Monitoring of Chinese White Dolphins in Southwest Lantau Waters

6th Monthly Progress Report (August 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 sixth 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 August 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 August 7th, 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).

3.1.2. In addition, three line-transect surveys were also conducted under the AFCD long-term marine mammal monitoring programme in SWL survey area on August 11th (with lines no. SWL005, SWL007, SWL009 covered), August 12th (with lines no. SWL002, SWL004, SWL006, SWL008 covered), and August 18th (with lines no. SWL005 and SWL007 covered). Such monitoring data were also incorporated into the present study for various analyses.

3.1.3. For the present study alone, a total of 71.53 km of survey effort was collected from 11:08 to 17:07 (i.e. 5 hours and 59 minutes of survey time) on August 7th, with 99.4% of the total survey effort being conducted under favourable weather conditions (i.e. Beaufort Sea State 3 or below with good visibility) (Appendix II). The total survey effort conducted on primary and secondary lines were 55.93 km and 15.60 km respectively.

3.1.4. For the combined monitoring dataset from both the present study and AFCD monitoring study, a total of 150.34 km of survey effort was collected SWL waters in August 2015.

3.1.5. During this month, 13 groups of 53 Chinese White Dolphins were sighted from the present study's survey and AFCD monitoring surveys conducted in SWL survey area (Appendix III). All except two dolphin sightings were made during on-effort search, while nine of the eleven on-effort sightings were made on primary lines. None of these dolphin groups was associated with an operating fishing vessel.

3.1.6. Distribution of dolphin sightings made in August 2015 is shown in Figure 3. The dolphin groups were mostly sighted near Fan Lau and around the Soko Islands. They were generally absent from the coastline between Kau Ling Chung and Shui Hau Peninsula, which was in contrary to previous months of distribution patterns (Figure 3).

3.1.7. 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 August 2015 are shown in Table 2. Comparison of encounter rates was also made to the one deduced in summer months (June-August) in the past decade (2005-14) (Table 2).

3.1.8. As in the previous month of July 2015, the overall dolphin encounter rates deduced in August 2015 in Southwest Lantau waters were 2-3 times higher than the ones deduced from the historical data during the summer months of 2004-15 (Table 2).

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 August 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 summer months in the past decade (June-August 2005-14)

	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 (August 2015)	10.81	9.85	45.05	36.57
Combined data (August 2015)	8.81	7.34	37.21	32.02
Historical Data (Summer 2005-14)		4.02		11.78

3.1.9. The average group size of Chinese White Dolphins in August 2015 was 4.1 individuals per group. About half of the dolphin groups were very small, composed of 1-2 animals only. On the other hand, there were four groups with 5-9 dolphins and one large group of 12 dolphins sighted in SWL waters during this monitoring month (Figure 3).

3.2. Photo-identification Work

3.2.1. Attempts were made to photograph the dolphins sighted during all August 2015 surveys.

3.2.2. Among the 53 dolphins sighted during this month's surveys, 28 individual dolphins were identified and they were re-sighted 34 times in total (Appendices IV and V). None of these individuals were accompanied by their young calves.

3.2.3. The locations where the majority of individuals were re-sighted were well within their past home ranges in Southwest and West Lantau waters. However, EL01, NL226, NL262, NL287 were primarily sighted in North Lantau waters in the past, but have shown up in SWL survey area for during this month's surveys.

3.2.4. In fact, both NL262 and NL287 were sighted in SWL waters for the first time, and both were previously calves of individuals NL104 and NL145. Notably, these two mother-calf pairs (i.e. NL104/NL262 and NL145/NL287) primarily ranged in North Lantau waters in the past.

3.2.5. Moreover, WL230 was sighted in SWL waters for the first time during this month's surveys. It was only sighted a few times in West Lantau in the past.

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.

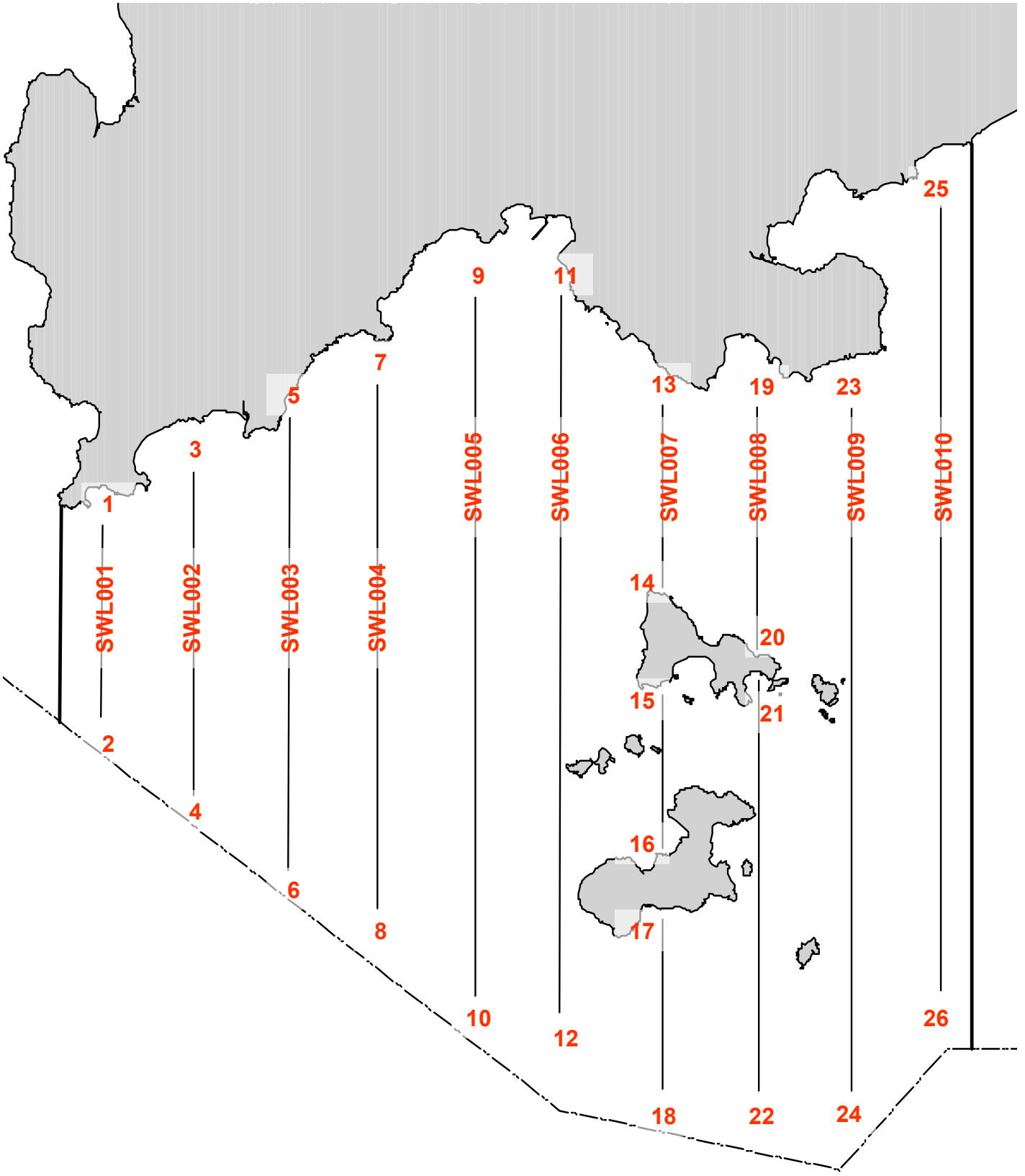

Figure 1. Survey Lines and associated coordinates in Southwest Lantau survey area

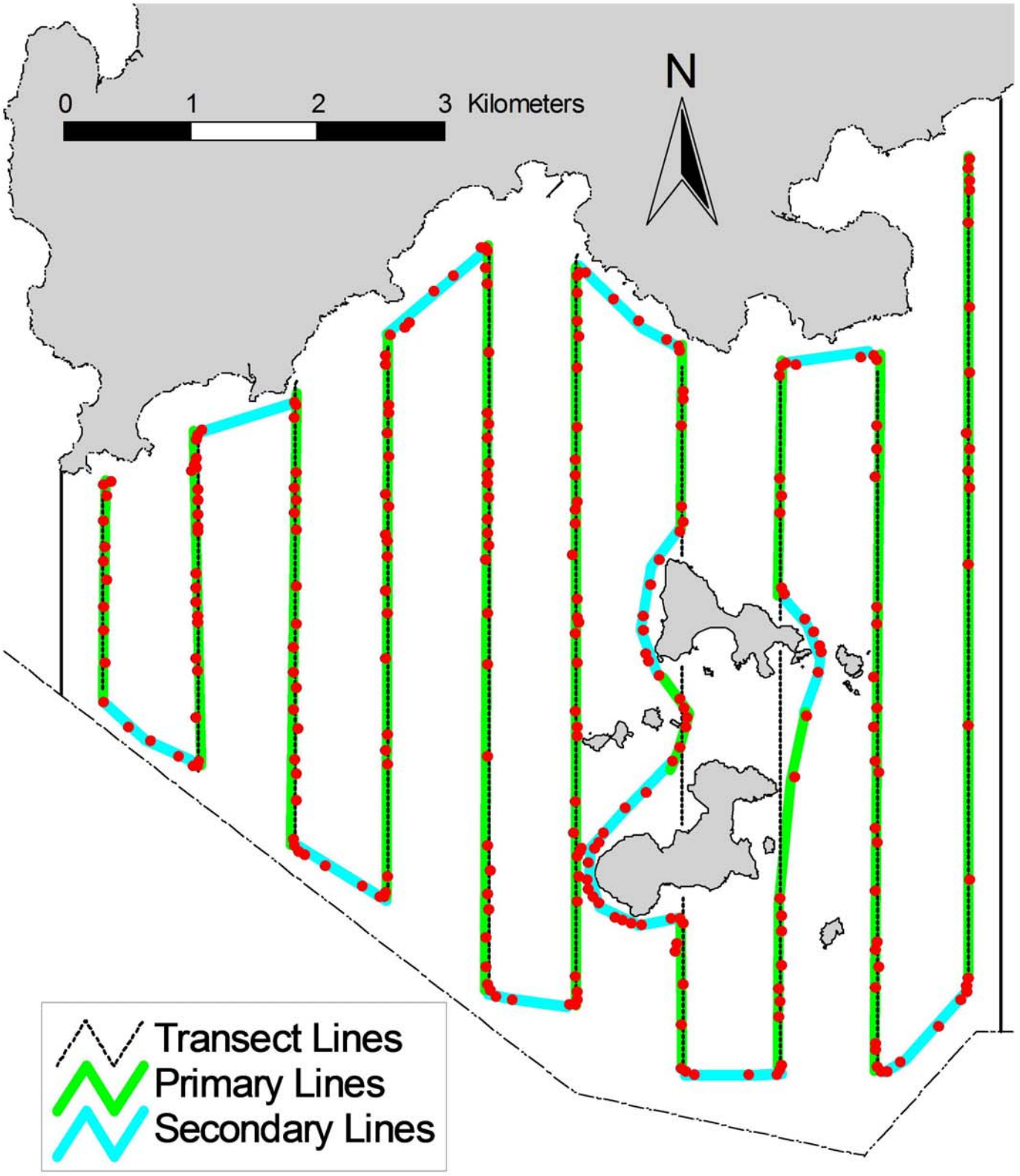

Figure 2. Survey Route on August 7th, 2015 (note: red dots represent the tracked positions of survey boat logged continuously by GPS throughout the course of the survey)

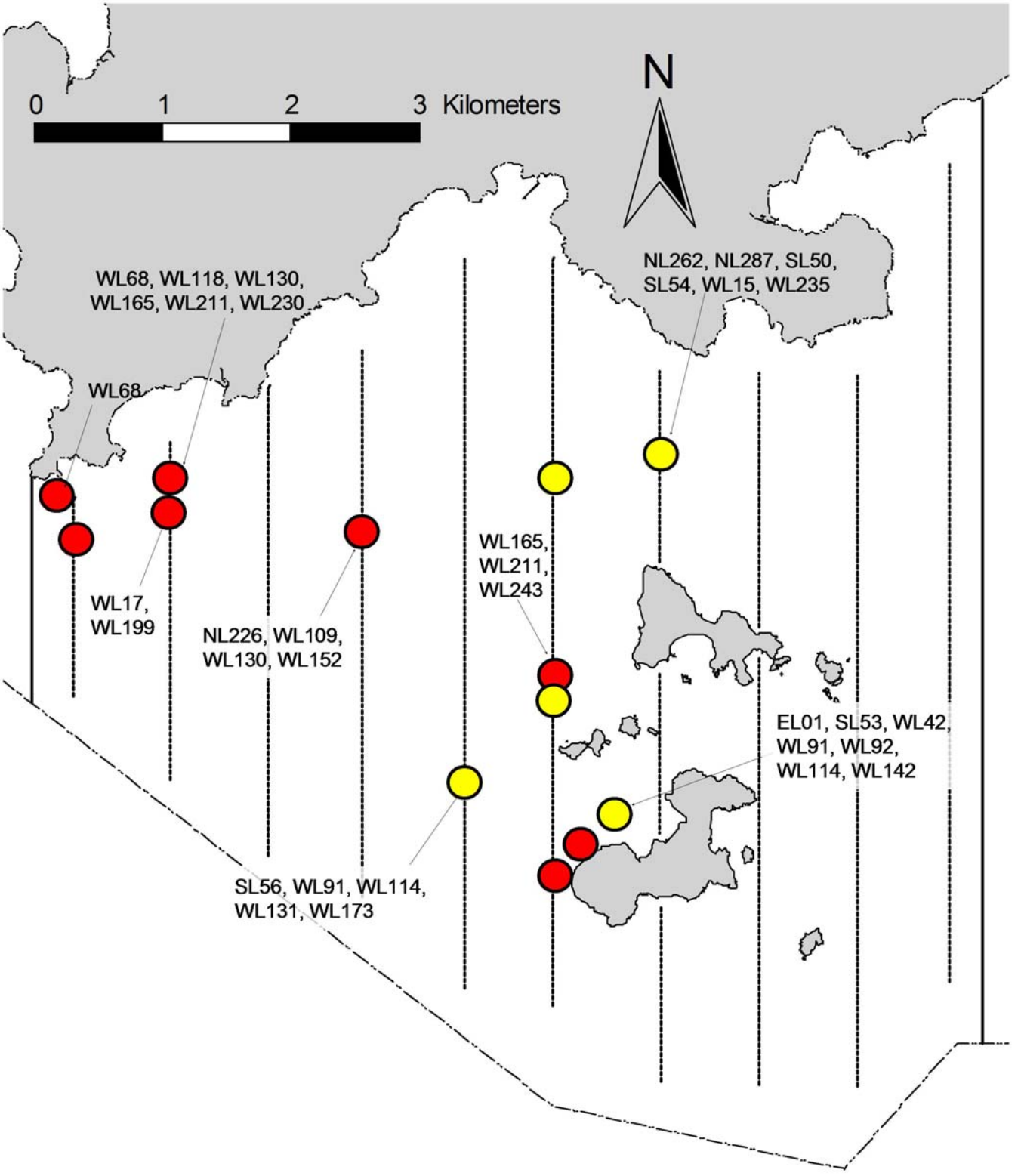

Figure 3. Distribution of Chinese White Dolphin sightings during August 2015 monitoring surveys in Southwest Lantau survey area, with identified individuals indicated for their corresponding sightings (red dot: HYD-HZMB sighting; yellow dot: AFCD sighting)

