
30/3/2015 14:22	ON	N22.14685 E113.90673	61 m	0:00:15	15 kph
30/3/2015 14:22	ON	N22.14626 E113.90669	66 m	0:00:16	15 kph
30/3/2015 14:22	ON	N22.14574 E113.90665	58 m	0:00:14	15 kph
30/3/2015 14:22	ON	N22.14518 E113.90664	62 m	0:00:15	15 kph
30/3/2015 14:23	ON	N22.14448 E113.90663	78 m	0:00:19	15 kph
30/3/2015 14:23	ON	N22.14401 E113.90668	52 m	0:00:13	14 kph
30/3/2015 14:23	ON	N22.14363 E113.90706	57 m	0:00:16	13 kph
30/3/2015 14:24	ON	N22.14355 E113.90766	63 m	0:00:17	13 kph
30/3/2015 14:24	ON	N22.14353 E113.90818	53 m	0:00:14	14 kph
30/3/2015 14:24	ON	N22.14346 E113.90885	70 m	0:00:18	14 kph
30/3/2015 14:24	ON	N22.14347 E113.90959	76 m	0:00:20	14 kph
30/3/2015 14:25	ON	N22.14359 E113.91032	76 m	0:00:20	14 kph
30/3/2015 14:25	ON	N22.14359 E113.91100	71 m	0:00:19	13 kph
30/3/2015 14:25	ON	N22.14348 E113.91164	67 m	0:00:18	13 kph
30/3/2015 14:26	ON	N22.14344 E113.91234	73 m	0:00:20	13 kph
30/3/2015 14:26	ON	N22.14349 E113.91301	68 m	0:00:19	13 kph
30/3/2015 14:26	ON	N22.14351 E113.91368	69 m	0:00:19	13 kph
30/3/2015 14:27	ON	N22.14351 E113.91429	63 m	0:00:17	13 kph
30/3/2015 14:27	ON	N22.14352 E113.91497	70 m	0:00:19	13 kph
30/3/2015 14:27	ON	N22.14360 E113.91572	78 m	0:00:21	13 kph
30/3/2015 14:28	ON	N22.14366 E113.91634	64 m	0:00:18	13 kph
30/3/2015 14:28	ON	N22.14404 E113.91660	51 m	0:00:15	12 kph
30/3/2015 14:28	ON	N22.14449 E113.91663	50 m	0:00:13	14 kph
30/3/2015 14:28	ON	N22.14500 E113.91662	57 m	0:00:14	15 kph
30/3/2015 14:28	ON	N22.14549 E113.91667	55 m	0:00:14	14 kph
30/3/2015 14:29	ON	N22.14610 E113.91685	70 m	0:00:18	14 kph
30/3/2015 14:29	ON	N22.14674 E113.91693	71 m	0:00:18	14 kph
30/3/2015 14:29	ON	N22.14742 E113.91693	76 m	0:00:19	14 kph
30/3/2015 14:30	ON	N22.14807 E113.91697	73 m	0:00:18	15 kph
30/3/2015 14:30	ON	N22.14865 E113.91704	65 m	0:00:16	15 kph
30/3/2015 14:30	ON	N22.14919 E113.91712	60 m	0:00:15	14 kph
30/3/2015 14:30	ON	N22.14968 E113.91719	55 m	0:00:14	14 kph
30/3/2015 14:31	ON	N22.15024 E113.91729	63 m	0:00:16	14 kph
30/3/2015 14:31	ON	N22.15081 E113.91735	64 m	0:00:16	14 kph
30/3/2015 14:31	ON	N22.15132 E113.91740	56 m	0:00:14	14 kph
30/3/2015 14:31	ON	N22.15190 E113.91746	65 m	0:00:16	15 kph
30/3/2015 14:32	ON	N22.15240 E113.91752	56 m	0:00:14	14 kph
30/3/2015 14:32	ON	N22.15300 E113.91758	68 m	0:00:17	14 kph
30/3/2015 14:32	ON	N22.15369 E113.91765	76 m	0:00:19	14 kph
30/3/2015 14:33	ON	N22.15435 E113.91769	73 m	0:00:18	15 kph
30/3/2015 14:33	ON	N22.15492 E113.91778	64 m	0:00:16	15 kph
30/3/2015 14:33	ON	N22.15575 E113.91797	94 m	0:00:23	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 14:34	ON	N22.15633 E113.91808	65 m	0:00:17	14 kph
30/3/2015 14:34	ON	N22.15699 E113.91816	75 m	0:00:19	14 kph
30/3/2015 14:34	ON	N22.15764 E113.91822	72 m	0:00:18	14 kph
30/3/2015 14:34	ON	N22.15821 E113.91830	64 m	0:00:16	14 kph
30/3/2015 14:35	ON	N22.15871 E113.91836	55 m	0:00:14	14 kph
30/3/2015 14:35	ON	N22.15939 E113.91842	77 m	0:00:19	15 kph
30/3/2015 14:35	ON	N22.15990 E113.91849	57 m	0:00:14	15 kph
30/3/2015 14:35	ON	N22.16040 E113.91858	56 m	0:00:14	14 kph
