Monitoring of Chinese White Dolphins in Southwest Lantau Waters

2nd *Monthly Progress Report (April 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 second 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 April 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 April 15th, 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 dolphin and porpoise monitoring programme in SWL survey area on April 13th (with lines no. SWL002, SWL004, SWL006, SWL008 and SWL009 covered), April 21st (with lines no. SWL001, SWL003, SWL005 and SWL007 covered) and April 27th (with lines no. SWL009 and SWL010 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 67.31 km of survey effort was collected from 10:59 to 16:20 (i.e. 5 hours and 21 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 April 2015 (Appendix II). The total survey effort conducted on primary and secondary lines were 52.55 km and 14.76 km respectively. For the combined monitoring dataset from both the present study and AFCD monitoring study, a total of 144.38 km of survey effort was collected SWL waters in April 2015.

3.1.4. During this month, five groups of eight Chinese White Dolphins were sighted from the present study's survey and AFCD monitoring survey conducted in SWL survey area (Appendix III).

3.1.5. All dolphin sightings were made during on-effort search, and two of the five sightings were made on primary lines. None of these dolphin groups was associated with operating fishing vessel.

3.1.6. In addition, 12 groups of 33 Indo-Pacific finless porpoises were also sighted during the present study's survey and AFCD monitoring surveys in SWL survey area in April 2015.

3.1.7. Distribution of the dolphin sightings made in April 2015 is shown in Figure 3. The five sightings made during the present monitoring study were mainly distributed along the coastal waters from Fan Lau to Kau Ling Chung, while one sighting was also made around the Soko Islands (Figure 3).

3.1.8. 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 April 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) (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 April 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)

	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 (Apr 2015)	3.81	5.94	7.61	10.40
Combined data (Apr 2015)	2.03	3.68	4.07	5.88
Historical Data (Spring 2005-14)		1.54		4.14

3.1.9. Dolphin encounter rates deduced in April 2015 in Southwest Lantau waters were higher than the ones deduced from historical data during the spring months of 2004-15 (Table 2).

3.1.10. The average group size of Chinese White Dolphins in April 2015 was 1.6 individuals per group. The sizes of all 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 eight dolphins sighted during the April 2015 surveys.

3.2.2. Among the seven dolphins sighted during present study's survey on April 15th, two individual dolphins (SL50 and WL221) were sighted three times (Appendices IV and V). The locations where both individuals were re-sighted were within their past home ranges including Southwest Lantau waters.

3.2.3. For the lone dolphin sighted during AFCD survey on April 13th, no photograph was taken as the dolphin was too elusive for close approach.

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.