Appendix I. Track Log of Southwest Lantau Survey on August 7th, 2015

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 10:57	OFF	N22.19405 E113.84833			
7/8/2015 10:57	OFF	N22.19405 E113.84907	76 m	0:00:18	15 kph
7/8/2015 10:57	OFF	N22.19379 E113.84951	53 m	0:00:14	14 kph
7/8/2015 10:58	OFF	N22.19349 E113.84962	35 m	0:00:15	8 kph
7/8/2015 10:58	OFF	N22.19325 E113.84968	28 m	0:00:17	6 kph
7/8/2015 10:58	OFF	N22.19312 E113.84972	15 m	0:00:11	5 kph
7/8/2015 10:58	OFF	N22.19293 E113.84975	22 m	0:00:18	4 kph
7/8/2015 10:59	OFF	N22.19267 E113.84999	37 m	0:00:16	8 kph
7/8/2015 10:59	OFF	N22.19275 E113.85031	35 m	0:00:17	7 kph
7/8/2015 10:59	OFF	N22.19296 E113.85041	25 m	0:00:19	5 kph
7/8/2015 11:00	OFF	N22.19327 E113.85037	34 m	0:00:18	7 kph
7/8/2015 11:00	OFF	N22.19371 E113.85041	50 m	0:00:21	8 kph
7/8/2015 11:00	OFF	N22.19411 E113.85062	49 m	0:00:21	8 kph
7/8/2015 11:01	OFF	N22.19441 E113.85079	38 m	0:00:19	7 kph
7/8/2015 11:01	OFF	N22.19472 E113.85093	38 m	0:00:22	6 kph
7/8/2015 11:01	OFF	N22.19490 E113.85106	24 m	0:00:20	4 kph
7/8/2015 11:02	OFF	N22.19497 E113.85118	14 m	0:00:17	3 kph
7/8/2015 11:02	OFF	N22.19506 E113.85136	21 m	0:00:21	4 kph
7/8/2015 11:02	OFF	N22.19525 E113.85177	46 m	0:00:21	8 kph
7/8/2015 11:03	OFF	N22.19536 E113.85221	47 m	0:00:19	9 kph
7/8/2015 11:03	OFF	N22.19544 E113.85247	29 m	0:00:13	8 kph
7/8/2015 11:03	OFF	N22.19550 E113.85269	23 m	0:00:12	7 kph
7/8/2015 11:03	OFF	N22.19557 E113.85289	22 m	0:00:16	5 kph
7/8/2015 11:04	OFF	N22.19562 E113.85301	14 m	0:00:17	3 kph
7/8/2015 11:04	OFF	N22.19564 E113.85306	6 m	0:00:15	1.4 kph
7/8/2015 11:04	OFF	N22.19565 E113.85307	2 m	0:00:17	0.3 kph
7/8/2015 11:04	OFF	N22.19564 E113.85308	1 m	0:00:16	0.3 kph
7/8/2015 11:05	OFF	N22.19557 E113.85307	8 m	0:00:17	2 kph
7/8/2015 11:05	OFF	N22.19554 E113.85306	3 m	0:00:11	1.0 kph
7/8/2015 11:05	OFF	N22.19549 E113.85302	7 m	0:00:14	2 kph
7/8/2015 11:05	OFF	N22.19546 E113.85300	4 m	0:00:18	0.7 kph
7/8/2015 11:06	OFF	N22.19544 E113.85298	3 m	0:00:15	0.7 kph
7/8/2015 11:06	OFF	N22.19543 E113.85299	2 m	0:00:10	0.6 kph
7/8/2015 11:06	OFF	N22.19526 E113.85307	21 m	0:00:13	6 kph
7/8/2015 11:06	OFF	N22.19497 E113.85279	43 m	0:00:15	10 kph
7/8/2015 11:07	OFF	N22.19497 E113.85228	53 m	0:00:15	13 kph
7/8/2015 11:07	OFF	N22.19503 E113.85164	66 m	0:00:18	13 kph
7/8/2015 11:07	OFF	N22.19499 E113.85116	49 m	0:00:14	13 kph
7/8/2015 11:07	OFF	N22.19495 E113.85069	49 m	0:00:14	13 kph
7/8/2015 11:08	OFF	N22.19473 E113.85008	67 m	0:00:19	13 kph
7/8/2015 11:08	ON	N22.19441 E113.84951	68 m	0:00:22	11 kph
7/8/2015 11:08	ON	N22.19396 E113.84965	52 m	0:00:15	13 kph
7/8/2015 11:09	ON	N22.19345 E113.84978	58 m	0:00:15	14 kph
7/8/2015 11:09	ON	N22.19307 E113.84977	42 m	0:00:11	14 kph
7/8/2015 11:09	ON	N22.19271 E113.84969	41 m	0:00:11	14 kph
7/8/2015 11:09	ON	N22.19223 E113.84958	54 m	0:00:14	14 kph
7/8/2015 11:09	ON	N22.19172 E113.84945	59 m	0:00:15	14 kph
7/8/2015 11:10	ON	N22.19123 E113.84941	54 m	0:00:13	15 kph
7/8/2015 11:10	ON	N22.19068 E113.84942	61 m	0:00:15	15 kph
7/8/2015 11:10	ON	N22.19016 E113.84942	58 m	0:00:15	14 kph
7/8/2015 11:10	ON	N22.18953 E113.84952	71 m	0:00:19	13 kph
7/8/2015 11:11	ON	N22.18887 E113.84957	74 m	0:00:19	14 kph
7/8/2015 11:11	ON	N22.18833 E113.84950	60 m	0:00:15	14 kph
7/8/2015 11:11	ON	N22.18773 E113.84946	67 m	0:00:17	14 kph
7/8/2015 11:12	ON	N22.18708 E113.84952	72 m	0:00:19	14 kph
7/8/2015 11:12	ON	N22.18652 E113.84966	64 m	0:00:17	13 kph
7/8/2015 11:12	ON	N22.18597 E113.84975	62 m	0:00:16	14 kph
7/8/2015 11:12	ON	N22.18533 E113.84972	72 m	0:00:18	14 kph
7/8/2015 11:13	ON	N22.18464 E113.84963	77 m	0:00:19	15 kph
7/8/2015 11:13	ON	N22.18418 E113.84953	52 m	0:00:13	14 kph
7/8/2015 11:13	ON	N22.18360 E113.84948	65 m	0:00:16	15 kph
7/8/2015 11:13	ON	N22.18304 E113.84952	63 m	0:00:15	15 kph
7/8/2015 11:14	ON	N22.18229 E113.84953	84 m	0:00:20	15 kph
7/8/2015 11:14	ON	N22.18160 E113.84952	77 m	0:00:18	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 11:14	ON	N22.18093 E113.84949	75 m	0:00:18	15 kph
7/8/2015 11:15	ON	N22.18006 E113.84949	97 m	0:00:23	15 kph
7/8/2015 11:15	ON	N22.17930 E113.84955	85 m	0:00:20	15 kph
7/8/2015 11:15	ON	N22.17861 E113.84955	76 m	0:00:18	15 kph
7/8/2015 11:16	ON	N22.17785 E113.84953	85 m	0:00:20	15 kph
7/8/2015 11:16	ON	N22.17715 E113.84950	77 m	0:00:18	15 kph
7/8/2015 11:16	ON	N22.17650 E113.84950	73 m	0:00:17	15 kph
7/8/2015 11:17	ON	N22.17584 E113.84948	73 m	0:00:17	16 kph
7/8/2015 11:17	ON	N22.17516 E113.84953	76 m	0:00:18	15 kph
7/8/2015 11:17	ON	N22.17486 E113.84990	51 m	0:00:13	14 kph
7/8/2015 11:17	ON	N22.17438 E113.85047	79 m	0:00:18	16 kph
7/8/2015 11:18	ON	N22.17378 E113.85101	87 m	0:00:19	17 kph
7/8/2015 11:18	ON	N22.17335 E113.85149	68 m	0:00:15	16 kph
7/8/2015 11:18	ON	N22.17295 E113.85204	72 m	0:00:16	16 kph
7/8/2015 11:19	ON	N22.17253 E113.85270	82 m	0:00:18	16 kph
7/8/2015 11:19	ON	N22.17212 E113.85336	82 m	0:00:18	16 kph
7/8/2015 11:19	ON	N22.17170 E113.85415	94 m	0:00:21	16 kph
7/8/2015 11:20	ON	N22.17133 E113.85493	90 m	0:00:20	16 kph
7/8/2015 11:20	ON	N22.17101 E113.85573	90 m	0:00:20	16 kph
7/8/2015 11:20	ON	N22.17066 E113.85647	86 m	0:00:19	16 kph
7/8/2015 11:20	ON	N22.17034 E113.85712	76 m	0:00:17	16 kph
7/8/2015 11:21	ON	N22.16995 E113.85788	89 m	0:00:20	16 kph
7/8/2015 11:21	ON	N22.16992 E113.85791	5 m	0:00:01	16 kph
7/8/2015 11:21	ON	N22.16953 E113.85861	84 m	0:00:19	16 kph
7/8/2015 11:21	ON	N22.16961 E113.85902	43 m	0:00:13	12 kph
7/8/2015 11:22	ON	N22.16998 E113.85917	44 m	0:00:14	11 kph
7/8/2015 11:22	ON	N22.17049 E113.85915	58 m	0:00:17	12 kph
7/8/2015 11:22	ON	N22.17101 E113.85909	58 m	0:00:17	12 kph
7/8/2015 11:22	ON	N22.17158 E113.85893	65 m	0:00:19	12 kph
7/8/2015 11:23	ON	N22.17214 E113.85895	63 m	0:00:18	13 kph
7/8/2015 11:23	ON	N22.17269 E113.85899	61 m	0:00:17	13 kph
7/8/2015 11:23	ON	N22.17318 E113.85891	55 m	0:00:16	12 kph
7/8/2015 11:24	ON	N22.17380 E113.85880	70 m	0:00:20	13 kph
7/8/2015 11:24	ON	N22.17431 E113.85884	57 m	0:00:16	13 kph
7/8/2015 11:24	ON	N22.17500 E113.85894	77 m	0:00:21	13 kph
7/8/2015 11:25	ON	N22.17555 E113.85890	62 m	0:00:17	13 kph
7/8/2015 11:25	ON	N22.17613 E113.85890	65 m	0:00:18	13 kph
7/8/2015 11:25	ON	N22.17672 E113.85895	66 m	0:00:18	13 kph
7/8/2015 11:25	ON	N22.17732 E113.85899	67 m	0:00:18	13 kph
7/8/2015 11:26	ON	N22.17800 E113.85902	76 m	0:00:21	13 kph
7/8/2015 11:26	ON	N22.17853 E113.85895	59 m	0:00:17	12 kph
7/8/2015 11:26	ON	N22.17906 E113.85886	60 m	0:00:17	13 kph
7/8/2015 11:27	ON	N22.17967 E113.85889	69 m	0:00:19	13 kph
7/8/2015 11:27	ON	N22.18025 E113.85895	65 m	0:00:18	13 kph
7/8/2015 11:27	ON	N22.18083 E113.85891	64 m	0:00:18	13 kph
7/8/2015 11:28	ON	N22.18144 E113.85892	68 m	0:00:19	13 kph
7/8/2015 11:28	ON	N22.18217 E113.85901	82 m	0:00:22	13 kph
7/8/2015 11:28	ON	N22.18279 E113.85902	68 m	0:00:19	13 kph
7/8/2015 11:29	ON	N22.18337 E113.85894	65 m	0:00:18	13 kph
7/8/2015 11:29	ON	N22.18403 E113.85882	74 m	0:00:20	13 kph
7/8/2015 11:29	ON	N22.18463 E113.85884	67 m	0:00:18	13 kph
7/8/2015 11:30	ON	N22.18526 E113.85883	71 m	0:00:19	13 kph
7/8/2015 11:30	ON	N22.18583 E113.85877	63 m	0:00:17	13 kph
7/8/2015 11:30	ON	N22.18651 E113.85880	75 m	0:00:20	14 kph
7/8/2015 11:30	ON	N22.18716 E113.85885	73 m	0:00:20	13 kph
7/8/2015 11:31	ON	N22.18774 E113.85891	65 m	0:00:19	12 kph
7/8/2015 11:31	ON	N22.18814 E113.85890	44 m	0:00:13	12 kph
7/8/2015 11:31	ON	N22.18864 E113.85888	56 m	0:00:16	13 kph
7/8/2015 11:32	ON	N22.18922 E113.85891	64 m	0:00:19	12 kph
7/8/2015 11:32	ON	N22.18974 E113.85899	58 m	0:00:18	12 kph
7/8/2015 11:32	ON	N22.19025 E113.85901	58 m	0:00:18	12 kph
7/8/2015 11:32	ON	N22.19072 E113.85896	53 m	0:00:16	12 kph
7/8/2015 11:33	ON	N22.19124 E113.85890	57 m	0:00:18	11 kph
7/8/2015 11:33	ON	N22.19175 E113.85885	57 m	0:00:18	11 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 11:33	ON	N22.19221 E113.85878	52 m	0:00:17	11 kph
7/8/2015 11:34	ON	N22.19244 E113.85870	27 m	0:00:17	6 kph
7/8/2015 11:34	ON	N22.19254 E113.85864	12 m	0:00:17	3 kph
7/8/2015 11:34	OFF	N22.19254 E113.85860	5 m	0:00:16	1.1 kph
7/8/2015 11:35	OFF	N22.19247 E113.85850	12 m	0:00:22	2 kph
7/8/2015 11:35	OFF	N22.19239 E113.85841	13 m	0:00:19	3 kph
7/8/2015 11:35	OFF	N22.19229 E113.85832	14 m	0:00:17	3 kph
7/8/2015 11:35	OFF	N22.19224 E113.85826	9 m	0:00:18	2 kph
7/8/2015 11:36	OFF	N22.19240 E113.85812	23 m	0:00:18	5 kph
7/8/2015 11:36	OFF	N22.19267 E113.85771	51 m	0:00:22	8 kph
7/8/2015 11:36	OFF	N22.19285 E113.85733	44 m	0:00:17	9 kph
7/8/2015 11:36	OFF	N22.19288 E113.85725	9 m	0:00:04	8 kph
7/8/2015 11:37	OFF	N22.19290 E113.85712	13 m	0:00:07	7 kph
7/8/2015 11:37	OFF	N22.19286 E113.85688	26 m	0:00:16	6 kph
7/8/2015 11:37	OFF	N22.19278 E113.85666	24 m	0:00:15	6 kph
7/8/2015 11:37	OFF	N22.19278 E113.85639	29 m	0:00:14	7 kph
7/8/2015 11:38	OFF	N22.19290 E113.85628	18 m	0:00:20	3 kph
7/8/2015 11:38	OFF	N22.19306 E113.85623	19 m	0:00:22	3 kph
7/8/2015 11:38	OFF	N22.19313 E113.85614	12 m	0:00:14	3 kph
7/8/2015 11:39	OFF	N22.19314 E113.85603	11 m	0:00:16	3 kph
7/8/2015 11:39	OFF	N22.19312 E113.85596	8 m	0:00:11	3 kph
7/8/2015 11:39	OFF	N22.19308 E113.85588	9 m	0:00:13	3 kph
7/8/2015 11:39	OFF	N22.19303 E113.85582	8 m	0:00:10	3 kph
7/8/2015 11:39	OFF	N22.19298 E113.85576	9 m	0:00:11	3 kph
7/8/2015 11:39	OFF	N22.19293 E113.85570	8 m	0:00:10	3 kph
7/8/2015 11:40	OFF	N22.19288 E113.85565	8 m	0:00:09	3 kph
7/8/2015 11:40	OFF	N22.19284 E113.85561	6 m	0:00:06	4 kph
7/8/2015 11:40	OFF	N22.19281 E113.85558	4 m	0:00:04	4 kph
7/8/2015 11:40	OFF	N22.19276 E113.85553	8 m	0:00:08	4 kph
7/8/2015 11:40	OFF	N22.19273 E113.85550	4 m	0:00:04	4 kph
7/8/2015 11:40	OFF	N22.19268 E113.85541	11 m	0:00:11	4 kph
7/8/2015 11:40	OFF	N22.19262 E113.85540	7 m	0:00:10	3 kph
7/8/2015 11:40	OFF	N22.19259 E113.85544	5 m	0:00:04	5 kph
7/8/2015 11:41	OFF	N22.19228 E113.85559	38 m	0:00:15	9 kph
7/8/2015 11:41	OFF	N22.19179 E113.85554	54 m	0:00:14	14 kph
7/8/2015 11:41	OFF	N22.19117 E113.85538	71 m	0:00:17	15 kph
7/8/2015 11:41	OFF	N22.19067 E113.85560	60 m	0:00:16	14 kph
7/8/2015 11:42	OFF	N22.19010 E113.85599	75 m	0:00:20	14 kph
7/8/2015 11:42	OFF	N22.18947 E113.85640	82 m	0:00:21	14 kph
7/8/2015 11:42	OFF	N22.18895 E113.85679	70 m	0:00:19	13 kph
7/8/2015 11:43	OFF	N22.18855 E113.85720	61 m	0:00:18	12 kph
7/8/2015 11:43	OFF	N22.18812 E113.85750	57 m	0:00:16	13 kph
7/8/2015 11:43	OFF	N22.18774 E113.85775	49 m	0:00:14	13 kph
7/8/2015 11:44	ON	N22.18728 E113.85814	65 m	0:00:19	12 kph
7/8/2015 11:44	ON	N22.18716 E113.85846	36 m	0:00:14	9 kph
7/8/2015 11:44	ON	N22.18746 E113.85859	36 m	0:00:14	9 kph
7/8/2015 11:44	ON	N22.18796 E113.85864	55 m	0:00:17	12 kph
7/8/2015 11:45	ON	N22.18844 E113.85887	59 m	0:00:19	11 kph
7/8/2015 11:45	ON	N22.18897 E113.85891	58 m	0:00:18	12 kph
7/8/2015 11:45	ON	N22.18940 E113.85889	48 m	0:00:14	12 kph
7/8/2015 11:45	ON	N22.18991 E113.85892	57 m	0:00:17	12 kph
7/8/2015 11:46	ON	N22.19029 E113.85900	44 m	0:00:14	11 kph
7/8/2015 11:46	ON	N22.19074 E113.85898	50 m	0:00:16	11 kph
7/8/2015 11:46	ON	N22.19129 E113.85895	62 m	0:00:19	12 kph
7/8/2015 11:46	ON	N22.19170 E113.85895	46 m	0:00:14	12 kph
7/8/2015 11:47	ON	N22.19222 E113.85900	58 m	0:00:19	11 kph
7/8/2015 11:47	ON	N22.19265 E113.85898	48 m	0:00:16	11 kph
7/8/2015 11:47	ON	N22.19314 E113.85887	56 m	0:00:18	11 kph
7/8/2015 11:48	ON	N22.19361 E113.85889	53 m	0:00:17	11 kph
7/8/2015 11:48	ON	N22.19413 E113.85898	58 m	0:00:20	10 kph
7/8/2015 11:48	ON	N22.19460 E113.85892	53 m	0:00:17	11 kph
7/8/2015 11:49	ON	N22.19509 E113.85884	55 m	0:00:17	12 kph
7/8/2015 11:49	ON	N22.19548 E113.85883	44 m	0:00:14	11 kph
7/8/2015 11:49	OFF	N22.19576 E113.85882	31 m	0:00:17	6 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 11:49	OFF	N22.19586 E113.85878	12 m	0:00:17	3 kph
7/8/2015 11:50	OFF	N22.19589 E113.85867	11 m	0:00:23	2 kph
7/8/2015 11:50	OFF	N22.19586 E113.85856	12 m	0:00:19	2 kph
7/8/2015 11:50	OFF	N22.19579 E113.85845	14 m	0:00:20	3 kph
7/8/2015 11:51	OFF	N22.19571 E113.85833	15 m	0:00:18	3 kph
7/8/2015 11:51	OFF	N22.19572 E113.85828	5 m	0:00:14	1.3 kph
7/8/2015 11:51	OFF	N22.19599 E113.85854	40 m	0:00:20	7 kph
7/8/2015 11:51	ON	N22.19632 E113.85872	41 m	0:00:15	10 kph
7/8/2015 11:52	ON	N22.19681 E113.85881	55 m	0:00:18	11 kph
7/8/2015 11:52	ON	N22.19732 E113.85887	58 m	0:00:18	12 kph
7/8/2015 11:52	ON	N22.19789 E113.85884	63 m	0:00:19	12 kph
7/8/2015 11:53	ON	N22.19840 E113.85883	57 m	0:00:17	12 kph
7/8/2015 11:53	ON	N22.19890 E113.85900	59 m	0:00:19	11 kph
7/8/2015 11:53	ON	N22.19932 E113.85935	59 m	0:00:20	11 kph
7/8/2015 11:54	ON	N22.19949 E113.85979	49 m	0:00:17	10 kph
7/8/2015 11:54	ON	N22.19961 E113.86025	50 m	0:00:17	11 kph
7/8/2015 11:54	ON	N22.19973 E113.86072	50 m	0:00:17	11 kph
7/8/2015 11:55	ON	N22.19991 E113.86128	61 m	0:00:21	10 kph
7/8/2015 11:55	ON	N22.20007 E113.86185	62 m	0:00:21	11 kph
7/8/2015 11:55	ON	N22.20019 E113.86243	61 m	0:00:21	10 kph
7/8/2015 11:56	ON	N22.20033 E113.86304	64 m	0:00:22	11 kph
7/8/2015 11:56	ON	N22.20043 E113.86345	44 m	0:00:15	11 kph
7/8/2015 11:56	ON	N22.20050 E113.86378	35 m	0:00:12	10 kph
7/8/2015 11:56	ON	N22.20057 E113.86423	47 m	0:00:16	11 kph
7/8/2015 11:57	OFF	N22.20062 E113.86461	39 m	0:00:16	9 kph
7/8/2015 11:57	OFF	N22.20067 E113.86478	18 m	0:00:15	4 kph
7/8/2015 11:57	OFF	N22.20068 E113.86486	9 m	0:00:18	2 kph
7/8/2015 11:57	OFF	N22.20068 E113.86487	1 m	0:00:17	0.2 kph
7/8/2015 11:58	OFF	N22.20065 E113.86485	4 m	0:00:22	0.7 kph
7/8/2015 11:58	OFF	N22.20065 E113.86484	1 m	0:00:14	0.2 kph
7/8/2015 11:58	OFF	N22.20066 E113.86509	26 m	0:00:18	5 kph
7/8/2015 11:59	OFF	N22.20068 E113.86543	35 m	0:00:17	7 kph
7/8/2015 11:59	OFF	N22.20071 E113.86575	33 m	0:00:16	7 kph
7/8/2015 11:59	OFF	N22.20079 E113.86610	37 m	0:00:18	7 kph
7/8/2015 11:59	OFF	N22.20084 E113.86641	32 m	0:00:17	7 kph
7/8/2015 12:00	OFF	N22.20087 E113.86657	17 m	0:00:13	5 kph
7/8/2015 12:00	OFF	N22.20089 E113.86674	18 m	0:00:19	3 kph
7/8/2015 12:00	OFF	N22.20089 E113.86685	12 m	0:00:19	2 kph
7/8/2015 12:01	OFF	N22.20092 E113.86694	10 m	0:00:21	2 kph
7/8/2015 12:01	OFF	N22.20106 E113.86724	34 m	0:00:18	7 kph
7/8/2015 12:01	OFF	N22.20120 E113.86753	33 m	0:00:22	5 kph
7/8/2015 12:02	OFF	N22.20122 E113.86760	8 m	0:00:17	2 kph