30/3/2015 14:36	ON	N22.16105 E113.91867	74 m	0:00:18	15 kph
30/3/2015 14:36	ON	N22.16167 E113.91875	70 m	0:00:17	15 kph
30/3/2015 14:36	ON	N22.16229 E113.91884	69 m	0:00:17	15 kph
30/3/2015 14:37	ON	N22.16295 E113.91893	74 m	0:00:18	15 kph
30/3/2015 14:37	ON	N22.16361 E113.91901	74 m	0:00:18	15 kph
30/3/2015 14:37	ON	N22.16412 E113.91906	57 m	0:00:14	15 kph
30/3/2015 14:37	ON	N22.16460 E113.91910	53 m	0:00:13	15 kph
30/3/2015 14:38	ON	N22.16527 E113.91914	75 m	0:00:18	15 kph
30/3/2015 14:38	ON	N22.16583 E113.91921	63 m	0:00:15	15 kph
30/3/2015 14:38	ON	N22.16646 E113.91930	71 m	0:00:17	15 kph
30/3/2015 14:38	ON	N22.16701 E113.91937	62 m	0:00:15	15 kph
30/3/2015 14:39	ON	N22.16749 E113.91944	54 m	0:00:13	15 kph
30/3/2015 14:39	ON	N22.16800 E113.91952	58 m	0:00:14	15 kph
30/3/2015 14:39	ON	N22.16863 E113.91965	71 m	0:00:17	15 kph
30/3/2015 14:39	ON	N22.16925 E113.91976	70 m	0:00:17	15 kph
30/3/2015 14:40	ON	N22.16979 E113.91986	62 m	0:00:15	15 kph
30/3/2015 14:40	ON	N22.17035 E113.91994	62 m	0:00:15	15 kph
30/3/2015 14:40	ON	N22.17098 E113.92002	71 m	0:00:17	15 kph
30/3/2015 14:41	ON	N22.17154 E113.92005	63 m	0:00:15	15 kph
30/3/2015 14:41	ON	N22.17218 E113.92007	71 m	0:00:17	15 kph
30/3/2015 14:41	ON	N22.17289 E113.92007	80 m	0:00:19	15 kph
30/3/2015 14:41	ON	N22.17349 E113.92006	67 m	0:00:16	15 kph
30/3/2015 14:42	ON	N22.17402 E113.92007	59 m	0:00:14	15 kph
30/3/2015 14:42	ON	N22.17469 E113.92011	74 m	0:00:18	15 kph
30/3/2015 14:42	ON	N22.17538 E113.92024	78 m	0:00:19	15 kph
30/3/2015 14:43	ON	N22.17603 E113.92039	74 m	0:00:18	15 kph
30/3/2015 14:43	ON	N22.17652 E113.92054	57 m	0:00:14	15 kph
30/3/2015 14:43	ON	N22.17715 E113.92075	73 m	0:00:18	15 kph
30/3/2015 14:43	ON	N22.17774 E113.92095	69 m	0:00:17	15 kph
30/3/2015 14:44	ON	N22.17832 E113.92119	69 m	0:00:17	15 kph
30/3/2015 14:44	ON	N22.17890 E113.92144	69 m	0:00:17	15 kph
30/3/2015 14:44	ON	N22.17965 E113.92174	89 m	0:00:22	15 kph
30/3/2015 14:45	ON	N22.18033 E113.92182	76 m	0:00:19	14 kph
30/3/2015 14:45	ON	N22.18094 E113.92165	69 m	0:00:17	15 kph
30/3/2015 14:45	ON	N22.18161 E113.92130	83 m	0:00:20	15 kph
30/3/2015 14:46	ON	N22.18220 E113.92091	77 m	0:00:18	15 kph
30/3/2015 14:46	ON	N22.18276 E113.92040	82 m	0:00:19	15 kph
30/3/2015 14:46	ON	N22.18312 E113.91993	63 m	0:00:15	15 kph
30/3/2015 14:46	ON	N22.18340 E113.91944	59 m	0:00:14	15 kph
30/3/2015 14:47	ON	N22.18373 E113.91893	64 m	0:00:15	15 kph
30/3/2015 14:47	ON	N22.18405 E113.91841	65 m	0:00:15	16 kph
30/3/2015 14:47	ON	N22.18447 E113.91812	56 m	0:00:14	14 kph
30/3/2015 14:47	ON	N22.18509 E113.91812	68 m	0:00:17	14 kph
30/3/2015 14:48	ON	N22.18587 E113.91794	89 m	0:00:21	15 kph
30/3/2015 14:48	ON	N22.18646 E113.91777	69 m	0:00:16	15 kph
30/3/2015 14:48	ON	N22.18713 E113.91757	77 m	0:00:18	15 kph
30/3/2015 14:49	ON	N22.18788 E113.91731	87 m	0:00:20	16 kph
30/3/2015 14:49	ON	N22.18850 E113.91710	73 m	0:00:17	15 kph
30/3/2015 14:49	ON	N22.18921 E113.91691	81 m	0:00:19	15 kph
30/3/2015 14:50	ON	N22.18997 E113.91680	86 m	0:00:20	15 kph
30/3/2015 14:50	ON	N22.19074 E113.91669	86 m	0:00:20	15 kph
30/3/2015 14:50	ON	N22.19142 E113.91670	76 m	0:00:18	15 kph