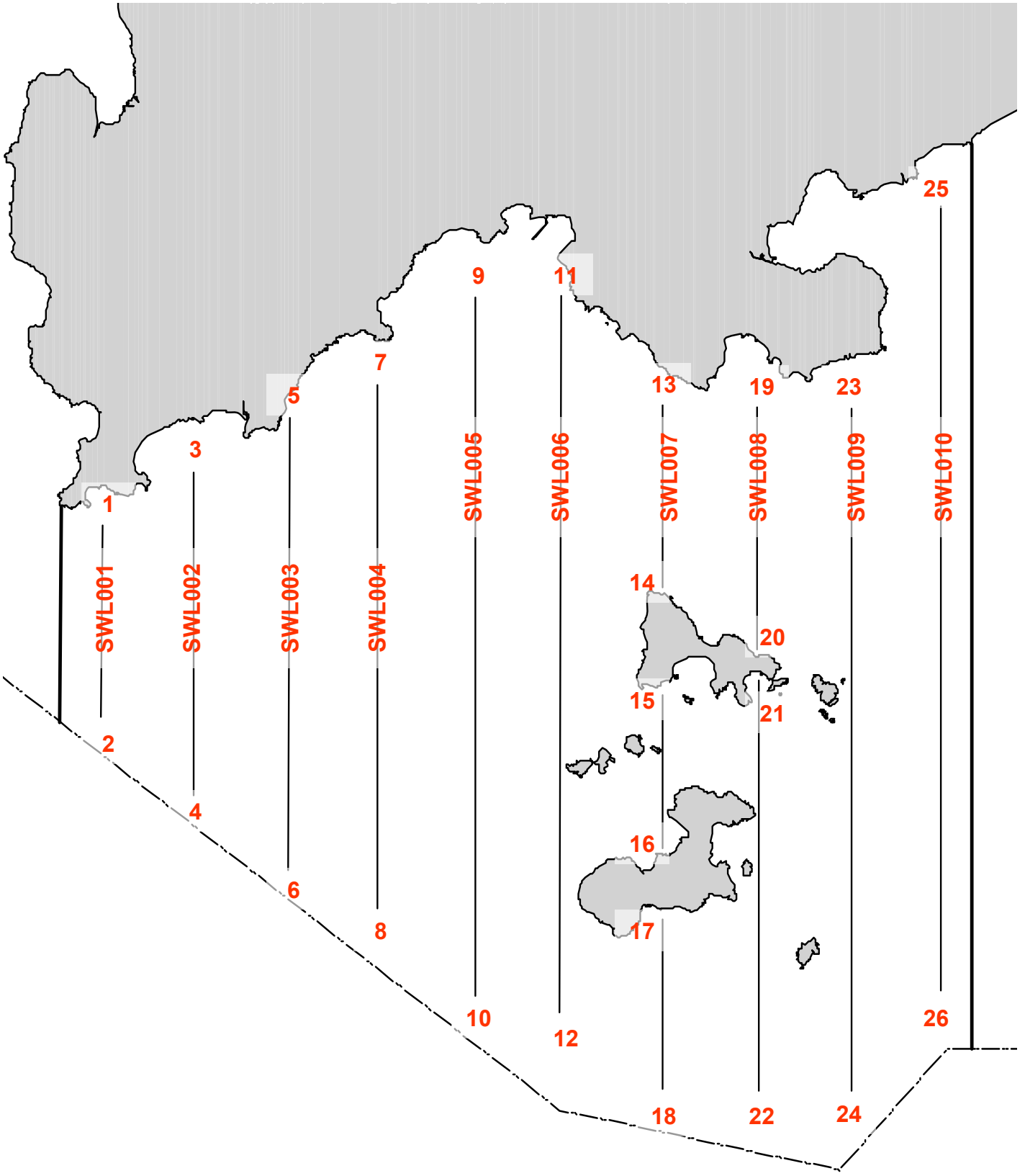

Figure 1. Survey Lines and associated coordinates in Southwest Lantau survey area