7/8/2015 12:02	OFF	N22.20121 E113.86762	2 m	0:00:19	0.4 kph
7/8/2015 12:02	OFF	N22.20119 E113.86763	3 m	0:00:18	0.6 kph
7/8/2015 12:02	OFF	N22.20117 E113.86762	2 m	0:00:15	0.5 kph
7/8/2015 12:03	OFF	N22.20114 E113.86762	3 m	0:00:12	0.8 kph
7/8/2015 12:03	OFF	N22.20108 E113.86758	9 m	0:00:13	2 kph
7/8/2015 12:03	OFF	N22.20095 E113.86751	16 m	0:00:14	4 kph
7/8/2015 12:03	OFF	N22.20087 E113.86743	12 m	0:00:14	3 kph
7/8/2015 12:04	OFF	N22.20081 E113.86739	8 m	0:00:10	3 kph
7/8/2015 12:04	OFF	N22.20072 E113.86732	13 m	0:00:15	3 kph
7/8/2015 12:04	OFF	N22.20064 E113.86723	12 m	0:00:14	3 kph
7/8/2015 12:04	OFF	N22.20063 E113.86723	1 m	0:00:12	0.4 kph
7/8/2015 12:05	OFF	N22.20068 E113.86726	7 m	0:00:21	1.1 kph
7/8/2015 12:05	OFF	N22.20082 E113.86734	17 m	0:00:16	4 kph
7/8/2015 12:05	OFF	N22.20091 E113.86736	11 m	0:00:12	3 kph
7/8/2015 12:05	OFF	N22.20106 E113.86746	20 m	0:00:20	4 kph
7/8/2015 12:05	OFF	N22.20105 E113.86753	8 m	0:00:08	3 kph
7/8/2015 12:06	OFF	N22.20093 E113.86772	23 m	0:00:18	5 kph
7/8/2015 12:06	OFF	N22.20087 E113.86782	13 m	0:00:08	6 kph
7/8/2015 12:06	OFF	N22.20085 E113.86788	6 m	0:00:03	7 kph
7/8/2015 12:06	OFF	N22.20079 E113.86802	16 m	0:00:08	7 kph
7/8/2015 12:06	OFF	N22.20074 E113.86814	14 m	0:00:07	7 kph
7/8/2015 12:06	OFF	N22.20066 E113.86832	20 m	0:00:14	5 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 12:07	OFF	N22.20064 E113.86835	4 m	0:00:03	5 kph
7/8/2015 12:07	OFF	N22.20060 E113.86841	8 m	0:00:06	5 kph
7/8/2015 12:07	OFF	N22.20055 E113.86847	8 m	0:00:06	5 kph
7/8/2015 12:07	OFF	N22.20046 E113.86865	22 m	0:00:16	5 kph
7/8/2015 12:07	OFF	N22.20049 E113.86872	8 m	0:00:06	5 kph
7/8/2015 12:07	OFF	N22.20069 E113.86863	23 m	0:00:16	5 kph
7/8/2015 12:08	OFF	N22.20086 E113.86820	48 m	0:00:16	11 kph
7/8/2015 12:08	OFF	N22.20114 E113.86794	41 m	0:00:15	10 kph
7/8/2015 12:08	OFF	N22.20142 E113.86810	35 m	0:00:14	9 kph
7/8/2015 12:08	ON	N22.20177 E113.86843	52 m	0:00:18	10 kph
7/8/2015 12:09	ON	N22.20184 E113.86872	31 m	0:00:13	8 kph
7/8/2015 12:09	ON	N22.20153 E113.86891	40 m	0:00:12	12 kph
7/8/2015 12:09	ON	N22.20100 E113.86887	60 m	0:00:14	15 kph
7/8/2015 12:09	ON	N22.20036 E113.86883	71 m	0:00:16	16 kph
7/8/2015 12:10	ON	N22.19959 E113.86888	86 m	0:00:20	15 kph
7/8/2015 12:10	ON	N22.19900 E113.86887	65 m	0:00:15	16 kph
7/8/2015 12:10	ON	N22.19832 E113.86887	76 m	0:00:18	15 kph
7/8/2015 12:11	ON	N22.19755 E113.86888	85 m	0:00:20	15 kph
7/8/2015 12:11	ON	N22.19687 E113.86885	77 m	0:00:18	15 kph
7/8/2015 12:11	ON	N22.19620 E113.86885	74 m	0:00:18	15 kph
7/8/2015 12:11	ON	N22.19558 E113.86893	69 m	0:00:17	15 kph
7/8/2015 12:12	ON	N22.19510 E113.86887	53 m	0:00:13	15 kph
7/8/2015 12:12	ON	N22.19467 E113.86876	49 m	0:00:12	15 kph
7/8/2015 12:12	ON	N22.19424 E113.86874	48 m	0:00:13	13 kph
7/8/2015 12:12	ON	N22.19369 E113.86883	62 m	0:00:17	13 kph
7/8/2015 12:13	ON	N22.19314 E113.86887	62 m	0:00:17	13 kph
7/8/2015 12:13	ON	N22.19255 E113.86879	66 m	0:00:17	14 kph
7/8/2015 12:13	ON	N22.19203 E113.86875	58 m	0:00:15	14 kph
7/8/2015 12:13	ON	N22.19144 E113.86883	66 m	0:00:18	13 kph
7/8/2015 12:14	ON	N22.19089 E113.86888	61 m	0:00:17	13 kph
7/8/2015 12:14	ON	N22.19039 E113.86890	56 m	0:00:15	13 kph
7/8/2015 12:14	ON	N22.18970 E113.86890	77 m	0:00:21	13 kph
7/8/2015 12:15	ON	N22.18920 E113.86889	55 m	0:00:15	13 kph
7/8/2015 12:15	ON	N22.18867 E113.86888	59 m	0:00:16	13 kph
7/8/2015 12:15	ON	N22.18824 E113.86889	47 m	0:00:13	13 kph
7/8/2015 12:15	ON	N22.18765 E113.86891	66 m	0:00:18	13 kph
7/8/2015 12:16	ON	N22.18705 E113.86890	66 m	0:00:18	13 kph
7/8/2015 12:16	ON	N22.18652 E113.86889	59 m	0:00:16	13 kph
7/8/2015 12:16	ON	N22.18592 E113.86890	68 m	0:00:19	13 kph
7/8/2015 12:16	ON	N22.18543 E113.86891	54 m	0:00:15	13 kph
7/8/2015 12:17	ON	N22.18486 E113.86892	64 m	0:00:18	13 kph
7/8/2015 12:17	ON	N22.18421 E113.86893	71 m	0:00:20	13 kph
7/8/2015 12:17	ON	N22.18375 E113.86893	51 m	0:00:14	13 kph
7/8/2015 12:18	ON	N22.18317 E113.86893	64 m	0:00:18	13 kph
7/8/2015 12:18	ON	N22.18266 E113.86894	57 m	0:00:16	13 kph
7/8/2015 12:18	ON	N22.18209 E113.86896	64 m	0:00:18	13 kph
7/8/2015 12:19	ON	N22.18146 E113.86890	70 m	0:00:19	13 kph
7/8/2015 12:19	ON	N22.18093 E113.86887	59 m	0:00:16	13 kph
7/8/2015 12:19	ON	N22.18044 E113.86878	56 m	0:00:15	13 kph
7/8/2015 12:19	ON	N22.18001 E113.86873	48 m	0:00:13	13 kph
7/8/2015 12:20	ON	N22.17937 E113.86875	71 m	0:00:19	14 kph
7/8/2015 12:20	ON	N22.17896 E113.86876	46 m	0:00:12	14 kph
7/8/2015 12:20	ON	N22.17842 E113.86875	60 m	0:00:16	13 kph
7/8/2015 12:20	ON	N22.17787 E113.86871	61 m	0:00:16	14 kph
7/8/2015 12:21	ON	N22.17715 E113.86884	81 m	0:00:21	14 kph
7/8/2015 12:21	ON	N22.17650 E113.86894	73 m	0:00:19	14 kph
7/8/2015 12:21	ON	N22.17589 E113.86891	69 m	0:00:18	14 kph
7/8/2015 12:22	ON	N22.17538 E113.86885	57 m	0:00:15	14 kph
7/8/2015 12:22	ON	N22.17491 E113.86878	53 m	0:00:14	14 kph
7/8/2015 12:22	ON	N22.17448 E113.86873	49 m	0:00:13	13 kph
7/8/2015 12:22	ON	N22.17407 E113.86876	46 m	0:00:12	14 kph
7/8/2015 12:22	ON	N22.17354 E113.86894	62 m	0:00:16	14 kph
7/8/2015 12:23	ON	N22.17285 E113.86909	78 m	0:00:20	14 kph
7/8/2015 12:23	ON	N22.17222 E113.86903	70 m	0:00:18	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 12:23	ON	N22.17168 E113.86894	61 m	0:00:16	14 kph
7/8/2015 12:24	ON	N22.17112 E113.86892	62 m	0:00:16	14 kph
7/8/2015 12:24	ON	N22.17061 E113.86887	58 m	0:00:15	14 kph
7/8/2015 12:24	ON	N22.17008 E113.86884	59 m	0:00:15	14 kph
7/8/2015 12:24	ON	N22.16964 E113.86889	50 m	0:00:13	14 kph
7/8/2015 12:25	ON	N22.16928 E113.86897	41 m	0:00:11	13 kph
7/8/2015 12:25	ON	N22.16875 E113.86901	59 m	0:00:15	14 kph
7/8/2015 12:25	ON	N22.16817 E113.86898	64 m	0:00:16	14 kph
7/8/2015 12:25	ON	N22.16768 E113.86895	56 m	0:00:14	14 kph
7/8/2015 12:26	ON	N22.16704 E113.86889	71 m	0:00:18	14 kph
7/8/2015 12:26	ON	N22.16647 E113.86892	64 m	0:00:16	14 kph
7/8/2015 12:26	ON	N22.16582 E113.86892	72 m	0:00:18	14 kph
7/8/2015 12:26	ON	N22.16508 E113.86882	83 m	0:00:21	14 kph
7/8/2015 12:27	ON	N22.16435 E113.86877	81 m	0:00:20	15 kph
7/8/2015 12:27	ON	N22.16363 E113.86872	80 m	0:00:20	14 kph
7/8/2015 12:27	ON	N22.16309 E113.86870	60 m	0:00:15	14 kph
7/8/2015 12:28	ON	N22.16246 E113.86883	71 m	0:00:18	14 kph
7/8/2015 12:28	ON	N22.16194 E113.86930	76 m	0:00:19	14 kph
7/8/2015 12:28	ON	N22.16160 E113.86987	70 m	0:00:17	15 kph
7/8/2015 12:29	ON	N22.16124 E113.87051	77 m	0:00:18	15 kph
7/8/2015 12:29	ON	N22.16098 E113.87122	79 m	0:00:19	15 kph
7/8/2015 12:29	ON	N22.16073 E113.87190	75 m	0:00:18	15 kph
7/8/2015 12:29	ON	N22.16038 E113.87244	68 m	0:00:16	15 kph
7/8/2015 12:30	ON	N22.16007 E113.87304	71 m	0:00:17	15 kph
7/8/2015 12:30	ON	N22.15982 E113.87367	71 m	0:00:17	15 kph
7/8/2015 12:30	ON	N22.15949 E113.87437	81 m	0:00:19	15 kph
7/8/2015 12:31	ON	N22.15917 E113.87498	73 m	0:00:17	15 kph
7/8/2015 12:31	ON	N22.15888 E113.87555	67 m	0:00:16	15 kph
7/8/2015 12:31	ON	N22.15858 E113.87616	71 m	0:00:17	15 kph
7/8/2015 12:31	ON	N22.15832 E113.87670	63 m	0:00:15	15 kph
7/8/2015 12:32	ON	N22.15810 E113.87716	53 m	0:00:14	14 kph
7/8/2015 12:32	ON	N22.15794 E113.87750	39 m	0:00:14	10 kph
7/8/2015 12:32	ON	N22.15797 E113.87786	38 m	0:00:13	10 kph
7/8/2015 12:32	ON	N22.15836 E113.87811	51 m	0:00:15	12 kph
7/8/2015 12:33	ON	N22.15883 E113.87820	53 m	0:00:15	13 kph
7/8/2015 12:33	ON	N22.15931 E113.87817	54 m	0:00:15	13 kph
7/8/2015 12:33	ON	N22.15981 E113.87822	55 m	0:00:15	13 kph
7/8/2015 12:33	ON	N22.16039 E113.87819	65 m	0:00:18	13 kph
7/8/2015 12:34	ON	N22.16106 E113.87813	75 m	0:00:20	13 kph
7/8/2015 12:34	ON	N22.16159 E113.87811	60 m	0:00:16	13 kph
7/8/2015 12:34	ON	N22.16223 E113.87819	72 m	0:00:19	14 kph
7/8/2015 12:35	ON	N22.16281 E113.87820	64 m	0:00:17	14 kph
7/8/2015 12:35	ON	N22.16345 E113.87817	71 m	0:00:19	14 kph
7/8/2015 12:35	ON	N22.16413 E113.87815	76 m	0:00:20	14 kph
7/8/2015 12:36	ON	N22.16482 E113.87807	77 m	0:00:21	13 kph
7/8/2015 12:36	ON	N22.16539 E113.87806	63 m	0:00:17	13 kph
7/8/2015 12:36	ON	N22.16605 E113.87817	75 m	0:00:20	13 kph
7/8/2015 12:37	ON	N22.16661 E113.87820	62 m	0:00:17	13 kph
7/8/2015 12:37	ON	N22.16720 E113.87817	66 m	0:00:18	13 kph
7/8/2015 12:37	ON	N22.16777 E113.87816	64 m	0:00:17	14 kph
7/8/2015 12:37	ON	N22.16834 E113.87815	63 m	0:00:17	13 kph
7/8/2015 12:38	ON	N22.16902 E113.87812	76 m	0:00:20	14 kph
7/8/2015 12:38	ON	N22.16967 E113.87811	72 m	0:00:19	14 kph
7/8/2015 12:38	ON	N22.17038 E113.87807	80 m	0:00:21	14 kph
7/8/2015 12:39	ON	N22.17103 E113.87802	72 m	0:00:19	14 kph
7/8/2015 12:39	ON	N22.17173 E113.87810	78 m	0:00:20	14 kph
7/8/2015 12:39	ON	N22.17238 E113.87813	73 m	0:00:19	14 kph
7/8/2015 12:40	ON	N22.17316 E113.87803	87 m	0:00:23	14 kph
7/8/2015 12:40	ON	N22.17382 E113.87804	74 m	0:00:19	14 kph
7/8/2015 12:40	ON	N22.17465 E113.87806	92 m	0:00:24	14 kph
7/8/2015 12:41	ON	N22.17531 E113.87805	74 m	0:00:19	14 kph
7/8/2015 12:41	ON	N22.17605 E113.87809	83 m	0:00:21	14 kph
7/8/2015 12:41	ON	N22.17665 E113.87809	67 m	0:00:17	14 kph
7/8/2015 12:42	ON	N22.17728 E113.87805	69 m	0:00:18	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 12:42	ON	N22.17793 E113.87802	73 m	0:00:19	14 kph
7/8/2015 12:42	ON	N22.17849 E113.87802	62 m	0:00:16	14 kph
7/8/2015 12:43	ON	N22.17908 E113.87801	67 m	0:00:17	14 kph
7/8/2015 12:43	ON	N22.17962 E113.87804	60 m	0:00:15	14 kph
7/8/2015 12:43	ON	N22.18025 E113.87812	71 m	0:00:18	14 kph
7/8/2015 12:43	ON	N22.18078 E113.87814	59 m	0:00:15	14 kph
7/8/2015 12:44	ON	N22.18131 E113.87809	60 m	0:00:15	14 kph
7/8/2015 12:44	ON	N22.18191 E113.87805	67 m	0:00:17	14 kph
7/8/2015 12:44	ON	N22.18264 E113.87810	81 m	0:00:20	15 kph
7/8/2015 12:44	ON	N22.18315 E113.87814	57 m	0:00:14	15 kph
7/8/2015 12:45	ON	N22.18387 E113.87817	80 m	0:00:20	14 kph
7/8/2015 12:45	ON	N22.18454 E113.87806	75 m	0:00:19	14 kph
7/8/2015 12:45	ON	N22.18510 E113.87796	64 m	0:00:16	14 kph
7/8/2015 12:46	ON	N22.18560 E113.87797	55 m	0:00:14	14 kph
7/8/2015 12:46	ON	N22.18619 E113.87806	67 m	0:00:17	14 kph
7/8/2015 12:46	ON	N22.18681 E113.87811	69 m	0:00:18	14 kph
7/8/2015 12:47	ON	N22.18749 E113.87810	75 m	0:00:19	14 kph
7/8/2015 12:47	ON	N22.18811 E113.87811	69 m	0:00:17	15 kph
7/8/2015 12:47	ON	N22.18873 E113.87819	70 m	0:00:18	14 kph
7/8/2015 12:47	ON	N22.18946 E113.87823	82 m	0:00:21	14 kph
7/8/2015 12:48	ON	N22.19016 E113.87819	78 m	0:00:20	14 kph
7/8/2015 12:48	ON	N22.19065 E113.87811	55 m	0:00:17	12 kph
7/8/2015 12:48	OFF	N22.19093 E113.87804	33 m	0:00:17	7 kph
7/8/2015 12:49	OFF	N22.19112 E113.87798	22 m	0:00:17	5 kph
7/8/2015 12:49	OFF	N22.19123 E113.87795	12 m	0:00:13	3 kph
7/8/2015 12:49	OFF	N22.19132 E113.87793	11 m	0:00:18	2 kph
7/8/2015 12:49	OFF	N22.19136 E113.87792	5 m	0:00:18	1.0 kph
7/8/2015 12:50	OFF	N22.19140 E113.87790	5 m	0:00:17	1.0 kph
7/8/2015 12:50	OFF	N22.19143 E113.87787	5 m	0:00:19	0.9 kph
7/8/2015 12:50	OFF	N22.19148 E113.87785	5 m	0:00:09	2 kph
7/8/2015 12:51	OFF	N22.19169 E113.87805	31 m	0:00:17	7 kph
7/8/2015 12:51	OFF	N22.19196 E113.87860	64 m	0:00:21	11 kph
7/8/2015 12:51	OFF	N22.19219 E113.87913	60 m	0:00:19	11 kph
7/8/2015 12:52	OFF	N22.19243 E113.87976	70 m	0:00:22	11 kph
7/8/2015 12:52	OFF	N22.19263 E113.88037	67 m	0:00:21	12 kph
7/8/2015 12:52	OFF	N22.19276 E113.88092	58 m	0:00:19	11 kph
7/8/2015 12:53	OFF	N22.19286 E113.88125	36 m	0:00:18	7 kph
7/8/2015 12:53	OFF	N22.19295 E113.88143	21 m	0:00:22	3 kph
7/8/2015 12:53	OFF	N22.19299 E113.88147	6 m	0:00:21	1.1 kph
7/8/2015 12:53	OFF	N22.19300 E113.88148	2 m	0:00:16	0.4 kph
7/8/2015 12:54	OFF	N22.19301 E113.88148	1 m	0:00:16	0.2 kph
7/8/2015 12:54	OFF	N22.19302 E113.88146	2 m	0:00:14	0.5 kph
7/8/2015 12:54	OFF	N22.19302 E113.88143	3 m	0:00:14	0.8 kph
7/8/2015 12:54	OFF	N22.19298 E113.88135	10 m	0:00:16	2 kph
7/8/2015 12:55	OFF	N22.19293 E113.88127	10 m	0:00:14	3 kph
7/8/2015 12:55	OFF	N22.19290 E113.88121	7 m	0:00:15	2 kph
7/8/2015 12:55	OFF	N22.19287 E113.88116	6 m	0:00:13	2 kph
7/8/2015 12:55	OFF	N22.19283 E113.88112	6 m	0:00:16	1.4 kph
7/8/2015 12:56	OFF	N22.19284 E113.88110	2 m	0:00:13	0.4 kph
7/8/2015 12:56	OFF	N22.19285 E113.88111	1 m	0:00:01	3 kph
7/8/2015 12:56	OFF	N22.19288 E113.88134	24 m	0:00:16	5 kph
7/8/2015 12:56	OFF	N22.19260 E113.88141	32 m	0:00:12	10 kph
7/8/2015 12:56	OFF	N22.19212 E113.88119	58 m	0:00:16	13 kph
7/8/2015 12:57	OFF	N22.19176 E113.88074	61 m	0:00:15	15 kph
7/8/2015 12:57	OFF	N22.19145 E113.88021	65 m	0:00:15	16 kph
7/8/2015 12:57	OFF	N22.19094 E113.87980	71 m	0:00:17	15 kph
7/8/2015 12:57	OFF	N22.19045 E113.87944	65 m	0:00:16	15 kph
7/8/2015 12:58	OFF	N22.19002 E113.87908	61 m	0:00:15	15 kph
7/8/2015 12:58	OFF	N22.18947 E113.87860	78 m	0:00:19	15 kph
7/8/2015 12:58	OFF	N22.18894 E113.87819	73 m	0:00:18	15 kph
7/8/2015 12:59	OFF	N22.18876 E113.87785	41 m	0:00:12	12 kph
7/8/2015 12:59	ON	N22.18901 E113.87759	39 m	0:00:13	11 kph
7/8/2015 12:59	ON	N22.18949 E113.87770	55 m	0:00:16	12 kph
7/8/2015 12:59	ON	N22.19006 E113.87804	73 m	0:00:20	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 13:00	ON	N22.19052 E113.87809	52 m	0:00:14	13 kph
7/8/2015 13:00	ON	N22.19114 E113.87807	69 m	0:00:18	14 kph
7/8/2015 13:00	ON	N22.19186 E113.87813	80 m	0:00:21	14 kph
7/8/2015 13:01	ON	N22.19250 E113.87818	71 m	0:00:19	13 kph
7/8/2015 13:01	ON	N22.19302 E113.87808	59 m	0:00:16	13 kph
7/8/2015 13:01	ON	N22.19366 E113.87799	72 m	0:00:19	14 kph
7/8/2015 13:01	ON	N22.19422 E113.87805	62 m	0:00:17	13 kph
7/8/2015 13:02	ON	N22.19465 E113.87812	48 m	0:00:14	12 kph
7/8/2015 13:02	ON	N22.19522 E113.87814	64 m	0:00:18	13 kph
7/8/2015 13:02	ON	N22.19571 E113.87809	55 m	0:00:15	13 kph
7/8/2015 13:02	ON	N22.19625 E113.87812	61 m	0:00:17	13 kph
7/8/2015 13:03	ON	N22.19695 E113.87821	78 m	0:00:22	13 kph
7/8/2015 13:03	ON	N22.19743 E113.87816	53 m	0:00:15	13 kph
7/8/2015 13:03	ON	N22.19799 E113.87813	62 m	0:00:17	13 kph
7/8/2015 13:04	ON	N22.19859 E113.87809	67 m	0:00:19	13 kph
7/8/2015 13:04	ON	N22.19908 E113.87805	56 m	0:00:16	13 kph
7/8/2015 13:04	ON	N22.19958 E113.87804	55 m	0:00:16	12 kph
7/8/2015 13:05	ON	N22.20023 E113.87808	72 m	0:00:21	12 kph
7/8/2015 13:05	ON	N22.20091 E113.87817	77 m	0:00:22	13 kph
7/8/2015 13:05	ON	N22.20157 E113.87823	74 m	0:00:21	13 kph