30/3/2015 14:51	ON	N22.19224 E113.91670	92 m	0:00:22	15 kph
30/3/2015 14:51	ON	N22.19292 E113.91672	75 m	0:00:18	15 kph
30/3/2015 14:51	ON	N22.19364 E113.91672	80 m	0:00:19	15 kph
30/3/2015 14:51	ON	N22.19428 E113.91672	71 m	0:00:17	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 14:52	ON	N22.19498 E113.91671	79 m	0:00:19	15 kph
30/3/2015 14:52	ON	N22.19554 E113.91671	62 m	0:00:15	15 kph
30/3/2015 14:52	ON	N22.19623 E113.91667	76 m	0:00:18	15 kph
30/3/2015 14:53	ON	N22.19708 E113.91663	96 m	0:00:23	15 kph
30/3/2015 14:53	ON	N22.19776 E113.91664	75 m	0:00:18	15 kph
30/3/2015 14:53	ON	N22.19835 E113.91669	66 m	0:00:16	15 kph
30/3/2015 14:53	ON	N22.19894 E113.91675	66 m	0:00:16	15 kph
30/3/2015 14:54	ON	N22.19964 E113.91680	78 m	0:00:19	15 kph
30/3/2015 14:54	ON	N22.20023 E113.91681	66 m	0:00:16	15 kph
30/3/2015 14:54	ON	N22.20096 E113.91677	82 m	0:00:20	15 kph
30/3/2015 14:55	ON	N22.20156 E113.91670	67 m	0:00:16	15 kph
30/3/2015 14:55	ON	N22.20229 E113.91664	81 m	0:00:20	15 kph
30/3/2015 14:55	ON	N22.20304 E113.91662	84 m	0:00:21	14 kph
30/3/2015 14:56	ON	N22.20378 E113.91654	82 m	0:00:20	15 kph
30/3/2015 14:56	ON	N22.20446 E113.91644	77 m	0:00:19	15 kph
30/3/2015 14:56	ON	N22.20521 E113.91655	84 m	0:00:21	14 kph
30/3/2015 14:57	ON	N22.20565 E113.91680	55 m	0:00:14	14 kph
30/3/2015 14:57	ON	N22.20592 E113.91736	65 m	0:00:18	13 kph
30/3/2015 14:57	ON	N22.20594 E113.91801	67 m	0:00:18	13 kph
30/3/2015 14:57	ON	N22.20595 E113.91865	66 m	0:00:18	13 kph
30/3/2015 14:58	ON	N22.20597 E113.91926	63 m	0:00:17	13 kph
30/3/2015 14:58	ON	N22.20599 E113.91979	55 m	0:00:15	13 kph
30/3/2015 14:58	ON	N22.20603 E113.92032	55 m	0:00:15	13 kph
30/3/2015 14:59	ON	N22.20607 E113.92081	51 m	0:00:14	13 kph
30/3/2015 14:59	ON	N22.20612 E113.92145	66 m	0:00:18	13 kph
30/3/2015 14:59	ON	N22.20618 E113.92209	67 m	0:00:18	13 kph
30/3/2015 14:59	ON	N22.20623 E113.92266	59 m	0:00:16	13 kph
30/3/2015 15:00	ON	N22.20626 E113.92309	44 m	0:00:12	13 kph
30/3/2015 15:00	ON	N22.20627 E113.92352	45 m	0:00:12	13 kph
30/3/2015 15:00	ON	N22.20630 E113.92413	63 m	0:00:17	13 kph
30/3/2015 15:00	ON	N22.20635 E113.92466	55 m	0:00:15	13 kph
30/3/2015 15:00	ON	N22.20641 E113.92496	32 m	0:00:09	13 kph
30/3/2015 15:01	ON	N22.20652 E113.92553	60 m	0:00:16	13 kph
30/3/2015 15:01	ON	N22.20654 E113.92602	51 m	0:00:14	13 kph
30/3/2015 15:01	ON	N22.20631 E113.92632	40 m	0:00:12	12 kph
30/3/2015 15:01	ON	N22.20577 E113.92646	62 m	0:00:16	14 kph
30/3/2015 15:02	ON	N22.20517 E113.92630	68 m	0:00:17	14 kph
30/3/2015 15:02	ON	N22.20461 E113.92632	62 m	0:00:16	14 kph
30/3/2015 15:02	ON	N22.20399 E113.92645	70 m	0:00:18	14 kph
30/3/2015 15:03	ON	N22.20338 E113.92646	68 m	0:00:17	15 kph
30/3/2015 15:03	ON	N22.20277 E113.92634	68 m	0:00:17	14 kph
30/3/2015 15:03	ON	N22.20232 E113.92618	53 m	0:00:13	15 kph
30/3/2015 15:03	ON	N22.20176 E113.92606	64 m	0:00:16	14 kph
30/3/2015 15:04	ON	N22.20124 E113.92609	58 m	0:00:15	14 kph
30/3/2015 15:04	ON	N22.20056 E113.92610	76 m	0:00:19	14 kph
30/3/2015 15:04	ON	N22.19995 E113.92604	68 m	0:00:17	14 kph