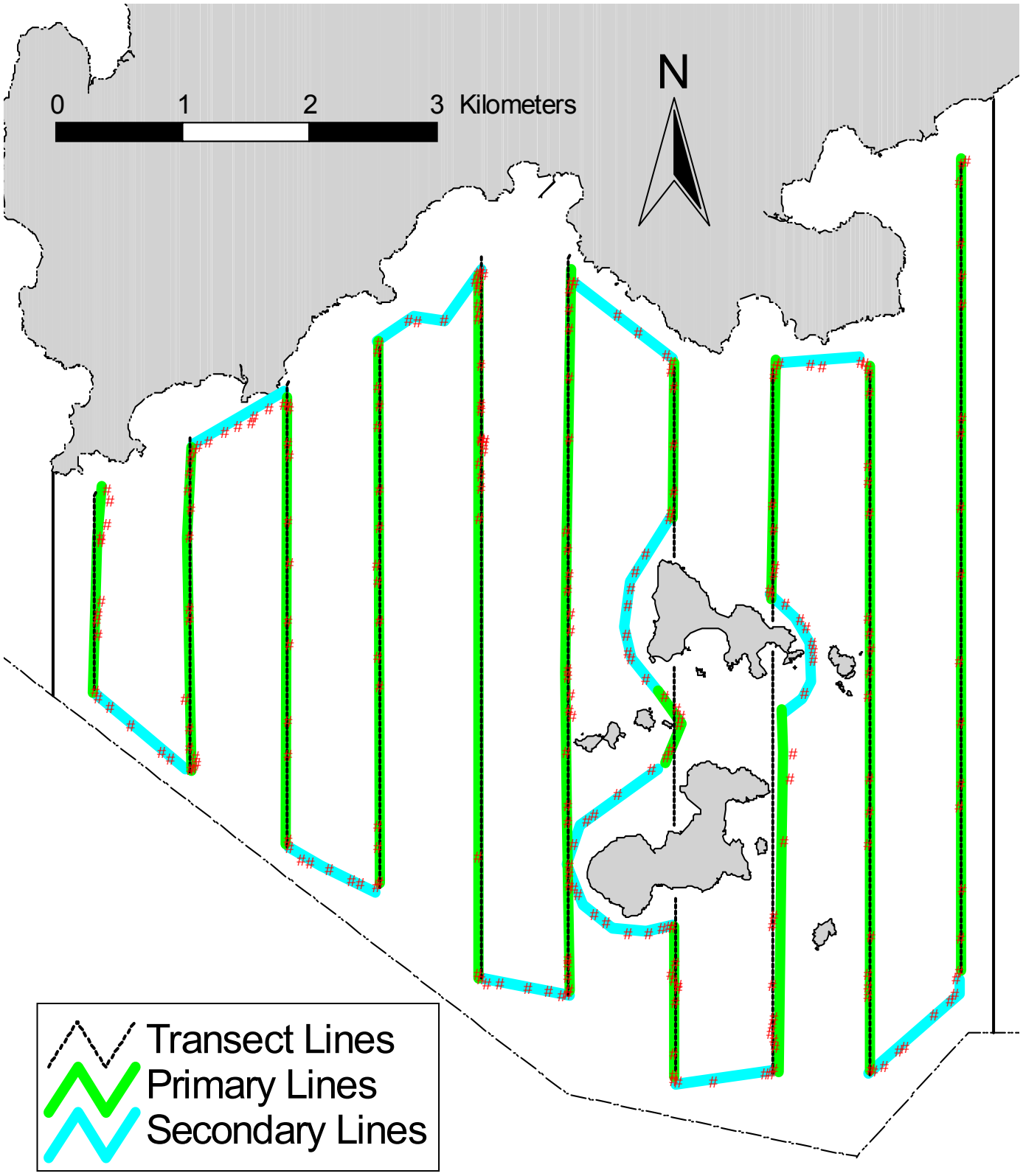

Figure 2. Survey Route on April 15th, 2015 (note: red dots represent the tracked positions of survey boat logged continuously by GPS throughout the course of the survey)