7/8/2015 13:06	ON	N22.20227 E113.87822	77 m	0:00:22	13 kph
7/8/2015 13:06	ON	N22.20291 E113.87815	72 m	0:00:20	13 kph
7/8/2015 13:06	ON	N22.20362 E113.87814	79 m	0:00:22	13 kph
7/8/2015 13:07	ON	N22.20442 E113.87811	89 m	0:00:25	13 kph
7/8/2015 13:07	ON	N22.20517 E113.87801	83 m	0:00:23	13 kph
7/8/2015 13:08	ON	N22.20588 E113.87801	79 m	0:00:22	13 kph
7/8/2015 13:08	ON	N22.20654 E113.87812	74 m	0:00:21	13 kph
7/8/2015 13:08	ON	N22.20717 E113.87818	71 m	0:00:20	13 kph
7/8/2015 13:09	ON	N22.20775 E113.87838	68 m	0:00:20	12 kph
7/8/2015 13:09	ON	N22.20804 E113.87891	63 m	0:00:18	13 kph
7/8/2015 13:09	ON	N22.20822 E113.87936	51 m	0:00:14	13 kph
7/8/2015 13:09	ON	N22.20848 E113.87984	57 m	0:00:16	13 kph
7/8/2015 13:10	ON	N22.20890 E113.88033	69 m	0:00:19	13 kph
7/8/2015 13:10	ON	N22.20942 E113.88082	77 m	0:00:21	13 kph
7/8/2015 13:10	ON	N22.20999 E113.88134	83 m	0:00:23	13 kph
7/8/2015 13:11	ON	N22.21048 E113.88182	73 m	0:00:20	13 kph
7/8/2015 13:11	ON	N22.21103 E113.88233	80 m	0:00:22	13 kph
7/8/2015 13:11	ON	N22.21156 E113.88290	84 m	0:00:23	13 kph
7/8/2015 13:12	ON	N22.21217 E113.88358	97 m	0:00:26	13 kph
7/8/2015 13:12	ON	N22.21264 E113.88411	76 m	0:00:20	14 kph
7/8/2015 13:13	ON	N22.21310 E113.88465	75 m	0:00:20	14 kph
7/8/2015 13:13	ON	N22.21353 E113.88522	75 m	0:00:20	14 kph
7/8/2015 13:13	ON	N22.21400 E113.88586	85 m	0:00:22	14 kph
7/8/2015 13:14	ON	N22.21451 E113.88652	88 m	0:00:23	14 kph
7/8/2015 13:14	ON	N22.21494 E113.88705	72 m	0:00:19	14 kph
7/8/2015 13:14	ON	N22.21546 E113.88763	84 m	0:00:22	14 kph
7/8/2015 13:15	ON	N22.21551 E113.88804	42 m	0:00:13	12 kph
7/8/2015 13:15	ON	N22.21515 E113.88824	45 m	0:00:14	11 kph
7/8/2015 13:15	ON	N22.21448 E113.88814	75 m	0:00:20	14 kph
7/8/2015 13:15	ON	N22.21379 E113.88810	77 m	0:00:20	14 kph
7/8/2015 13:16	ON	N22.21311 E113.88823	77 m	0:00:20	14 kph
7/8/2015 13:16	ON	N22.21243 E113.88824	75 m	0:00:19	14 kph
7/8/2015 13:16	ON	N22.21178 E113.88823	72 m	0:00:18	14 kph
7/8/2015 13:17	ON	N22.21122 E113.88821	63 m	0:00:16	14 kph
7/8/2015 13:17	ON	N22.21049 E113.88822	81 m	0:00:20	15 kph
7/8/2015 13:17	ON	N22.20988 E113.88826	68 m	0:00:17	14 kph
7/8/2015 13:18	ON	N22.20917 E113.88818	80 m	0:00:20	14 kph
7/8/2015 13:18	ON	N22.20849 E113.88818	76 m	0:00:19	14 kph
7/8/2015 13:18	ON	N22.20773 E113.88821	85 m	0:00:21	15 kph
7/8/2015 13:19	ON	N22.20705 E113.88824	75 m	0:00:19	14 kph
7/8/2015 13:19	ON	N22.20634 E113.88826	79 m	0:00:20	14 kph
7/8/2015 13:19	ON	N22.20570 E113.88828	72 m	0:00:18	14 kph
7/8/2015 13:20	ON	N22.20515 E113.88825	61 m	0:00:16	14 kph
7/8/2015 13:20	ON	N22.20458 E113.88825	63 m	0:00:17	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 13:20	ON	N22.20396 E113.88826	70 m	0:00:19	13 kph
7/8/2015 13:20	ON	N22.20332 E113.88825	71 m	0:00:19	13 kph
7/8/2015 13:21	ON	N22.20273 E113.88824	66 m	0:00:18	13 kph
7/8/2015 13:21	ON	N22.20217 E113.88826	62 m	0:00:17	13 kph
7/8/2015 13:21	ON	N22.20147 E113.88825	78 m	0:00:21	13 kph
7/8/2015 13:22	ON	N22.20090 E113.88823	63 m	0:00:17	13 kph
7/8/2015 13:22	ON	N22.20042 E113.88829	54 m	0:00:15	13 kph
7/8/2015 13:22	ON	N22.19987 E113.88836	62 m	0:00:17	13 kph
7/8/2015 13:23	ON	N22.19923 E113.88826	72 m	0:00:19	14 kph
7/8/2015 13:23	ON	N22.19873 E113.88820	56 m	0:00:15	13 kph
7/8/2015 13:23	ON	N22.19817 E113.88823	62 m	0:00:17	13 kph
7/8/2015 13:23	ON	N22.19757 E113.88822	67 m	0:00:18	13 kph
7/8/2015 13:24	ON	N22.19694 E113.88827	70 m	0:00:19	13 kph
7/8/2015 13:24	ON	N22.19638 E113.88832	62 m	0:00:17	13 kph
7/8/2015 13:24	ON	N22.19577 E113.88827	69 m	0:00:18	14 kph
7/8/2015 13:24	ON	N22.19532 E113.88822	50 m	0:00:13	14 kph
7/8/2015 13:25	ON	N22.19460 E113.88823	80 m	0:00:21	14 kph
7/8/2015 13:25	ON	N22.19388 E113.88833	81 m	0:00:22	13 kph
7/8/2015 13:25	ON	N22.19341 E113.88837	52 m	0:00:14	13 kph
7/8/2015 13:26	ON	N22.19272 E113.88833	77 m	0:00:20	14 kph
7/8/2015 13:26	ON	N22.19214 E113.88829	65 m	0:00:17	14 kph
7/8/2015 13:26	ON	N22.19142 E113.88828	80 m	0:00:21	14 kph
7/8/2015 13:27	ON	N22.19077 E113.88823	73 m	0:00:19	14 kph
7/8/2015 13:27	ON	N22.19019 E113.88822	64 m	0:00:17	14 kph
7/8/2015 13:27	ON	N22.18967 E113.88829	57 m	0:00:15	14 kph
7/8/2015 13:28	ON	N22.18907 E113.88835	68 m	0:00:18	14 kph
7/8/2015 13:28	ON	N22.18845 E113.88824	70 m	0:00:18	14 kph
7/8/2015 13:28	ON	N22.18787 E113.88812	66 m	0:00:17	14 kph
7/8/2015 13:28	ON	N22.18724 E113.88812	70 m	0:00:19	13 kph
7/8/2015 13:29	ON	N22.18669 E113.88813	61 m	0:00:16	14 kph
7/8/2015 13:29	ON	N22.18609 E113.88813	66 m	0:00:18	13 kph
7/8/2015 13:29	ON	N22.18544 E113.88820	73 m	0:00:20	13 kph
7/8/2015 13:30	ON	N22.18487 E113.88822	63 m	0:00:17	13 kph
7/8/2015 13:30	ON	N22.18431 E113.88820	63 m	0:00:17	13 kph
7/8/2015 13:30	ON	N22.18374 E113.88825	64 m	0:00:17	14 kph
7/8/2015 13:30	ON	N22.18309 E113.88834	72 m	0:00:19	14 kph
7/8/2015 13:31	ON	N22.18230 E113.88830	89 m	0:00:23	14 kph
7/8/2015 13:31	ON	N22.18154 E113.88830	84 m	0:00:22	14 kph
7/8/2015 13:32	ON	N22.18082 E113.88828	80 m	0:00:21	14 kph
7/8/2015 13:32	ON	N22.18012 E113.88823	79 m	0:00:21	14 kph
7/8/2015 13:32	ON	N22.17933 E113.88826	88 m	0:00:23	14 kph
7/8/2015 13:33	ON	N22.17856 E113.88827	85 m	0:00:22	14 kph
7/8/2015 13:33	ON	N22.17781 E113.88826	84 m	0:00:22	14 kph
7/8/2015 13:33	ON	N22.17702 E113.88825	88 m	0:00:23	14 kph
7/8/2015 13:34	ON	N22.17630 E113.88826	79 m	0:00:21	14 kph
7/8/2015 13:34	ON	N22.17553 E113.88831	86 m	0:00:22	14 kph
7/8/2015 13:35	ON	N22.17480 E113.88831	81 m	0:00:21	14 kph
7/8/2015 13:35	ON	N22.17411 E113.88827	77 m	0:00:20	14 kph
7/8/2015 13:35	ON	N22.17346 E113.88825	73 m	0:00:19	14 kph
7/8/2015 13:35	ON	N22.17276 E113.88822	78 m	0:00:20	14 kph
7/8/2015 13:36	ON	N22.17203 E113.88828	82 m	0:00:21	14 kph
7/8/2015 13:36	ON	N22.17113 E113.88830	100 m	0:00:26	14 kph
7/8/2015 13:37	ON	N22.17037 E113.88832	85 m	0:00:22	14 kph
7/8/2015 13:37	ON	N22.16964 E113.88833	81 m	0:00:21	14 kph
7/8/2015 13:37	ON	N22.16879 E113.88830	95 m	0:00:25	14 kph
7/8/2015 13:38	ON	N22.16800 E113.88829	88 m	0:00:23	14 kph
7/8/2015 13:38	ON	N22.16713 E113.88830	97 m	0:00:25	14 kph
7/8/2015 13:39	ON	N22.16633 E113.88828	89 m	0:00:23	14 kph
7/8/2015 13:39	ON	N22.16551 E113.88828	92 m	0:00:24	14 kph
7/8/2015 13:39	ON	N22.16471 E113.88830	89 m	0:00:23	14 kph
7/8/2015 13:40	ON	N22.16394 E113.88827	85 m	0:00:22	14 kph
7/8/2015 13:40	ON	N22.16322 E113.88822	81 m	0:00:21	14 kph
7/8/2015 13:40	ON	N22.16252 E113.88826	78 m	0:00:20	14 kph
7/8/2015 13:41	ON	N22.16173 E113.88842	90 m	0:00:23	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 13:41	ON	N22.16096 E113.88844	85 m	0:00:22	14 kph
7/8/2015 13:42	ON	N22.16026 E113.88855	79 m	0:00:20	14 kph
7/8/2015 13:42	ON	N22.15953 E113.88847	81 m	0:00:21	14 kph
7/8/2015 13:42	ON	N22.15892 E113.88838	69 m	0:00:18	14 kph
7/8/2015 13:42	ON	N22.15823 E113.88829	77 m	0:00:20	14 kph
7/8/2015 13:43	ON	N22.15758 E113.88829	72 m	0:00:19	14 kph
7/8/2015 13:43	ON	N22.15689 E113.88836	78 m	0:00:20	14 kph
7/8/2015 13:43	ON	N22.15629 E113.88833	66 m	0:00:17	14 kph
7/8/2015 13:44	ON	N22.15563 E113.88838	74 m	0:00:19	14 kph
7/8/2015 13:44	ON	N22.15500 E113.88834	71 m	0:00:18	14 kph
7/8/2015 13:44	ON	N22.15425 E113.88824	84 m	0:00:22	14 kph
7/8/2015 13:45	ON	N22.15362 E113.88825	70 m	0:00:18	14 kph
7/8/2015 13:45	ON	N22.15299 E113.88830	71 m	0:00:18	14 kph
7/8/2015 13:45	ON	N22.15234 E113.88823	72 m	0:00:19	14 kph
7/8/2015 13:46	ON	N22.15166 E113.88817	77 m	0:00:20	14 kph
7/8/2015 13:46	ON	N22.15102 E113.88821	71 m	0:00:18	14 kph
7/8/2015 13:46	ON	N22.15017 E113.88828	95 m	0:00:24	14 kph
7/8/2015 13:47	ON	N22.14964 E113.88858	66 m	0:00:17	14 kph
7/8/2015 13:47	ON	N22.14914 E113.88923	87 m	0:00:21	15 kph
7/8/2015 13:47	ON	N22.14889 E113.89002	86 m	0:00:21	15 kph
7/8/2015 13:48	ON	N22.14879 E113.89075	75 m	0:00:18	15 kph
7/8/2015 13:48	ON	N22.14872 E113.89156	84 m	0:00:20	15 kph
7/8/2015 13:48	ON	N22.14869 E113.89250	97 m	0:00:23	15 kph
7/8/2015 13:49	ON	N22.14864 E113.89330	83 m	0:00:20	15 kph
7/8/2015 13:49	ON	N22.14860 E113.89422	95 m	0:00:23	15 kph
7/8/2015 13:49	ON	N22.14857 E113.89499	80 m	0:00:19	15 kph
7/8/2015 13:50	ON	N22.14850 E113.89580	83 m	0:00:20	15 kph
7/8/2015 13:50	ON	N22.14836 E113.89659	83 m	0:00:20	15 kph
7/8/2015 13:50	ON	N22.14840 E113.89722	65 m	0:00:18	13 kph
7/8/2015 13:51	ON	N22.14882 E113.89742	51 m	0:00:15	12 kph
7/8/2015 13:51	ON	N22.14952 E113.89742	78 m	0:00:21	13 kph
7/8/2015 13:51	ON	N22.15021 E113.89737	77 m	0:00:20	14 kph
7/8/2015 13:52	ON	N22.15092 E113.89721	81 m	0:00:21	14 kph
7/8/2015 13:52	ON	N22.15171 E113.89719	88 m	0:00:23	14 kph
7/8/2015 13:52	ON	N22.15235 E113.89716	71 m	0:00:19	14 kph
7/8/2015 13:53	ON	N22.15304 E113.89727	78 m	0:00:20	14 kph
7/8/2015 13:53	ON	N22.15359 E113.89728	60 m	0:00:16	14 kph
7/8/2015 13:53	ON	N22.15423 E113.89730	72 m	0:00:19	14 kph
7/8/2015 13:54	ON	N22.15491 E113.89730	76 m	0:00:20	14 kph
7/8/2015 13:54	ON	N22.15552 E113.89728	68 m	0:00:18	14 kph
7/8/2015 13:54	ON	N22.15630 E113.89732	87 m	0:00:23	14 kph
7/8/2015 13:55	ON	N22.15690 E113.89728	67 m	0:00:18	13 kph
7/8/2015 13:55	ON	N22.15755 E113.89725	73 m	0:00:19	14 kph
7/8/2015 13:55	ON	N22.15820 E113.89729	72 m	0:00:19	14 kph
7/8/2015 13:55	ON	N22.15873 E113.89739	61 m	0:00:16	14 kph
7/8/2015 13:56	ON	N22.15928 E113.89747	62 m	0:00:16	14 kph
7/8/2015 13:56	ON	N22.15983 E113.89750	61 m	0:00:16	14 kph
7/8/2015 13:56	ON	N22.16038 E113.89747	61 m	0:00:16	14 kph
7/8/2015 13:57	OFF	N22.16093 E113.89740	62 m	0:00:17	13 kph
7/8/2015 13:57	OFF	N22.16130 E113.89739	41 m	0:00:18	8 kph
7/8/2015 13:57	OFF	N22.16156 E113.89744	29 m	0:00:21	5 kph
7/8/2015 13:58	OFF	N22.16172 E113.89749	18 m	0:00:19	3 kph
7/8/2015 13:58	OFF	N22.16181 E113.89754	12 m	0:00:17	2 kph
7/8/2015 13:58	OFF	N22.16187 E113.89760	9 m	0:00:16	2 kph
7/8/2015 13:58	OFF	N22.16194 E113.89766	11 m	0:00:21	2 kph
7/8/2015 13:59	OFF	N22.16199 E113.89773	9 m	0:00:18	2 kph
7/8/2015 13:59	OFF	N22.16231 E113.89776	35 m	0:00:15	8 kph
7/8/2015 13:59	ON	N22.16292 E113.89753	72 m	0:00:20	13 kph
7/8/2015 14:00	ON	N22.16370 E113.89712	97 m	0:00:25	14 kph
7/8/2015 14:00	ON	N22.16427 E113.89714	64 m	0:00:16	14 kph
7/8/2015 14:00	ON	N22.16497 E113.89725	79 m	0:00:20	14 kph
7/8/2015 14:01	ON	N22.16559 E113.89722	69 m	0:00:18	14 kph
7/8/2015 14:01	ON	N22.16640 E113.89721	90 m	0:00:23	14 kph
7/8/2015 14:01	ON	N22.16726 E113.89727	96 m	0:00:24	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 14:02	ON	N22.16802 E113.89725	86 m	0:00:22	14 kph
7/8/2015 14:02	ON	N22.16880 E113.89725	86 m	0:00:22	14 kph
7/8/2015 14:02	ON	N22.16943 E113.89730	71 m	0:00:18	14 kph
7/8/2015 14:03	ON	N22.17016 E113.89730	81 m	0:00:21	14 kph
7/8/2015 14:03	ON	N22.17086 E113.89729	78 m	0:00:20	14 kph
7/8/2015 14:03	ON	N22.17149 E113.89724	70 m	0:00:18	14 kph
7/8/2015 14:04	ON	N22.17224 E113.89730	85 m	0:00:21	15 kph
7/8/2015 14:04	ON	N22.17300 E113.89738	84 m	0:00:21	14 kph
7/8/2015 14:04	ON	N22.17376 E113.89728	85 m	0:00:22	14 kph
7/8/2015 14:05	ON	N22.17450 E113.89716	83 m	0:00:21	14 kph
7/8/2015 14:05	ON	N22.17529 E113.89718	89 m	0:00:22	14 kph
7/8/2015 14:06	ON	N22.17608 E113.89721	88 m	0:00:22	14 kph
7/8/2015 14:06	ON	N22.17676 E113.89722	76 m	0:00:19	14 kph
7/8/2015 14:06	ON	N22.17755 E113.89725	88 m	0:00:22	14 kph
7/8/2015 14:07	OFF	N22.17806 E113.89727	57 m	0:00:19	11 kph
7/8/2015 14:07	OFF	N22.17841 E113.89730	39 m	0:00:23	6 kph
7/8/2015 14:07	OFF	N22.17859 E113.89734	20 m	0:00:17	4 kph
7/8/2015 14:08	OFF	N22.17882 E113.89741	27 m	0:00:19	5 kph
7/8/2015 14:08	OFF	N22.17899 E113.89772	37 m	0:00:19	7 kph
7/8/2015 14:08	OFF	N22.17900 E113.89823	53 m	0:00:19	10 kph
7/8/2015 14:09	OFF	N22.17897 E113.89887	66 m	0:00:19	13 kph
7/8/2015 14:09	OFF	N22.17894 E113.89946	60 m	0:00:17	13 kph
7/8/2015 14:09	OFF	N22.17890 E113.90003	59 m	0:00:20	11 kph
7/8/2015 14:09	OFF	N22.17862 E113.90044	52 m	0:00:20	9 kph
7/8/2015 14:10	OFF	N22.17821 E113.90071	53 m	0:00:22	9 kph
7/8/2015 14:10	OFF	N22.17784 E113.90098	49 m	0:00:24	7 kph
7/8/2015 14:11	OFF	N22.17756 E113.90126	43 m	0:00:23	7 kph
7/8/2015 14:11	OFF	N22.17742 E113.90148	28 m	0:00:20	5 kph
7/8/2015 14:11	OFF	N22.17736 E113.90170	24 m	0:00:20	4 kph
7/8/2015 14:12	OFF	N22.17733 E113.90193	23 m	0:00:24	4 kph
7/8/2015 14:12	OFF	N22.17730 E113.90213	22 m	0:00:20	4 kph
7/8/2015 14:12	OFF	N22.17701 E113.90224	34 m	0:00:16	8 kph
7/8/2015 14:13	OFF	N22.17680 E113.90193	40 m	0:00:15	10 kph
7/8/2015 14:13	OFF	N22.17670 E113.90116	80 m	0:00:23	12 kph
7/8/2015 14:13	OFF	N22.17667 E113.90042	76 m	0:00:21	13 kph
7/8/2015 14:14	OFF	N22.17658 E113.89961	85 m	0:00:24	13 kph
7/8/2015 14:14	OFF	N22.17645 E113.89886	79 m	0:00:22	13 kph
7/8/2015 14:14	OFF	N22.17631 E113.89821	68 m	0:00:19	13 kph
7/8/2015 14:15	OFF	N22.17618 E113.89765	60 m	0:00:17	13 kph
7/8/2015 14:15	OFF	N22.17634 E113.89734	37 m	0:00:12	11 kph
7/8/2015 14:15	ON	N22.17680 E113.89727	51 m	0:00:14	13 kph
7/8/2015 14:15	ON	N22.17741 E113.89731	69 m	0:00:17	15 kph
7/8/2015 14:16	ON	N22.17795 E113.89732	60 m	0:00:15	14 kph
7/8/2015 14:16	ON	N22.17865 E113.89734	77 m	0:00:19	15 kph
7/8/2015 14:16	ON	N22.17933 E113.89734	76 m	0:00:19	14 kph
7/8/2015 14:17	ON	N22.17997 E113.89727	72 m	0:00:18	14 kph
7/8/2015 14:17	ON	N22.18069 E113.89723	80 m	0:00:20	14 kph
7/8/2015 14:17	ON	N22.18126 E113.89722	64 m	0:00:16	14 kph
7/8/2015 14:17	ON	N22.18181 E113.89730	61 m	0:00:15	15 kph
7/8/2015 14:18	ON	N22.18228 E113.89739	53 m	0:00:13	15 kph
7/8/2015 14:18	ON	N22.18281 E113.89733	60 m	0:00:15	14 kph
7/8/2015 14:18	ON	N22.18356 E113.89728	84 m	0:00:20	15 kph
7/8/2015 14:19	ON	N22.18444 E113.89732	97 m	0:00:23	15 kph
7/8/2015 14:19	ON	N22.18519 E113.89726	83 m	0:00:20	15 kph
7/8/2015 14:19	ON	N22.18597 E113.89713	88 m	0:00:21	15 kph
7/8/2015 14:20	ON	N22.18670 E113.89699	83 m	0:00:21	14 kph
7/8/2015 14:20	ON	N22.18747 E113.89694	85 m	0:00:22	14 kph
7/8/2015 14:20	ON	N22.18829 E113.89691	92 m	0:00:24	14 kph
7/8/2015 14:21	ON	N22.18898 E113.89692	76 m	0:00:20	14 kph
7/8/2015 14:21	ON	N22.18976 E113.89702	88 m	0:00:23	14 kph
7/8/2015 14:21	ON	N22.19038 E113.89709	69 m	0:00:18	14 kph
7/8/2015 14:22	ON	N22.19099 E113.89716	68 m	0:00:18	14 kph
7/8/2015 14:22	ON	N22.19162 E113.89714	69 m	0:00:18	14 kph