30/3/2015 15:04	ON	N22.19943 E113.92604	58 m	0:00:15	14 kph
30/3/2015 15:05	ON	N22.19885 E113.92606	65 m	0:00:17	14 kph
30/3/2015 15:05	ON	N22.19819 E113.92615	73 m	0:00:19	14 kph
30/3/2015 15:05	ON	N22.19759 E113.92628	69 m	0:00:18	14 kph
30/3/2015 15:06	ON	N22.19691 E113.92638	76 m	0:00:20	14 kph
30/3/2015 15:06	ON	N22.19624 E113.92647	76 m	0:00:20	14 kph
30/3/2015 15:06	ON	N22.19558 E113.92650	73 m	0:00:19	14 kph
30/3/2015 15:07	ON	N22.19491 E113.92647	74 m	0:00:19	14 kph
30/3/2015 15:07	ON	N22.19443 E113.92643	54 m	0:00:14	14 kph
30/3/2015 15:07	ON	N22.19381 E113.92637	69 m	0:00:18	14 kph
30/3/2015 15:07	ON	N22.19333 E113.92637	54 m	0:00:14	14 kph
30/3/2015 15:08	ON	N22.19277 E113.92639	62 m	0:00:16	14 kph
30/3/2015 15:08	ON	N22.19212 E113.92644	72 m	0:00:19	14 kph
30/3/2015 15:08	ON	N22.19149 E113.92646	71 m	0:00:18	14 kph
30/3/2015 15:09	ON	N22.19093 E113.92642	62 m	0:00:16	14 kph
30/3/2015 15:09	ON	N22.19042 E113.92638	57 m	0:00:15	14 kph
30/3/2015 15:09	ON	N22.18980 E113.92639	68 m	0:00:18	14 kph
30/3/2015 15:09	ON	N22.18899 E113.92648	91 m	0:00:24	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 15:10	ON	N22.18837 E113.92653	68 m	0:00:18	14 kph
30/3/2015 15:10	ON	N22.18772 E113.92654	73 m	0:00:19	14 kph
30/3/2015 15:10	ON	N22.18714 E113.92656	64 m	0:00:17	14 kph
30/3/2015 15:11	ON	N22.18650 E113.92657	71 m	0:00:19	14 kph
30/3/2015 15:11	ON	N22.18589 E113.92657	69 m	0:00:18	14 kph
30/3/2015 15:11	ON	N22.18517 E113.92660	79 m	0:00:21	14 kph
30/3/2015 15:12	ON	N22.18466 E113.92662	57 m	0:00:15	14 kph
30/3/2015 15:12	ON	N22.18405 E113.92665	68 m	0:00:18	14 kph
30/3/2015 15:12	ON	N22.18350 E113.92668	61 m	0:00:16	14 kph
30/3/2015 15:12	ON	N22.18297 E113.92673	60 m	0:00:16	13 kph
30/3/2015 15:13	ON	N22.18243 E113.92680	61 m	0:00:16	14 kph
30/3/2015 15:13	ON	N22.18195 E113.92696	55 m	0:00:15	13 kph
30/3/2015 15:13	ON	N22.18146 E113.92721	60 m	0:00:17	13 kph
30/3/2015 15:14	ON	N22.18084 E113.92748	75 m	0:00:20	13 kph
30/3/2015 15:14	ON	N22.18029 E113.92756	62 m	0:00:16	14 kph
30/3/2015 15:14	ON	N22.17966 E113.92755	69 m	0:00:18	14 kph
30/3/2015 15:14	ON	N22.17918 E113.92748	54 m	0:00:14	14 kph
30/3/2015 15:15	ON	N22.17859 E113.92738	66 m	0:00:17	14 kph
30/3/2015 15:15	ON	N22.17804 E113.92728	62 m	0:00:16	14 kph
30/3/2015 15:15	ON	N22.17756 E113.92720	54 m	0:00:14	14 kph
30/3/2015 15:15	ON	N22.17696 E113.92715	67 m	0:00:17	14 kph
30/3/2015 15:16	ON	N22.17643 E113.92716	59 m	0:00:15	14 kph
30/3/2015 15:16	ON	N22.17581 E113.92714	70 m	0:00:18	14 kph
30/3/2015 15:16	ON	N22.17531 E113.92712	55 m	0:00:14	14 kph
30/3/2015 15:16	ON	N22.17479 E113.92711	58 m	0:00:15	14 kph
30/3/2015 15:17	ON	N22.17417 E113.92711	70 m	0:00:18	14 kph
30/3/2015 15:17	ON	N22.17365 E113.92711	58 m	0:00:15	14 kph
30/3/2015 15:17	ON	N22.17304 E113.92711	67 m	0:00:17	14 kph
30/3/2015 15:18	ON	N22.17251 E113.92711	59 m	0:00:15	14 kph
30/3/2015 15:18	ON	N22.17207 E113.92713	49 m	0:00:13	14 kph
30/3/2015 15:18	ON	N22.17149 E113.92713	65 m	0:00:17	14 kph
30/3/2015 15:18	ON	N22.17097 E113.92712	57 m	0:00:15	14 kph
30/3/2015 15:19	ON	N22.17039 E113.92713	65 m	0:00:17	14 kph