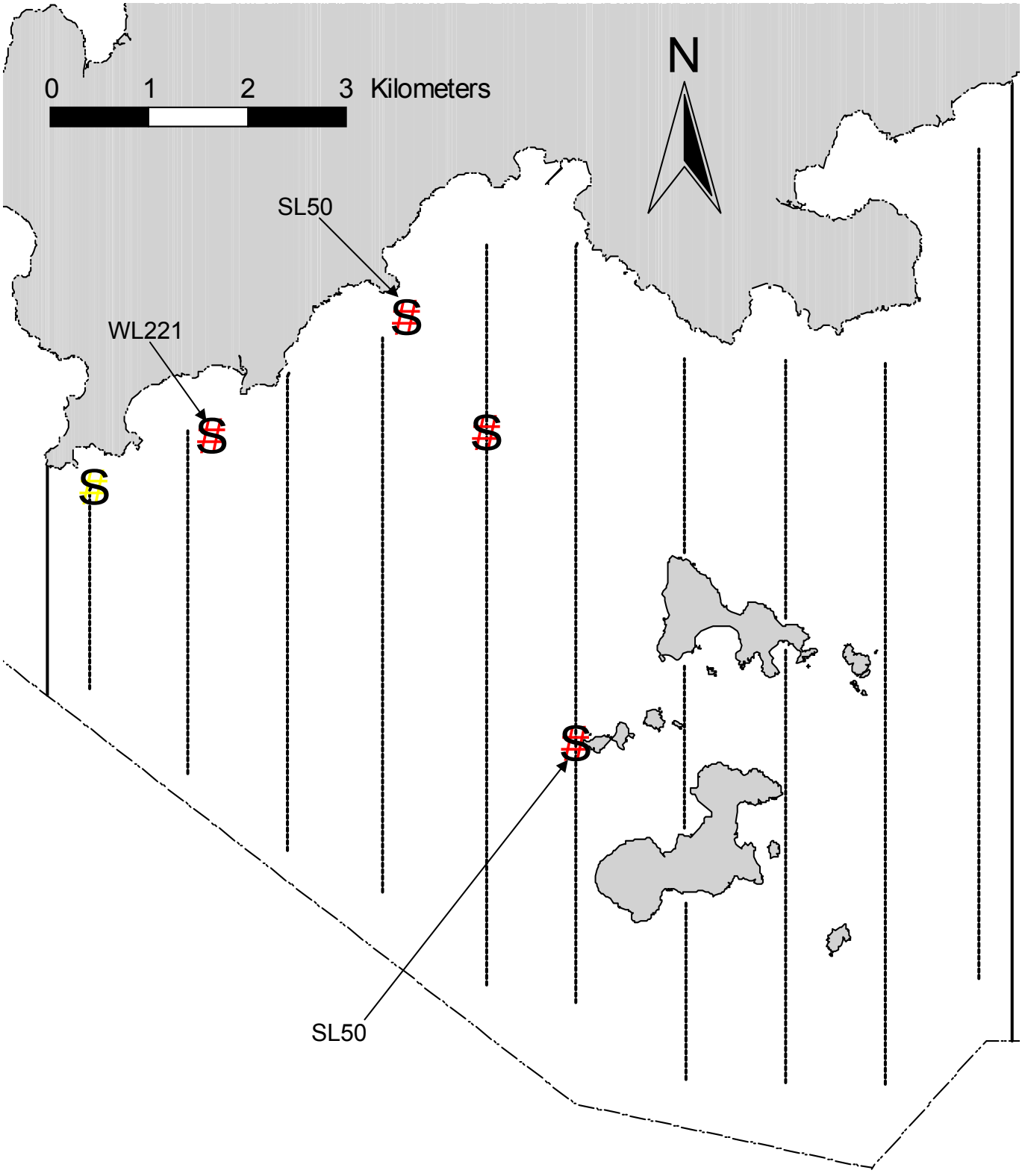

Figure 3. Distribution of Chinese White Dolphin Sighting during April 2015 Monitoring Surveys in Southwest Lantau Survey Area, with identified individual indicated for the corresponding sighting (red dot: HYD-HZMB sighting; yellow dot: AFCD sighting)