7/8/2015 14:22	ON	N22.19231 E113.89713	77 m	0:00:20	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 14:23	ON	N22.19304 E113.89729	83 m	0:00:22	14 kph
7/8/2015 14:23	ON	N22.19356 E113.89724	58 m	0:00:15	14 kph
7/8/2015 14:23	ON	N22.19415 E113.89714	67 m	0:00:17	14 kph
7/8/2015 14:24	ON	N22.19479 E113.89709	71 m	0:00:18	14 kph
7/8/2015 14:24	ON	N22.19538 E113.89707	66 m	0:00:17	14 kph
7/8/2015 14:24	ON	N22.19617 E113.89715	88 m	0:00:23	14 kph
7/8/2015 14:24	ON	N22.19683 E113.89723	73 m	0:00:19	14 kph
7/8/2015 14:25	ON	N22.19753 E113.89725	78 m	0:00:20	14 kph
7/8/2015 14:25	ON	N22.19836 E113.89724	92 m	0:00:23	14 kph
7/8/2015 14:26	ON	N22.19902 E113.89731	74 m	0:00:19	14 kph
7/8/2015 14:26	ON	N22.19964 E113.89733	69 m	0:00:18	14 kph
7/8/2015 14:26	ON	N22.20013 E113.89729	55 m	0:00:14	14 kph
7/8/2015 14:26	ON	N22.20076 E113.89724	70 m	0:00:18	14 kph
7/8/2015 14:27	ON	N22.20138 E113.89725	69 m	0:00:18	14 kph
7/8/2015 14:27	ON	N22.20200 E113.89728	69 m	0:00:18	14 kph
7/8/2015 14:27	ON	N22.20272 E113.89733	80 m	0:00:21	14 kph
7/8/2015 14:28	ON	N22.20340 E113.89732	76 m	0:00:20	14 kph
7/8/2015 14:28	ON	N22.20405 E113.89724	72 m	0:00:19	14 kph
7/8/2015 14:28	ON	N22.20489 E113.89721	94 m	0:00:25	13 kph
7/8/2015 14:29	ON	N22.20542 E113.89728	60 m	0:00:16	14 kph
7/8/2015 14:29	ON	N22.20618 E113.89735	84 m	0:00:23	13 kph
7/8/2015 14:29	ON	N22.20689 E113.89733	79 m	0:00:22	13 kph
7/8/2015 14:30	ON	N22.20760 E113.89738	80 m	0:00:22	13 kph
7/8/2015 14:30	ON	N22.20829 E113.89727	78 m	0:00:21	13 kph
7/8/2015 14:30	ON	N22.20895 E113.89716	74 m	0:00:20	13 kph
7/8/2015 14:31	ON	N22.20953 E113.89717	65 m	0:00:18	13 kph
7/8/2015 14:31	ON	N22.21010 E113.89716	63 m	0:00:18	13 kph
7/8/2015 14:31	ON	N22.21080 E113.89716	77 m	0:00:21	13 kph
7/8/2015 14:32	ON	N22.21152 E113.89726	81 m	0:00:22	13 kph
7/8/2015 14:32	ON	N22.21221 E113.89727	77 m	0:00:21	13 kph
7/8/2015 14:33	ON	N22.21301 E113.89733	89 m	0:00:24	13 kph
7/8/2015 14:33	ON	N22.21335 E113.89760	48 m	0:00:14	12 kph
7/8/2015 14:33	ON	N22.21333 E113.89812	53 m	0:00:14	14 kph
7/8/2015 14:33	ON	N22.21290 E113.89869	76 m	0:00:18	15 kph
7/8/2015 14:34	ON	N22.21233 E113.89933	92 m	0:00:21	16 kph
7/8/2015 14:34	ON	N22.21191 E113.89984	70 m	0:00:16	16 kph
7/8/2015 14:34	ON	N22.21149 E113.90035	70 m	0:00:16	16 kph
7/8/2015 14:34	ON	N22.21101 E113.90092	80 m	0:00:18	16 kph
7/8/2015 14:35	ON	N22.21063 E113.90141	66 m	0:00:15	16 kph
7/8/2015 14:35	ON	N22.21027 E113.90191	65 m	0:00:15	16 kph
7/8/2015 14:35	ON	N22.20981 E113.90255	83 m	0:00:19	16 kph
7/8/2015 14:35	ON	N22.20951 E113.90298	56 m	0:00:13	16 kph
7/8/2015 14:36	ON	N22.20913 E113.90352	70 m	0:00:16	16 kph
7/8/2015 14:36	ON	N22.20879 E113.90403	65 m	0:00:15	15 kph
7/8/2015 14:36	ON	N22.20846 E113.90455	64 m	0:00:15	15 kph
7/8/2015 14:37	ON	N22.20811 E113.90514	73 m	0:00:17	15 kph
7/8/2015 14:37	ON	N22.20776 E113.90577	76 m	0:00:18	15 kph
7/8/2015 14:37	ON	N22.20741 E113.90640	75 m	0:00:18	15 kph
7/8/2015 14:37	ON	N22.20717 E113.90693	61 m	0:00:15	15 kph
7/8/2015 14:38	ON	N22.20687 E113.90752	69 m	0:00:17	15 kph
7/8/2015 14:38	ON	N22.20644 E113.90769	51 m	0:00:14	13 kph
7/8/2015 14:38	ON	N22.20594 E113.90767	55 m	0:00:14	14 kph
7/8/2015 14:38	ON	N22.20533 E113.90776	69 m	0:00:17	15 kph
7/8/2015 14:39	ON	N22.20483 E113.90780	56 m	0:00:14	14 kph
7/8/2015 14:39	ON	N22.20422 E113.90783	67 m	0:00:17	14 kph
7/8/2015 14:39	ON	N22.20352 E113.90783	79 m	0:00:20	14 kph
7/8/2015 14:40	ON	N22.20282 E113.90789	78 m	0:00:20	14 kph
7/8/2015 14:40	ON	N22.20212 E113.90798	78 m	0:00:20	14 kph
7/8/2015 14:40	ON	N22.20160 E113.90792	59 m	0:00:15	14 kph
7/8/2015 14:40	ON	N22.20104 E113.90786	62 m	0:00:16	14 kph
7/8/2015 14:41	ON	N22.20040 E113.90783	71 m	0:00:18	14 kph
7/8/2015 14:41	ON	N22.19982 E113.90790	65 m	0:00:17	14 kph
7/8/2015 14:41	ON	N22.19913 E113.90796	77 m	0:00:20	14 kph
7/8/2015 14:42	ON	N22.19855 E113.90790	65 m	0:00:17	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 14:42	ON	N22.19789 E113.90782	74 m	0:00:19	14 kph
7/8/2015 14:42	ON	N22.19719 E113.90781	78 m	0:00:20	14 kph
7/8/2015 14:43	ON	N22.19667 E113.90783	57 m	0:00:15	14 kph
7/8/2015 14:43	ON	N22.19619 E113.90784	54 m	0:00:14	14 kph
7/8/2015 14:43	ON	N22.19554 E113.90787	72 m	0:00:19	14 kph
7/8/2015 14:43	ON	N22.19481 E113.90787	81 m	0:00:21	14 kph
7/8/2015 14:44	ON	N22.19411 E113.90781	78 m	0:00:20	14 kph
7/8/2015 14:44	ON	N22.19331 E113.90785	90 m	0:00:23	14 kph
7/8/2015 14:44	ON	N22.19264 E113.90788	75 m	0:00:19	14 kph
7/8/2015 14:45	ON	N22.19200 E113.90791	71 m	0:00:18	14 kph
7/8/2015 14:45	ON	N22.19120 E113.90795	90 m	0:00:23	14 kph
7/8/2015 14:46	ON	N22.19041 E113.90770	91 m	0:00:23	14 kph
7/8/2015 14:46	ON	N22.18985 E113.90728	76 m	0:00:19	14 kph
7/8/2015 14:46	ON	N22.18928 E113.90675	84 m	0:00:21	14 kph
7/8/2015 14:47	ON	N22.18866 E113.90615	93 m	0:00:23	15 kph
7/8/2015 14:47	ON	N22.18792 E113.90559	100 m	0:00:25	14 kph
7/8/2015 14:47	ON	N22.18731 E113.90534	73 m	0:00:19	14 kph
7/8/2015 14:48	ON	N22.18650 E113.90501	96 m	0:00:25	14 kph
7/8/2015 14:48	ON	N22.18573 E113.90473	90 m	0:00:24	14 kph
7/8/2015 14:48	ON	N22.18509 E113.90460	72 m	0:00:19	14 kph
7/8/2015 14:49	ON	N22.18439 E113.90447	80 m	0:00:21	14 kph
7/8/2015 14:49	ON	N22.18359 E113.90423	92 m	0:00:24	14 kph
7/8/2015 14:50	ON	N22.18291 E113.90402	79 m	0:00:21	14 kph
7/8/2015 14:50	ON	N22.18215 E113.90398	84 m	0:00:24	13 kph
7/8/2015 14:50	ON	N22.18159 E113.90398	62 m	0:00:17	13 kph
7/8/2015 14:51	ON	N22.18091 E113.90402	76 m	0:00:21	13 kph
7/8/2015 14:51	ON	N22.18028 E113.90411	70 m	0:00:19	13 kph
7/8/2015 14:51	ON	N22.17960 E113.90427	78 m	0:00:21	13 kph
7/8/2015 14:52	ON	N22.17893 E113.90461	83 m	0:00:22	14 kph
7/8/2015 14:52	ON	N22.17823 E113.90516	96 m	0:00:25	14 kph
7/8/2015 14:52	ON	N22.17756 E113.90573	95 m	0:00:24	14 kph
7/8/2015 14:53	ON	N22.17697 E113.90629	87 m	0:00:22	14 kph
7/8/2015 14:53	ON	N22.17629 E113.90699	104 m	0:00:26	14 kph
7/8/2015 14:54	ON	N22.17552 E113.90771	113 m	0:00:28	14 kph
7/8/2015 14:54	ON	N22.17468 E113.90822	108 m	0:00:27	14 kph
7/8/2015 14:55	ON	N22.17389 E113.90846	92 m	0:00:24	14 kph
7/8/2015 14:55	ON	N22.17308 E113.90840	90 m	0:00:24	14 kph
7/8/2015 14:55	ON	N22.17220 E113.90814	101 m	0:00:27	14 kph
7/8/2015 14:56	ON	N22.17132 E113.90780	104 m	0:00:29	13 kph
7/8/2015 14:56	ON	N22.17062 E113.90740	89 m	0:00:25	13 kph
7/8/2015 14:57	ON	N22.17001 E113.90696	81 m	0:00:23	13 kph
7/8/2015 14:57	ON	N22.16944 E113.90642	84 m	0:00:24	13 kph
7/8/2015 14:57	ON	N22.16895 E113.90593	75 m	0:00:21	13 kph
7/8/2015 14:58	ON	N22.16846 E113.90548	71 m	0:00:20	13 kph
7/8/2015 14:58	ON	N22.16783 E113.90487	94 m	0:00:26	13 kph
7/8/2015 14:59	ON	N22.16730 E113.90431	83 m	0:00:23	13 kph
7/8/2015 14:59	ON	N22.16674 E113.90359	97 m	0:00:27	13 kph
7/8/2015 14:59	ON	N22.16630 E113.90290	86 m	0:00:24	13 kph
7/8/2015 15:00	ON	N22.16585 E113.90234	77 m	0:00:21	13 kph
7/8/2015 15:00	ON	N22.16535 E113.90177	81 m	0:00:22	13 kph
7/8/2015 15:01	ON	N22.16490 E113.90122	76 m	0:00:21	13 kph
7/8/2015 15:01	ON	N22.16453 E113.90078	61 m	0:00:17	13 kph
7/8/2015 15:01	ON	N22.16401 E113.90019	83 m	0:00:23	13 kph
7/8/2015 15:01	ON	N22.16372 E113.89996	41 m	0:00:17	9 kph
7/8/2015 15:02	ON	N22.16352 E113.89982	26 m	0:00:18	5 kph
7/8/2015 15:02	OFF	N22.16338 E113.89974	18 m	0:00:18	4 kph
7/8/2015 15:02	OFF	N22.16326 E113.89971	13 m	0:00:19	2 kph
7/8/2015 15:03	OFF	N22.16318 E113.89972	9 m	0:00:20	2 kph
7/8/2015 15:03	OFF	N22.16313 E113.89975	6 m	0:00:18	1.1 kph
7/8/2015 15:03	ON	N22.16307 E113.89976	7 m	0:00:15	2 kph
7/8/2015 15:04	ON	N22.16280 E113.89957	36 m	0:00:14	9 kph
7/8/2015 15:04	ON	N22.16227 E113.89908	77 m	0:00:21	13 kph
7/8/2015 15:04	ON	N22.16172 E113.89874	71 m	0:00:19	13 kph
7/8/2015 15:05	ON	N22.16102 E113.89846	83 m	0:00:22	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 15:05	ON	N22.16038 E113.89834	72 m	0:00:19	14 kph
7/8/2015 15:05	ON	N22.15954 E113.89836	94 m	0:00:24	14 kph
7/8/2015 15:06	ON	N22.15872 E113.89860	94 m	0:00:23	15 kph
7/8/2015 15:06	ON	N22.15804 E113.89901	88 m	0:00:22	14 kph
7/8/2015 15:06	ON	N22.15740 E113.89963	95 m	0:00:24	14 kph
7/8/2015 15:07	ON	N22.15682 E113.90030	95 m	0:00:23	15 kph
7/8/2015 15:07	ON	N22.15622 E113.90116	111 m	0:00:27	15 kph
7/8/2015 15:08	ON	N22.15586 E113.90198	94 m	0:00:23	15 kph
7/8/2015 15:08	ON	N22.15557 E113.90293	103 m	0:00:25	15 kph
7/8/2015 15:08	ON	N22.15547 E113.90389	99 m	0:00:24	15 kph
7/8/2015 15:09	ON	N22.15564 E113.90487	103 m	0:00:25	15 kph
7/8/2015 15:09	ON	N22.15588 E113.90585	104 m	0:00:26	14 kph
7/8/2015 15:10	ON	N22.15609 E113.90689	110 m	0:00:27	15 kph
7/8/2015 15:10	ON	N22.15608 E113.90778	92 m	0:00:24	14 kph
7/8/2015 15:10	ON	N22.15564 E113.90806	57 m	0:00:16	13 kph
7/8/2015 15:11	ON	N22.15502 E113.90788	71 m	0:00:19	13 kph
7/8/2015 15:11	ON	N22.15440 E113.90764	73 m	0:00:19	14 kph
7/8/2015 15:11	ON	N22.15390 E113.90748	58 m	0:00:15	14 kph
7/8/2015 15:12	ON	N22.15320 E113.90742	78 m	0:00:20	14 kph
7/8/2015 15:12	ON	N22.15260 E113.90751	68 m	0:00:17	14 kph
7/8/2015 15:12	ON	N22.15180 E113.90767	90 m	0:00:22	15 kph
7/8/2015 15:13	ON	N22.15105 E113.90779	84 m	0:00:21	14 kph
7/8/2015 15:13	ON	N22.15029 E113.90796	87 m	0:00:21	15 kph
7/8/2015 15:13	ON	N22.14954 E113.90795	83 m	0:00:21	14 kph
7/8/2015 15:14	ON	N22.14889 E113.90793	72 m	0:00:18	14 kph
7/8/2015 15:14	ON	N22.14823 E113.90794	73 m	0:00:18	15 kph
7/8/2015 15:14	ON	N22.14742 E113.90799	90 m	0:00:22	15 kph
7/8/2015 15:15	ON	N22.14662 E113.90800	90 m	0:00:22	15 kph
7/8/2015 15:15	ON	N22.14589 E113.90793	81 m	0:00:20	15 kph
7/8/2015 15:15	ON	N22.14516 E113.90791	82 m	0:00:20	15 kph
7/8/2015 15:16	ON	N22.14438 E113.90801	87 m	0:00:21	15 kph
7/8/2015 15:16	ON	N22.14355 E113.90796	93 m	0:00:23	15 kph
7/8/2015 15:16	ON	N22.14284 E113.90793	79 m	0:00:20	14 kph
7/8/2015 15:17	ON	N22.14250 E113.90836	58 m	0:00:15	14 kph
7/8/2015 15:17	ON	N22.14220 E113.90929	102 m	0:00:24	15 kph
7/8/2015 15:17	ON	N22.14218 E113.91019	93 m	0:00:22	15 kph
7/8/2015 15:18	ON	N22.14217 E113.91102	85 m	0:00:20	15 kph
7/8/2015 15:18	ON	N22.14217 E113.91193	94 m	0:00:22	15 kph
7/8/2015 15:18	ON	N22.14219 E113.91289	99 m	0:00:23	15 kph
7/8/2015 15:19	ON	N22.14220 E113.91384	98 m	0:00:23	15 kph
7/8/2015 15:19	ON	N22.14222 E113.91479	97 m	0:00:23	15 kph
7/8/2015 15:20	ON	N22.14222 E113.91579	103 m	0:00:24	15 kph
7/8/2015 15:20	ON	N22.14221 E113.91660	83 m	0:00:19	16 kph
7/8/2015 15:20	ON	N22.14226 E113.91757	100 m	0:00:24	15 kph
7/8/2015 15:21	ON	N22.14256 E113.91794	50 m	0:00:15	12 kph
7/8/2015 15:21	ON	N22.14313 E113.91805	65 m	0:00:19	12 kph
7/8/2015 15:21	ON	N22.14386 E113.91796	81 m	0:00:23	13 kph
7/8/2015 15:22	ON	N22.14460 E113.91793	82 m	0:00:23	13 kph
7/8/2015 15:22	ON	N22.14530 E113.91793	78 m	0:00:22	13 kph
7/8/2015 15:22	ON	N22.14602 E113.91791	80 m	0:00:22	13 kph
7/8/2015 15:23	ON	N22.14667 E113.91785	72 m	0:00:20	13 kph
7/8/2015 15:23	ON	N22.14736 E113.91775	78 m	0:00:21	13 kph
7/8/2015 15:23	ON	N22.14802 E113.91778	74 m	0:00:20	13 kph
7/8/2015 15:24	ON	N22.14874 E113.91787	81 m	0:00:22	13 kph
7/8/2015 15:24	ON	N22.14930 E113.91785	62 m	0:00:17	13 kph
7/8/2015 15:24	ON	N22.14991 E113.91774	70 m	0:00:19	13 kph
7/8/2015 15:25	ON	N22.15047 E113.91778	62 m	0:00:17	13 kph
7/8/2015 15:25	ON	N22.15129 E113.91796	92 m	0:00:25	13 kph
7/8/2015 15:25	ON	N22.15194 E113.91801	73 m	0:00:20	13 kph
7/8/2015 15:26	ON	N22.15259 E113.91791	74 m	0:00:20	13 kph
7/8/2015 15:26	ON	N22.15332 E113.91792	82 m	0:00:22	13 kph
7/8/2015 15:27	ON	N22.15405 E113.91790	81 m	0:00:22	13 kph
7/8/2015 15:27	ON	N22.15486 E113.91795	90 m	0:00:24	13 kph
7/8/2015 15:27	ON	N22.15573 E113.91800	97 m	0:00:26	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 15:28	ON	N22.15636 E113.91804	71 m	0:00:19	13 kph
7/8/2015 15:28	ON	N22.15714 E113.91795	87 m	0:00:23	14 kph
7/8/2015 15:28	ON	N22.15786 E113.91788	80 m	0:00:21	14 kph
7/8/2015 15:29	ON	N22.15849 E113.91797	71 m	0:00:18	14 kph
7/8/2015 15:29	ON	N22.15915 E113.91810	76 m	0:00:19	14 kph
7/8/2015 15:29	ON	N22.15994 E113.91820	88 m	0:00:22	14 kph
7/8/2015 15:30	ON	N22.16076 E113.91830	92 m	0:00:23	14 kph
7/8/2015 15:30	ON	N22.16137 E113.91836	68 m	0:00:17	14 kph
7/8/2015 15:30	ON	N22.16214 E113.91844	86 m	0:00:22	14 kph
7/8/2015 15:31	ON	N22.16299 E113.91855	95 m	0:00:24	14 kph
7/8/2015 15:31	ON	N22.16382 E113.91868	93 m	0:00:24	14 kph
7/8/2015 15:32	ON	N22.16466 E113.91884	95 m	0:00:24	14 kph
7/8/2015 15:32	ON	N22.16575 E113.91904	123 m	0:00:31	14 kph
7/8/2015 15:33	ON	N22.16671 E113.91919	108 m	0:00:27	14 kph
7/8/2015 15:33	ON	N22.16773 E113.91929	114 m	0:00:29	14 kph
7/8/2015 15:34	ON	N22.16872 E113.91939	110 m	0:00:28	14 kph
7/8/2015 15:34	ON	N22.16958 E113.91960	98 m	0:00:25	14 kph
7/8/2015 15:34	ON	N22.17054 E113.91981	109 m	0:00:28	14 kph
7/8/2015 15:35	ON	N22.17145 E113.92001	103 m	0:00:26	14 kph
7/8/2015 15:35	ON	N22.17244 E113.92017	112 m	0:00:29	14 kph
7/8/2015 15:36	ON	N22.17324 E113.92030	89 m	0:00:23	14 kph
7/8/2015 15:36	ON	N22.17410 E113.92053	100 m	0:00:25	14 kph
7/8/2015 15:36	ON	N22.17483 E113.92074	83 m	0:00:21	14 kph
7/8/2015 15:37	ON	N22.17574 E113.92099	105 m	0:00:26	14 kph
7/8/2015 15:37	ON	N22.17650 E113.92124	89 m	0:00:22	15 kph
7/8/2015 15:38	ON	N22.17729 E113.92148	91 m	0:00:23	14 kph
7/8/2015 15:38	ON	N22.17799 E113.92167	80 m	0:00:20	14 kph
7/8/2015 15:38	ON	N22.17878 E113.92186	91 m	0:00:23	14 kph
7/8/2015 15:39	ON	N22.17967 E113.92195	99 m	0:00:25	14 kph
7/8/2015 15:39	ON	N22.18032 E113.92180	74 m	0:00:19	14 kph
7/8/2015 15:39	ON	N22.18096 E113.92152	77 m	0:00:20	14 kph
7/8/2015 15:40	ON	N22.18159 E113.92115	79 m	0:00:21	14 kph
7/8/2015 15:40	ON	N22.18215 E113.92073	76 m	0:00:20	14 kph
7/8/2015 15:40	ON	N22.18264 E113.92033	68 m	0:00:18	14 kph
7/8/2015 15:41	ON	N22.18313 E113.91988	72 m	0:00:19	14 kph
7/8/2015 15:41	ON	N22.18364 E113.91939	76 m	0:00:20	14 kph
7/8/2015 15:41	ON	N22.18411 E113.91896	68 m	0:00:18	14 kph
7/8/2015 15:42	ON	N22.18450 E113.91861	57 m	0:00:15	14 kph
7/8/2015 15:42	ON	N22.18494 E113.91819	65 m	0:00:17	14 kph
7/8/2015 15:42	ON	N22.18538 E113.91802	52 m	0:00:15	13 kph
7/8/2015 15:42	ON	N22.18592 E113.91805	60 m	0:00:16	14 kph
7/8/2015 15:43	ON	N22.18650 E113.91796	65 m	0:00:17	14 kph