30/3/2015 15:19	ON	N22.16980 E113.92712	66 m	0:00:17	14 kph
30/3/2015 15:19	ON	N22.16921 E113.92708	66 m	0:00:17	14 kph
30/3/2015 15:19	ON	N22.16873 E113.92706	54 m	0:00:14	14 kph
30/3/2015 15:20	ON	N22.16821 E113.92703	57 m	0:00:15	14 kph
30/3/2015 15:20	ON	N22.16765 E113.92698	63 m	0:00:16	14 kph
30/3/2015 15:20	ON	N22.16719 E113.92694	51 m	0:00:13	14 kph
30/3/2015 15:20	ON	N22.16674 E113.92691	51 m	0:00:13	14 kph
30/3/2015 15:21	ON	N22.16625 E113.92688	55 m	0:00:14	14 kph
30/3/2015 15:21	ON	N22.16570 E113.92686	62 m	0:00:16	14 kph
30/3/2015 15:21	ON	N22.16510 E113.92686	66 m	0:00:17	14 kph
30/3/2015 15:21	ON	N22.16458 E113.92688	58 m	0:00:15	14 kph
30/3/2015 15:22	ON	N22.16403 E113.92691	62 m	0:00:16	14 kph
30/3/2015 15:22	ON	N22.16341 E113.92698	69 m	0:00:18	14 kph
30/3/2015 15:22	ON	N22.16282 E113.92706	66 m	0:00:17	14 kph
30/3/2015 15:22	ON	N22.16234 E113.92710	54 m	0:00:14	14 kph
30/3/2015 15:23	ON	N22.16179 E113.92711	62 m	0:00:16	14 kph
30/3/2015 15:23	ON	N22.16116 E113.92709	69 m	0:00:18	14 kph
30/3/2015 15:23	ON	N22.16064 E113.92705	58 m	0:00:15	14 kph
30/3/2015 15:23	ON	N22.16019 E113.92702	51 m	0:00:13	14 kph
30/3/2015 15:24	ON	N22.15966 E113.92698	59 m	0:00:15	14 kph
30/3/2015 15:24	ON	N22.15917 E113.92694	54 m	0:00:14	14 kph
30/3/2015 15:24	ON	N22.15869 E113.92688	55 m	0:00:14	14 kph
30/3/2015 15:24	ON	N22.15820 E113.92682	55 m	0:00:14	14 kph
30/3/2015 15:25	ON	N22.15771 E113.92677	54 m	0:00:14	14 kph
30/3/2015 15:25	ON	N22.15719 E113.92674	58 m	0:00:15	14 kph
30/3/2015 15:25	ON	N22.15670 E113.92674	54 m	0:00:14	14 kph
30/3/2015 15:25	ON	N22.15614 E113.92675	62 m	0:00:16	14 kph
30/3/2015 15:26	ON	N22.15551 E113.92678	70 m	0:00:18	14 kph
30/3/2015 15:26	ON	N22.15495 E113.92683	63 m	0:00:16	14 kph
30/3/2015 15:26	ON	N22.15446 E113.92688	55 m	0:00:14	14 kph
30/3/2015 15:26	ON	N22.15402 E113.92696	50 m	0:00:13	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 15:27	ON	N22.15353 E113.92704	54 m	0:00:14	14 kph
30/3/2015 15:27	ON	N22.15302 E113.92711	58 m	0:00:15	14 kph
30/3/2015 15:27	ON	N22.15243 E113.92715	66 m	0:00:17	14 kph
30/3/2015 15:27	ON	N22.15197 E113.92715	51 m	0:00:13	14 kph
30/3/2015 15:28	ON	N22.15145 E113.92712	58 m	0:00:15	14 kph
30/3/2015 15:28	ON	N22.15099 E113.92708	51 m	0:00:13	14 kph
30/3/2015 15:28	ON	N22.15057 E113.92706	48 m	0:00:12	14 kph
30/3/2015 15:28	ON	N22.15000 E113.92702	63 m	0:00:16	14 kph
30/3/2015 15:29	ON	N22.14957 E113.92698	48 m	0:00:12	14 kph
30/3/2015 15:29	ON	N22.14914 E113.92693	48 m	0:00:12	14 kph
30/3/2015 15:29	ON	N22.14865 E113.92686	56 m	0:00:14	14 kph
30/3/2015 15:29	ON	N22.14807 E113.92675	65 m	0:00:16	15 kph
30/3/2015 15:29	ON	N22.14758 E113.92669	55 m	0:00:14	14 kph
30/3/2015 15:30	ON	N22.14705 E113.92669	60 m	0:00:15	14 kph
30/3/2015 15:30	ON	N22.14660 E113.92675	50 m	0:00:13	14 kph
30/3/2015 15:30	ON	N22.14613 E113.92684	54 m	0:00:14	14 kph
30/3/2015 15:30	ON	N22.14561 E113.92690	58 m	0:00:15	14 kph
30/3/2015 15:31	ON	N22.14508 E113.92695	59 m	0:00:15	14 kph
30/3/2015 15:31	ON	N22.14454 E113.92698	61 m	0:00:15	15 kph