7/8/2015 15:43	ON	N22.18702 E113.91792	58 m	0:00:15	14 kph
7/8/2015 15:43	ON	N22.18761 E113.91794	66 m	0:00:17	14 kph
7/8/2015 15:44	ON	N22.18820 E113.91796	66 m	0:00:17	14 kph
7/8/2015 15:44	ON	N22.18878 E113.91790	65 m	0:00:17	14 kph
7/8/2015 15:44	ON	N22.18926 E113.91785	54 m	0:00:14	14 kph
7/8/2015 15:44	ON	N22.18981 E113.91790	62 m	0:00:16	14 kph
7/8/2015 15:45	ON	N22.19047 E113.91792	73 m	0:00:19	14 kph
7/8/2015 15:45	ON	N22.19112 E113.91785	72 m	0:00:19	14 kph
7/8/2015 15:45	ON	N22.19205 E113.91779	105 m	0:00:27	14 kph
7/8/2015 15:46	ON	N22.19260 E113.91787	62 m	0:00:16	14 kph
7/8/2015 15:46	ON	N22.19310 E113.91799	57 m	0:00:15	14 kph
7/8/2015 15:46	ON	N22.19360 E113.91804	56 m	0:00:15	14 kph
7/8/2015 15:46	ON	N22.19403 E113.91802	47 m	0:00:13	13 kph
7/8/2015 15:47	ON	N22.19456 E113.91792	60 m	0:00:16	14 kph
7/8/2015 15:47	ON	N22.19509 E113.91782	61 m	0:00:16	14 kph
7/8/2015 15:47	ON	N22.19574 E113.91783	72 m	0:00:19	14 kph
7/8/2015 15:48	ON	N22.19648 E113.91783	82 m	0:00:21	14 kph
7/8/2015 15:48	ON	N22.19708 E113.91784	67 m	0:00:17	14 kph
7/8/2015 15:48	ON	N22.19797 E113.91782	99 m	0:00:25	14 kph
7/8/2015 15:49	ON	N22.19860 E113.91783	71 m	0:00:18	14 kph
7/8/2015 15:49	ON	N22.19930 E113.91785	78 m	0:00:20	14 kph
7/8/2015 15:49	ON	N22.20001 E113.91784	78 m	0:00:20	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 15:50	ON	N22.20071 E113.91780	78 m	0:00:20	14 kph
7/8/2015 15:50	ON	N22.20122 E113.91779	57 m	0:00:15	14 kph
7/8/2015 15:50	ON	N22.20195 E113.91785	82 m	0:00:21	14 kph
7/8/2015 15:51	ON	N22.20279 E113.91790	93 m	0:00:24	14 kph
7/8/2015 15:51	ON	N22.20348 E113.91787	77 m	0:00:20	14 kph
7/8/2015 15:51	ON	N22.20429 E113.91783	90 m	0:00:23	14 kph
7/8/2015 15:52	ON	N22.20503 E113.91796	85 m	0:00:21	14 kph
7/8/2015 15:52	ON	N22.20530 E113.91831	47 m	0:00:13	13 kph
7/8/2015 15:52	ON	N22.20530 E113.91866	36 m	0:00:10	13 kph
7/8/2015 15:52	ON	N22.20522 E113.91942	79 m	0:00:21	14 kph
7/8/2015 15:53	ON	N22.20529 E113.92020	81 m	0:00:21	14 kph
7/8/2015 15:53	ON	N22.20537 E113.92098	81 m	0:00:21	14 kph
7/8/2015 15:53	ON	N22.20547 E113.92181	86 m	0:00:22	14 kph
7/8/2015 15:54	ON	N22.20554 E113.92268	90 m	0:00:23	14 kph
7/8/2015 15:54	ON	N22.20565 E113.92357	92 m	0:00:24	14 kph
7/8/2015 15:55	ON	N22.20572 E113.92432	77 m	0:00:20	14 kph
7/8/2015 15:55	ON	N22.20581 E113.92526	98 m	0:00:25	14 kph
7/8/2015 15:55	ON	N22.20589 E113.92597	74 m	0:00:19	14 kph
7/8/2015 15:56	ON	N22.20598 E113.92661	66 m	0:00:17	14 kph
7/8/2015 15:56	ON	N22.20601 E113.92731	73 m	0:00:20	13 kph
7/8/2015 15:56	ON	N22.20565 E113.92762	51 m	0:00:15	12 kph
7/8/2015 15:56	ON	N22.20501 E113.92756	71 m	0:00:19	14 kph
7/8/2015 15:57	ON	N22.20425 E113.92757	84 m	0:00:22	14 kph
7/8/2015 15:57	ON	N22.20341 E113.92762	94 m	0:00:24	14 kph
7/8/2015 15:58	ON	N22.20267 E113.92761	82 m	0:00:21	14 kph
7/8/2015 15:58	ON	N22.20183 E113.92755	94 m	0:00:24	14 kph
7/8/2015 15:58	ON	N22.20126 E113.92756	63 m	0:00:16	14 kph
7/8/2015 15:59	ON	N22.20059 E113.92758	74 m	0:00:19	14 kph
7/8/2015 15:59	ON	N22.19978 E113.92755	90 m	0:00:23	14 kph
7/8/2015 15:59	ON	N22.19905 E113.92756	82 m	0:00:21	14 kph
7/8/2015 16:00	ON	N22.19842 E113.92759	70 m	0:00:18	14 kph
7/8/2015 16:00	ON	N22.19768 E113.92757	82 m	0:00:21	14 kph
7/8/2015 16:00	ON	N22.19687 E113.92744	91 m	0:00:23	14 kph
7/8/2015 16:01	ON	N22.19614 E113.92744	82 m	0:00:21	14 kph
7/8/2015 16:01	ON	N22.19530 E113.92737	94 m	0:00:24	14 kph
7/8/2015 16:01	ON	N22.19463 E113.92737	75 m	0:00:19	14 kph
7/8/2015 16:02	ON	N22.19384 E113.92736	88 m	0:00:22	14 kph
7/8/2015 16:02	ON	N22.19303 E113.92734	91 m	0:00:23	14 kph
7/8/2015 16:02	ON	N22.19236 E113.92738	74 m	0:00:19	14 kph
7/8/2015 16:03	ON	N22.19153 E113.92744	92 m	0:00:24	14 kph
7/8/2015 16:03	ON	N22.19074 E113.92743	89 m	0:00:23	14 kph
7/8/2015 16:04	ON	N22.18991 E113.92753	93 m	0:00:24	14 kph
7/8/2015 16:04	ON	N22.18919 E113.92754	80 m	0:00:21	14 kph
7/8/2015 16:04	ON	N22.18842 E113.92753	85 m	0:00:22	14 kph
7/8/2015 16:05	ON	N22.18759 E113.92750	93 m	0:00:24	14 kph
7/8/2015 16:05	ON	N22.18682 E113.92747	86 m	0:00:22	14 kph
7/8/2015 16:05	ON	N22.18613 E113.92757	78 m	0:00:20	14 kph
7/8/2015 16:06	ON	N22.18533 E113.92763	89 m	0:00:23	14 kph
7/8/2015 16:06	ON	N22.18450 E113.92764	92 m	0:00:24	14 kph
7/8/2015 16:07	ON	N22.18378 E113.92764	80 m	0:00:21	14 kph
7/8/2015 16:07	ON	N22.18291 E113.92769	97 m	0:00:25	14 kph
7/8/2015 16:07	ON	N22.18228 E113.92771	70 m	0:00:18	14 kph
7/8/2015 16:08	ON	N22.18140 E113.92767	98 m	0:00:25	14 kph
7/8/2015 16:08	ON	N22.18063 E113.92764	86 m	0:00:22	14 kph
7/8/2015 16:08	ON	N22.17988 E113.92759	84 m	0:00:21	14 kph
7/8/2015 16:09	ON	N22.17902 E113.92756	95 m	0:00:24	14 kph
7/8/2015 16:09	ON	N22.17824 E113.92751	87 m	0:00:22	14 kph
7/8/2015 16:10	ON	N22.17746 E113.92742	88 m	0:00:22	14 kph
7/8/2015 16:10	ON	N22.17666 E113.92748	90 m	0:00:23	14 kph
7/8/2015 16:10	ON	N22.17575 E113.92755	101 m	0:00:26	14 kph
7/8/2015 16:11	ON	N22.17481 E113.92759	104 m	0:00:27	14 kph
7/8/2015 16:11	ON	N22.17395 E113.92753	96 m	0:00:25	14 kph
7/8/2015 16:12	ON	N22.17312 E113.92740	93 m	0:00:24	14 kph
7/8/2015 16:12	ON	N22.17226 E113.92749	96 m	0:00:24	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 16:12	ON	N22.17156 E113.92749	78 m	0:00:20	14 kph
7/8/2015 16:13	ON	N22.17078 E113.92743	87 m	0:00:22	14 kph
7/8/2015 16:13	ON	N22.17002 E113.92750	85 m	0:00:21	15 kph
7/8/2015 16:14	ON	N22.16914 E113.92775	102 m	0:00:25	15 kph
7/8/2015 16:14	ON	N22.16843 E113.92772	79 m	0:00:20	14 kph
7/8/2015 16:14	ON	N22.16768 E113.92763	84 m	0:00:21	14 kph
7/8/2015 16:15	ON	N22.16669 E113.92760	110 m	0:00:27	15 kph
7/8/2015 16:15	ON	N22.16589 E113.92758	89 m	0:00:22	15 kph
7/8/2015 16:15	ON	N22.16502 E113.92755	97 m	0:00:24	15 kph
7/8/2015 16:16	ON	N22.16414 E113.92752	98 m	0:00:24	15 kph
7/8/2015 16:16	ON	N22.16341 E113.92761	82 m	0:00:20	15 kph
7/8/2015 16:16	ON	N22.16283 E113.92764	65 m	0:00:16	15 kph
7/8/2015 16:17	ON	N22.16199 E113.92763	93 m	0:00:23	15 kph
7/8/2015 16:17	ON	N22.16130 E113.92762	77 m	0:00:19	15 kph
7/8/2015 16:18	ON	N22.16033 E113.92760	107 m	0:00:27	14 kph
7/8/2015 16:18	ON	N22.15956 E113.92759	87 m	0:00:22	14 kph
7/8/2015 16:18	ON	N22.15863 E113.92754	103 m	0:00:26	14 kph
7/8/2015 16:19	ON	N22.15787 E113.92756	84 m	0:00:21	14 kph
7/8/2015 16:19	ON	N22.15713 E113.92757	83 m	0:00:21	14 kph
7/8/2015 16:19	ON	N22.15637 E113.92765	85 m	0:00:21	15 kph
7/8/2015 16:20	ON	N22.15557 E113.92763	88 m	0:00:22	14 kph
7/8/2015 16:20	ON	N22.15484 E113.92767	82 m	0:00:20	15 kph
7/8/2015 16:21	ON	N22.15397 E113.92765	97 m	0:00:24	15 kph
7/8/2015 16:21	ON	N22.15329 E113.92756	76 m	0:00:19	14 kph
7/8/2015 16:21	ON	N22.15262 E113.92765	76 m	0:00:19	14 kph
7/8/2015 16:22	ON	N22.15180 E113.92776	92 m	0:00:23	14 kph
7/8/2015 16:22	ON	N22.15099 E113.92766	90 m	0:00:23	14 kph
7/8/2015 16:22	ON	N22.15004 E113.92758	106 m	0:00:27	14 kph
7/8/2015 16:23	ON	N22.14921 E113.92760	92 m	0:00:23	14 kph
7/8/2015 16:23	ON	N22.14845 E113.92765	85 m	0:00:21	15 kph
7/8/2015 16:23	ON	N22.14777 E113.92764	76 m	0:00:19	14 kph
7/8/2015 16:24	ON	N22.14720 E113.92756	64 m	0:00:16	14 kph
7/8/2015 16:24	ON	N22.14649 E113.92754	80 m	0:00:20	14 kph
7/8/2015 16:24	ON	N22.14572 E113.92762	86 m	0:00:21	15 kph
7/8/2015 16:25	ON	N22.14503 E113.92762	77 m	0:00:19	15 kph
7/8/2015 16:25	ON	N22.14436 E113.92750	76 m	0:00:19	14 kph
7/8/2015 16:25	ON	N22.14364 E113.92760	81 m	0:00:20	15 kph
7/8/2015 16:26	ON	N22.14288 E113.92773	85 m	0:00:21	15 kph
7/8/2015 16:26	ON	N22.14254 E113.92813	56 m	0:00:14	14 kph
7/8/2015 16:26	ON	N22.14254 E113.92874	63 m	0:00:16	14 kph
7/8/2015 16:27	ON	N22.14290 E113.92945	83 m	0:00:20	15 kph
7/8/2015 16:27	ON	N22.14337 E113.93013	87 m	0:00:21	15 kph
7/8/2015 16:27	ON	N22.14390 E113.93078	90 m	0:00:22	15 kph
7/8/2015 16:28	ON	N22.14448 E113.93134	87 m	0:00:22	14 kph
7/8/2015 16:28	ON	N22.14495 E113.93190	78 m	0:00:19	15 kph
7/8/2015 16:28	ON	N22.14548 E113.93257	90 m	0:00:22	15 kph
7/8/2015 16:29	ON	N22.14599 E113.93317	84 m	0:00:21	14 kph
7/8/2015 16:29	ON	N22.14656 E113.93389	98 m	0:00:24	15 kph
7/8/2015 16:29	ON	N22.14722 E113.93448	96 m	0:00:24	14 kph
7/8/2015 16:30	ON	N22.14780 E113.93505	88 m	0:00:22	14 kph
7/8/2015 16:30	ON	N22.14838 E113.93564	88 m	0:00:22	14 kph
7/8/2015 16:31	ON	N22.14893 E113.93612	80 m	0:00:20	14 kph
7/8/2015 16:31	ON	N22.14961 E113.93665	93 m	0:00:24	14 kph
7/8/2015 16:31	ON	N22.15013 E113.93677	59 m	0:00:16	13 kph
7/8/2015 16:32	ON	N22.15078 E113.93687	72 m	0:00:19	14 kph
7/8/2015 16:32	ON	N22.15141 E113.93692	71 m	0:00:19	13 kph
7/8/2015 16:32	ON	N22.15210 E113.93693	77 m	0:00:20	14 kph
7/8/2015 16:33	ON	N22.15295 E113.93695	95 m	0:00:25	14 kph
7/8/2015 16:33	ON	N22.15360 E113.93691	72 m	0:00:19	14 kph
7/8/2015 16:33	ON	N22.15439 E113.93693	88 m	0:00:23	14 kph
7/8/2015 16:34	ON	N22.15511 E113.93698	80 m	0:00:21	14 kph
7/8/2015 16:34	ON	N22.15575 E113.93698	72 m	0:00:19	14 kph
7/8/2015 16:34	ON	N22.15633 E113.93694	65 m	0:00:17	14 kph
7/8/2015 16:35	ON	N22.15700 E113.93698	75 m	0:00:20	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 16:35	ON	N22.15771 E113.93701	79 m	0:00:21	13 kph
7/8/2015 16:35	ON	N22.15868 E113.93701	108 m	0:00:29	13 kph
7/8/2015 16:36	ON	N22.15952 E113.93704	93 m	0:00:25	13 kph
7/8/2015 16:36	ON	N22.16019 E113.93701	75 m	0:00:20	13 kph
7/8/2015 16:37	ON	N22.16103 E113.93703	93 m	0:00:25	13 kph
7/8/2015 16:37	ON	N22.16173 E113.93702	78 m	0:00:21	13 kph
7/8/2015 16:37	ON	N22.16253 E113.93696	89 m	0:00:24	13 kph
7/8/2015 16:38	ON	N22.16327 E113.93697	82 m	0:00:22	13 kph
7/8/2015 16:38	ON	N22.16404 E113.93697	86 m	0:00:23	13 kph
7/8/2015 16:38	ON	N22.16482 E113.93701	87 m	0:00:23	14 kph
7/8/2015 16:39	ON	N22.16552 E113.93699	79 m	0:00:21	13 kph
7/8/2015 16:39	ON	N22.16641 E113.93691	99 m	0:00:26	14 kph
7/8/2015 16:40	ON	N22.16723 E113.93690	92 m	0:00:24	14 kph
7/8/2015 16:40	ON	N22.16806 E113.93694	92 m	0:00:24	14 kph
7/8/2015 16:40	ON	N22.16882 E113.93691	85 m	0:00:22	14 kph
7/8/2015 16:41	ON	N22.16960 E113.93691	88 m	0:00:23	14 kph
7/8/2015 16:41	ON	N22.17040 E113.93697	89 m	0:00:23	14 kph
7/8/2015 16:42	ON	N22.17112 E113.93695	79 m	0:00:21	14 kph
7/8/2015 16:42	ON	N22.17177 E113.93690	73 m	0:00:19	14 kph
7/8/2015 16:42	ON	N22.17249 E113.93688	81 m	0:00:21	14 kph
7/8/2015 16:43	ON	N22.17322 E113.93686	81 m	0:00:21	14 kph
7/8/2015 16:43	ON	N22.17402 E113.93688	89 m	0:00:23	14 kph
7/8/2015 16:43	ON	N22.17453 E113.93688	57 m	0:00:15	14 kph
7/8/2015 16:43	ON	N22.17493 E113.93688	45 m	0:00:12	13 kph
7/8/2015 16:44	ON	N22.17559 E113.93685	73 m	0:00:19	14 kph
7/8/2015 16:44	ON	N22.17635 E113.93688	85 m	0:00:22	14 kph
7/8/2015 16:44	ON	N22.17712 E113.93687	86 m	0:00:22	14 kph
7/8/2015 16:45	ON	N22.17790 E113.93695	87 m	0:00:22	14 kph
7/8/2015 16:45	ON	N22.17853 E113.93696	70 m	0:00:18	14 kph
7/8/2015 16:45	ON	N22.17924 E113.93689	79 m	0:00:20	14 kph
7/8/2015 16:46	ON	N22.18002 E113.93688	87 m	0:00:22	14 kph
7/8/2015 16:46	ON	N22.18081 E113.93691	88 m	0:00:22	14 kph
7/8/2015 16:46	ON	N22.18152 E113.93693	80 m	0:00:20	14 kph
7/8/2015 16:47	ON	N22.18227 E113.93693	83 m	0:00:21	14 kph
7/8/2015 16:47	ON	N22.18316 E113.93694	99 m	0:00:25	14 kph
7/8/2015 16:48	ON	N22.18405 E113.93698	99 m	0:00:25	14 kph
7/8/2015 16:48	ON	N22.18488 E113.93700	93 m	0:00:24	14 kph
7/8/2015 16:48	ON	N22.18570 E113.93693	91 m	0:00:24	14 kph
7/8/2015 16:49	ON	N22.18664 E113.93691	105 m	0:00:27	14 kph
7/8/2015 16:49	ON	N22.18748 E113.93692	93 m	0:00:24	14 kph
7/8/2015 16:50	ON	N22.18829 E113.93689	90 m	0:00:23	14 kph
7/8/2015 16:50	ON	N22.18909 E113.93696	90 m	0:00:23	14 kph
7/8/2015 16:51	ON	N22.18995 E113.93693	96 m	0:00:25	14 kph
7/8/2015 16:51	ON	N22.19068 E113.93694	81 m	0:00:21	14 kph
7/8/2015 16:51	ON	N22.19130 E113.93695	69 m	0:00:18	14 kph
7/8/2015 16:51	ON	N22.19181 E113.93691	57 m	0:00:15	14 kph
7/8/2015 16:52	ON	N22.19239 E113.93689	65 m	0:00:17	14 kph
7/8/2015 16:52	ON	N22.19291 E113.93690	57 m	0:00:15	14 kph
7/8/2015 16:52	ON	N22.19350 E113.93691	66 m	0:00:17	14 kph
7/8/2015 16:53	ON	N22.19426 E113.93693	85 m	0:00:22	14 kph
7/8/2015 16:53	ON	N22.19498 E113.93688	81 m	0:00:21	14 kph
7/8/2015 16:53	ON	N22.19582 E113.93681	94 m	0:00:24	14 kph
7/8/2015 16:54	ON	N22.19669 E113.93686	97 m	0:00:25	14 kph
7/8/2015 16:54	ON	N22.19765 E113.93690	107 m	0:00:28	14 kph
7/8/2015 16:55	ON	N22.19845 E113.93682	89 m	0:00:23	14 kph
7/8/2015 16:55	ON	N22.19918 E113.93674	82 m	0:00:21	14 kph
7/8/2015 16:55	ON	N22.20009 E113.93681	101 m	0:00:26	14 kph
7/8/2015 16:56	ON	N22.20092 E113.93685	92 m	0:00:24	14 kph
7/8/2015 16:56	ON	N22.20185 E113.93687	105 m	0:00:27	14 kph
7/8/2015 16:57	ON	N22.20247 E113.93691	69 m	0:00:18	14 kph
7/8/2015 16:57	ON	N22.20315 E113.93687	76 m	0:00:20	14 kph
7/8/2015 16:57	ON	N22.20388 E113.93687	81 m	0:00:21	14 kph
7/8/2015 16:58	ON	N22.20459 E113.93700	80 m	0:00:21	14 kph
7/8/2015 16:58	ON	N22.20543 E113.93697	94 m	0:00:25	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
7/8/2015 16:58	ON	N22.20610 E113.93695	74 m	0:00:19	14 kph
7/8/2015 16:59	ON	N22.20699 E113.93694	99 m	0:00:26	14 kph
7/8/2015 16:59	ON	N22.20781 E113.93689	92 m	0:00:24	14 kph
7/8/2015 17:00	ON	N22.20861 E113.93683	88 m	0:00:23	14 kph
7/8/2015 17:00	ON	N22.20941 E113.93688	90 m	0:00:23	14 kph
7/8/2015 17:00	ON	N22.21041 E113.93685	111 m	0:00:29	14 kph
7/8/2015 17:01	ON	N22.21110 E113.93683	77 m	0:00:20	14 kph
7/8/2015 17:01	ON	N22.21191 E113.93687	89 m	0:00:23	14 kph
7/8/2015 17:02	ON	N22.21288 E113.93688	108 m	0:00:28	14 kph
7/8/2015 17:02	ON	N22.21376 E113.93686	98 m	0:00:25	14 kph
7/8/2015 17:02	ON	N22.21472 E113.93689	107 m	0:00:28	14 kph
7/8/2015 17:03	ON	N22.21565 E113.93686	104 m	0:00:27	14 kph
7/8/2015 17:03	ON	N22.21677 E113.93686	124 m	0:00:32	14 kph
7/8/2015 17:04	ON	N22.21780 E113.93680	116 m	0:00:30	14 kph
7/8/2015 17:04	ON	N22.21881 E113.93693	113 m	0:00:29	14 kph
7/8/2015 17:05	ON	N22.21961 E113.93696	89 m	0:00:23	14 kph
7/8/2015 17:05	ON	N22.22074 E113.93692	125 m	0:00:32	14 kph
7/8/2015 17:06	ON	N22.22158 E113.93696	94 m	0:00:24	14 kph
7/8/2015 17:06	ON	N22.22269 E113.93682	124 m	0:00:32	14 kph
7/8/2015 17:07	ON	N22.22347 E113.93692	88 m	0:00:23	14 kph

Appendix II. Survey Effort Database in SWL (August 2015)

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
7-Aug-15	SW LANTAU	2	44.48	SUMMER	STANDARD31516	HYD-HZMB	P
7-Aug-15	SW LANTAU	3	11.01	SUMMER	STANDARD31516	HYD-HZMB	P
7-Aug-15	SW LANTAU	4	0.44	SUMMER	STANDARD31516	HYD-HZMB	P
7-Aug-15	SW LANTAU	2	14.61	SUMMER	STANDARD31516	HYD-HZMB	S
7-Aug-15	SW LANTAU	3	0.99	SUMMER	STANDARD31516	HYD-HZMB	S
11-Aug-15	SW LANTAU	1	10.58	SUMMER	STANDARD31516	HKCRP	P
11-Aug-15	SW LANTAU	2	6.01	SUMMER	STANDARD31516	HKCRP	P
11-Aug-15	SW LANTAU	1	5.56	SUMMER	STANDARD31516	HKCRP	S
11-Aug-15	SW LANTAU	2	4.48	SUMMER	STANDARD31516	HKCRP	S
12-Aug-15	SW LANTAU	2	20.96	SUMMER	STANDARD31516	HKCRP	P
12-Aug-15	SW LANTAU	3	0.46	SUMMER	STANDARD31516	HKCRP	P
12-Aug-15	SW LANTAU	2	10.38	SUMMER	STANDARD31516	HKCRP	S
18-Aug-15	SW LANTAU	2	8.63	SUMMER	STANDARD31516	HKCRP	P
18-Aug-15	SW LANTAU	1	1.91	SUMMER	STANDARD31516	HKCRP	S
18-Aug-15	SW LANTAU	2	8.64	SUMMER	STANDARD31516	HKCRP	S
18-Aug-15	SW LANTAU	3	1.20	SUMMER	STANDARD31516	HKCRP	S