30/3/2015 15:31	ON	N22.14406 E113.92698	53 m	0:00:13	15 kph
30/3/2015 15:31	ON	N22.14366 E113.92711	47 m	0:00:14	12 kph
30/3/2015 15:32	ON	N22.14368 E113.92740	31 m	0:00:12	9 kph
30/3/2015 15:32	ON	N22.14400 E113.92745	37 m	0:00:12	11 kph
30/3/2015 15:32	ON	N22.14450 E113.92744	55 m	0:00:15	13 kph
30/3/2015 15:32	ON	N22.14495 E113.92778	61 m	0:00:17	13 kph
30/3/2015 15:33	ON	N22.14533 E113.92813	55 m	0:00:15	13 kph
30/3/2015 15:33	ON	N22.14581 E113.92833	58 m	0:00:15	14 kph
30/3/2015 15:33	ON	N22.14636 E113.92842	62 m	0:00:16	14 kph
30/3/2015 15:33	ON	N22.14692 E113.92859	65 m	0:00:16	15 kph
30/3/2015 15:34	ON	N22.14746 E113.92880	63 m	0:00:16	14 kph
30/3/2015 15:34	ON	N22.14806 E113.92902	71 m	0:00:18	14 kph
30/3/2015 15:34	ON	N22.14864 E113.92922	67 m	0:00:17	14 kph
30/3/2015 15:34	ON	N22.14904 E113.92936	46 m	0:00:12	14 kph
30/3/2015 15:35	ON	N22.14952 E113.92952	57 m	0:00:14	15 kph
30/3/2015 15:35	ON	N22.15011 E113.92969	67 m	0:00:17	14 kph
30/3/2015 15:35	ON	N22.15059 E113.92989	58 m	0:00:15	14 kph
30/3/2015 15:35	ON	N22.15110 E113.93014	62 m	0:00:16	14 kph
30/3/2015 15:36	ON	N22.15161 E113.93038	62 m	0:00:16	14 kph
30/3/2015 15:36	ON	N22.15215 E113.93056	63 m	0:00:16	14 kph
30/3/2015 15:36	ON	N22.15268 E113.93067	60 m	0:00:15	14 kph
30/3/2015 15:36	ON	N22.15322 E113.93086	64 m	0:00:16	14 kph
30/3/2015 15:37	ON	N22.15374 E113.93103	60 m	0:00:15	14 kph
30/3/2015 15:37	ON	N22.15421 E113.93119	55 m	0:00:14	14 kph
30/3/2015 15:37	ON	N22.15458 E113.93132	43 m	0:00:11	14 kph
30/3/2015 15:37	ON	N22.15498 E113.93146	48 m	0:00:12	14 kph
30/3/2015 15:38	ON	N22.15549 E113.93165	60 m	0:00:15	14 kph
30/3/2015 15:38	ON	N22.15602 E113.93192	66 m	0:00:17	14 kph
30/3/2015 15:38	ON	N22.15647 E113.93221	58 m	0:00:15	14 kph
30/3/2015 15:38	ON	N22.15693 E113.93242	55 m	0:00:14	14 kph
30/3/2015 15:39	ON	N22.15749 E113.93251	64 m	0:00:16	14 kph
30/3/2015 15:39	ON	N22.15801 E113.93242	58 m	0:00:14	15 kph
30/3/2015 15:39	ON	N22.15861 E113.93229	69 m	0:00:17	15 kph
30/3/2015 15:39	ON	N22.15920 E113.93228	65 m	0:00:16	15 kph
30/3/2015 15:40	ON	N22.15978 E113.93241	65 m	0:00:16	15 kph
30/3/2015 15:40	ON	N22.16027 E113.93255	57 m	0:00:14	15 kph
30/3/2015 15:40	ON	N22.16080 E113.93267	60 m	0:00:15	14 kph
30/3/2015 15:40	ON	N22.16123 E113.93275	48 m	0:00:12	15 kph
30/3/2015 15:41	ON	N22.16185 E113.93277	69 m	0:00:17	15 kph
30/3/2015 15:41	ON	N22.16229 E113.93273	50 m	0:00:12	15 kph
30/3/2015 15:41	ON	N22.16288 E113.93266	66 m	0:00:16	15 kph
30/3/2015 15:41	ON	N22.16344 E113.93264	62 m	0:00:15	15 kph
30/3/2015 15:42	ON	N22.16396 E113.93268	58 m	0:00:14	15 kph
30/3/2015 15:42	ON	N22.16453 E113.93274	64 m	0:00:16	14 kph
30/3/2015 15:42	ON	N22.16511 E113.93277	65 m	0:00:16	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 15:42	ON	N22.16563 E113.93278	58 m	0:00:14	15 kph
30/3/2015 15:43	ON	N22.16625 E113.93279	70 m	0:00:17	15 kph
30/3/2015 15:43	ON	N22.16677 E113.93278	58 m	0:00:14	15 kph
30/3/2015 15:43	ON	N22.16741 E113.93274	71 m	0:00:17	15 kph
30/3/2015 15:43	ON	N22.16808 E113.93270	74 m	0:00:18	15 kph
30/3/2015 15:44	ON	N22.16875 E113.93262	75 m	0:00:18	15 kph
30/3/2015 15:44	ON	N22.16938 E113.93249	72 m	0:00:17	15 kph
30/3/2015 15:44	ON	N22.17004 E113.93238	75 m	0:00:18	15 kph
30/3/2015 15:45	ON	N22.17071 E113.93239	74 m	0:00:18	15 kph
30/3/2015 15:45	ON	N22.17133 E113.93252	70 m	0:00:17	15 kph
30/3/2015 15:45	ON	N22.17189 E113.93268	64 m	0:00:16	14 kph
30/3/2015 15:45	ON	N22.17240 E113.93272	57 m	0:00:14	15 kph
30/3/2015 15:46	ON	N22.17295 E113.93269	61 m	0:00:15	15 kph
30/3/2015 15:46	ON	N22.17347 E113.93270	58 m	0:00:14	15 kph
30/3/2015 15:46	ON	N22.17399 E113.93274	57 m	0:00:14	15 kph
30/3/2015 15:46	ON	N22.17454 E113.93276	62 m	0:00:15	15 kph
30/3/2015 15:47	ON	N22.17510 E113.93276	62 m	0:00:15	15 kph
30/3/2015 15:47	ON	N22.17562 E113.93277	58 m	0:00:14	15 kph
30/3/2015 15:47	ON	N22.17618 E113.93276	62 m	0:00:15	15 kph
30/3/2015 15:47	ON	N22.17692 E113.93274	83 m	0:00:20	15 kph
30/3/2015 15:48	ON	N22.17741 E113.93272	55 m	0:00:13	15 kph
30/3/2015 15:48	ON	N22.17805 E113.93273	71 m	0:00:17	15 kph
30/3/2015 15:48	ON	N22.17865 E113.93277	67 m	0:00:16	15 kph
30/3/2015 15:48	ON	N22.17914 E113.93280	55 m	0:00:13	15 kph
30/3/2015 15:49	ON	N22.17974 E113.93282	67 m	0:00:16	15 kph
30/3/2015 15:49	ON	N22.18034 E113.93284	67 m	0:00:16	15 kph
30/3/2015 15:49	ON	N22.18094 E113.93284	67 m	0:00:16	15 kph
30/3/2015 15:49	ON	N22.18143 E113.93282	54 m	0:00:13	15 kph
30/3/2015 15:50	ON	N22.18199 E113.93280	63 m	0:00:15	15 kph
30/3/2015 15:50	ON	N22.18259 E113.93278	67 m	0:00:16	15 kph
30/3/2015 15:50	ON	N22.18316 E113.93274	63 m	0:00:15	15 kph
30/3/2015 15:51	ON	N22.18377 E113.93269	68 m	0:00:16	15 kph
30/3/2015 15:51	ON	N22.18422 E113.93265	51 m	0:00:12	15 kph
30/3/2015 15:51	ON	N22.18483 E113.93261	68 m	0:00:16	15 kph
30/3/2015 15:51	ON	N22.18548 E113.93259	72 m	0:00:17	15 kph
30/3/2015 15:52	ON	N22.18628 E113.93254	89 m	0:00:21	15 kph
30/3/2015 15:52	ON	N22.18685 E113.93249	63 m	0:00:15	15 kph
30/3/2015 15:52	ON	N22.18753 E113.93248	76 m	0:00:18	15 kph
30/3/2015 15:52	ON	N22.18817 E113.93252	72 m	0:00:17	15 kph
30/3/2015 15:53	ON	N22.18881 E113.93254	72 m	0:00:17	15 kph
30/3/2015 15:53	ON	N22.18934 E113.93255	59 m	0:00:14	15 kph
30/3/2015 15:53	ON	N22.18998 E113.93256	71 m	0:00:17	15 kph
30/3/2015 15:54	ON	N22.19066 E113.93257	75 m	0:00:18	15 kph
30/3/2015 15:54	ON	N22.19123 E113.93257	63 m	0:00:15	15 kph
30/3/2015 15:54	ON	N22.19182 E113.93256	67 m	0:00:16	15 kph
30/3/2015 15:54	ON	N22.19231 E113.93257	54 m	0:00:13	15 kph
30/3/2015 15:55	ON	N22.19288 E113.93256	63 m	0:00:15	15 kph
30/3/2015 15:55	ON	N22.19356 E113.93257	77 m	0:00:18	15 kph
30/3/2015 15:55	ON	N22.19438 E113.93256	90 m	0:00:22	15 kph
30/3/2015 15:56	ON	N22.19525 E113.93254	98 m	0:00:23	15 kph
30/3/2015 15:56	ON	N22.19598 E113.93252	81 m	0:00:19	15 kph
30/3/2015 15:56	ON	N22.19670 E113.93249	81 m	0:00:19	15 kph
30/3/2015 15:57	ON	N22.19741 E113.93255	79 m	0:00:19	15 kph
30/3/2015 15:57	ON	N22.19808 E113.93267	76 m	0:00:18	15 kph
30/3/2015 15:57	ON	N22.19863 E113.93277	62 m	0:00:15	15 kph
30/3/2015 15:57	ON	N22.19922 E113.93284	66 m	0:00:16	15 kph
30/3/2015 15:58	ON	N22.20002 E113.93290	89 m	0:00:22	15 kph