Appendix III. Chinese White Dolphin Sighting Database in SWL (August 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
07-Aug-15	1	1057	4	SW LANTAU	2	ND	OFF	HYD-HZMB	806195	802301	SUMMER	NONE	
07-Aug-15	2	1110	1	SW LANTAU	3	118	ON	HYD-HZMB	805773	802496	SUMMER	NONE	P
07-Aug-15	3	1134	2	SW LANTAU	3	334	ON	HYD-HZMB	806026	803446	SUMMER	NONE	P
07-Aug-15	4	1149	12	SW LANTAU	3	364	ON	HYD-HZMB	806369	803467	SUMMER	NONE	P
07-Aug-15	5	1248	4	SW LANTAU	3	156	ON	HYD-HZMB	805845	805446	SUMMER	NONE	P
07-Aug-15	6	1356	1	SW LANTAU	2	421	ON	HYD-HZMB	802508	807430	SUMMER	NONE	P
07-Aug-15	7	1406	5	SW LANTAU	2	186	ON	HYD-HZMB	804446	807434	SUMMER	NONE	P
07-Aug-15	8	1502	1	SW LANTAU	2	157	ON	HYD-HZMB	802817	807689	SUMMER	NONE	S
11-Aug-15	2	1319	7	SW LANTAU	1	480	ON	HKCRP	806592	808521	SUMMER	NONE	P
11-Aug-15	4	1446	5	SW LANTAU	2	283	ON	HKCRP	803407	806503	SUMMER	NONE	P
12-Aug-15	5	1348	1	SW LANTAU	2	94	ON	HKCRP	806373	807427	SUMMER	NONE	P
12-Aug-15	6	1402	1	SW LANTAU	2	ND	OFF	HKCRP	804202	807423	SUMMER	NONE	
18-Aug-15	1	1525	9	SW LANTAU	3	25	ON	HKCRP	803105	808040	SUMMER	NONE	S

Appendix IV. Individual dolphins identified during HYD-HZMB and AFCD monitoring surveys in SWL waters in August 2015

ID#	DATE	STG#	TYPE	AREA
EL01	18/08/15	1	HKCRP	SW LANTAU
NL226	07/08/15	5	HYD-HZMB	SW LANTAU
NL262	11/08/15	2	HKCRP	SW LANTAU
NL287	11/08/15	2	HKCRP	SW LANTAU
SL50	11/08/15	2	HKCRP	SW LANTAU
SL53	18/08/15	1	HKCRP	SW LANTAU
SL54	11/08/15	2	HKCRP	SW LANTAU
SL56	11/08/15	4	HKCRP	SW LANTAU
WL15	11/08/15	2	HKCRP	SW LANTAU
WL17	07/08/15	3	HYD-HZMB	SW LANTAU
WL42	18/08/15	1	HKCRP	SW LANTAU
WL68	07/08/15	1	HYD-HZMB	SW LANTAU
	07/08/15	4	HYD-HZMB	SW LANTAU
WL91	11/08/15	4	HKCRP	SW LANTAU
	18/08/15	1	HKCRP	SW LANTAU
WL92	18/08/15	1	HKCRP	SW LANTAU
WL109	07/08/15	5	HYD-HZMB	SW LANTAU
WL114	11/08/15	4	HKCRP	SW LANTAU
	18/08/15	1	HKCRP	SW LANTAU
WL118	07/08/15	4	HYD-HZMB	SW LANTAU
WL130	07/08/15	4	HYD-HZMB	SW LANTAU
	07/08/15	5	HYD-HZMB	SW LANTAU
WL131	11/08/15	4	HKCRP	SW LANTAU
WL142	18/08/15	1	HKCRP	SW LANTAU
WL152	07/08/15	5	HYD-HZMB	SW LANTAU
WL165	07/08/15	4	HYD-HZMB	SW LANTAU
	07/08/15	7	HYD-HZMB	SW LANTAU
WL173	11/08/15	4	HKCRP	SW LANTAU
WL199	07/08/15	3	HYD-HZMB	SW LANTAU
WL211	07/08/15	4	HYD-HZMB	SW LANTAU
	07/08/15	7	HYD-HZMB	SW LANTAU
WL230	07/08/15	4	HYD-HZMB	SW LANTAU
WL235	11/08/15	2	HKCRP	SW LANTAU
WL243	07/08/15	7	HYD-HZMB	SW LANTAU

Appendix V. Photographs of Identified Individual Dolphins in August 2015 in SWL waters

Appendix V (cont'd).

Appendix V (cont'd).

Appendix V (cont'd).