30/3/2015 15:58	ON	N22.20065 E113.93290	70 m	0:00:17	15 kph
30/3/2015 15:58	ON	N22.20148 E113.93285	92 m	0:00:23	14 kph
30/3/2015 15:59	ON	N22.20232 E113.93279	94 m	0:00:23	15 kph
30/3/2015 15:59	ON	N22.20300 E113.93287	77 m	0:00:19	15 kph
30/3/2015 15:59	ON	N22.20360 E113.93295	67 m	0:00:17	14 kph
30/3/2015 16:00	ON	N22.20416 E113.93301	62 m	0:00:15	15 kph
30/3/2015 16:00	ON	N22.20485 E113.93310	77 m	0:00:19	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
30/3/2015 16:00	ON	N22.20556 E113.93318	80 m	0:00:20	14 kph
30/3/2015 16:01	ON	N22.20630 E113.93325	82 m	0:00:20	15 kph
30/3/2015 16:01	ON	N22.20701 E113.93331	79 m	0:00:20	14 kph
30/3/2015 16:01	ON	N22.20762 E113.93334	69 m	0:00:17	15 kph
30/3/2015 16:02	ON	N22.20831 E113.93340	76 m	0:00:19	14 kph
30/3/2015 16:02	ON	N22.20896 E113.93347	73 m	0:00:18	15 kph
30/3/2015 16:02	ON	N22.20969 E113.93359	82 m	0:00:20	15 kph
30/3/2015 16:02	ON	N22.21027 E113.93370	65 m	0:00:16	15 kph
30/3/2015 16:03	ON	N22.21091 E113.93382	73 m	0:00:18	15 kph
30/3/2015 16:03	ON	N22.21166 E113.93400	85 m	0:00:21	15 kph
30/3/2015 16:03	ON	N22.21234 E113.93412	76 m	0:00:19	14 kph
30/3/2015 16:04	ON	N22.21297 E113.93416	71 m	0:00:18	14 kph
30/3/2015 16:04	ON	N22.21376 E113.93415	88 m	0:00:22	14 kph
30/3/2015 16:04	ON	N22.21456 E113.93414	88 m	0:00:22	14 kph
30/3/2015 16:05	ON	N22.21539 E113.93414	92 m	0:00:23	14 kph
30/3/2015 16:05	ON	N22.21634 E113.93406	107 m	0:00:26	15 kph
30/3/2015 16:06	ON	N22.21722 E113.93388	100 m	0:00:24	15 kph
30/3/2015 16:06	ON	N22.21812 E113.93373	102 m	0:00:25	15 kph
30/3/2015 16:06	ON	N22.21895 E113.93360	93 m	0:00:23	14 kph
30/3/2015 16:07	ON	N22.21990 E113.93345	107 m	0:00:26	15 kph
30/3/2015 16:07	ON	N22.22051 E113.93351	69 m	0:00:17	15 kph

Appendix II. HYD-HZMB Survey Effort Database in SWL (March 2015)

(Abbreviations: BEAU = Beaufort Sea State; P = Primary Line Effort; S = Secondary Line Effort)

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
27-Mar-15	SW LANTAU	1	13.28	SPRING	STANDARD31516	HKCRP	P
27-Mar-15	SW LANTAU	2	3.30	SPRING	STANDARD31516	HKCRP	P
27-Mar-15	SW LANTAU	1	3.07	SPRING	STANDARD31516	HKCRP	S
27-Mar-15	SW LANTAU	2	4.45	SPRING	STANDARD31516	HKCRP	S
30-Mar-15	SW LANTAU	2	30.55	SPRING	STANDARD31516	HYD-HZMB	P
30-Mar-15	SW LANTAU	3	23.99	SPRING	STANDARD31516	HYD-HZMB	P
30-Mar-15	SW LANTAU	2	9.13	SPRING	STANDARD31516	HYD-HZMB	S
30-Mar-15	SW LANTAU	3	7.50	SPRING	STANDARD31516	HYD-HZMB	S

Appendix III. HYD-HZMB Chinese White Dolphin Sighting Database in SWL (March 2015)

(Abberviations: STG# = Sighting Number; HRD SZ = Dolphin Herd Size; BEAU = Beaufort Sea State; PSD = Perpendicular Distance; ND = Not Determined; BOAT ASSOC. = Fishing Boat Association; P/S: Sighting Made on Primary/Secondary Lines)

DATE	STG #	TIME	HRD SZ	AREA	BEAU	PSD	EFFORT	TYPE	NORTHING	EASTING	SEASON	BOAT ASSOC.	P/S
27-Mar-15	1	1333	2	SW LANTAU	2	ND	OFF	HKCRP	806018	802208	SPRING	NONE	N/A
30-Mar-15	1	1133	1	SW LANTAU	3	7	ON	HYD-HZMB	806746	803622	SPRING	NONE	S

Appendix IV. Representative photographs of a lone dolphin sighted on March 30th