Appendix I. Track Log of SWL Survey on April 15th, 2015

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 10:59	ON	N22.19406 E113.84885			
15/4/2015 10:59	ON	N22.19413 E113.84920	37 m	0:00:08	16 kph
15/4/2015 10:59	ON	N22.19419 E113.85010	93 m	0:00:20	17 kph
15/4/2015 10:59	ON	N22.19397 E113.85060	57 m	0:00:14	15 kph
15/4/2015 11:00	ON	N22.19354 E113.85079	52 m	0:00:13	14 kph
15/4/2015 11:00	ON	N22.19297 E113.85088	65 m	0:00:16	15 kph
15/4/2015 11:00	ON	N22.19246 E113.85078	57 m	0:00:15	14 kph
15/4/2015 11:00	ON	N22.19194 E113.85072	58 m	0:00:15	14 kph
15/4/2015 11:01	ON	N22.19150 E113.85065	50 m	0:00:13	14 kph
15/4/2015 11:01	ON	N22.19094 E113.85055	63 m	0:00:16	14 kph
15/4/2015 11:01	ON	N22.19044 E113.85040	58 m	0:00:15	14 kph
15/4/2015 11:01	ON	N22.18990 E113.85012	67 m	0:00:17	14 kph
15/4/2015 11:02	ON	N22.18936 E113.85002	61 m	0:00:15	15 kph
15/4/2015 11:02	ON	N22.18867 E113.85008	77 m	0:00:18	15 kph
15/4/2015 11:02	ON	N22.18802 E113.85006	73 m	0:00:17	16 kph
15/4/2015 11:02	ON	N22.18735 E113.85009	74 m	0:00:17	16 kph
15/4/2015 11:03	ON	N22.18682 E113.85004	60 m	0:00:14	15 kph
15/4/2015 11:03	ON	N22.18612 E113.85001	78 m	0:00:18	16 kph
15/4/2015 11:03	ON	N22.18562 E113.84996	57 m	0:00:13	16 kph
15/4/2015 11:04	ON	N22.18488 E113.84991	82 m	0:00:19	16 kph
15/4/2015 11:04	ON	N22.18421 E113.84998	75 m	0:00:17	16 kph
15/4/2015 11:04	ON	N22.18362 E113.84994	66 m	0:00:15	16 kph
15/4/2015 11:04	ON	N22.18310 E113.84980	60 m	0:00:14	15 kph
15/4/2015 11:05	ON	N22.18239 E113.84963	81 m	0:00:19	15 kph
15/4/2015 11:05	ON	N22.18173 E113.84969	74 m	0:00:17	16 kph
15/4/2015 11:05	ON	N22.18113 E113.84971	66 m	0:00:15	16 kph
15/4/2015 11:05	ON	N22.18048 E113.84959	74 m	0:00:17	16 kph
15/4/2015 11:06	ON	N22.17973 E113.84955	84 m	0:00:19	16 kph
15/4/2015 11:06	ON	N22.17901 E113.84952	80 m	0:00:18	16 kph
15/4/2015 11:06	ON	N22.17830 E113.84947	79 m	0:00:18	16 kph
15/4/2015 11:07	ON	N22.17754 E113.84947	84 m	0:00:19	16 kph
15/4/2015 11:07	ON	N22.17674 E113.84946	89 m	0:00:20	16 kph
15/4/2015 11:07	ON	N22.17614 E113.84946	67 m	0:00:15	16 kph
15/4/2015 11:08	ON	N22.17559 E113.84973	68 m	0:00:16	15 kph
15/4/2015 11:08	ON	N22.17525 E113.85020	61 m	0:00:14	16 kph
15/4/2015 11:08	ON	N22.17483 E113.85088	85 m	0:00:19	16 kph
15/4/2015 11:08	ON	N22.17435 E113.85142	77 m	0:00:17	16 kph
15/4/2015 11:08	ON	N22.17429 E113.85149	9 m	0:00:02	16 kph
15/4/2015 11:08	ON	N22.17418 E113.85162	19 m	0:00:04	17 kph
15/4/2015 11:09	ON	N22.17374 E113.85216	74 m	0:00:16	17 kph
15/4/2015 11:09	ON	N22.17367 E113.85226	14 m	0:00:03	17 kph
15/4/2015 11:09	ON	N22.17359 E113.85237	14 m	0:00:03	17 kph
15/4/2015 11:09	ON	N22.17348 E113.85251	18 m	0:00:04	17 kph
15/4/2015 11:09	ON	N22.17305 E113.85305	74 m	0:00:16	17 kph
15/4/2015 11:09	ON	N22.17263 E113.85365	78 m	0:00:17	17 kph
15/4/2015 11:10	ON	N22.17248 E113.85386	27 m	0:00:06	16 kph
15/4/2015 11:10	ON	N22.17204 E113.85444	77 m	0:00:17	16 kph
15/4/2015 11:10	ON	N22.17163 E113.85500	73 m	0:00:16	16 kph
15/4/2015 11:10	ON	N22.17115 E113.85561	82 m	0:00:18	16 kph
15/4/2015 11:11	ON	N22.17065 E113.85624	86 m	0:00:19	16 kph
15/4/2015 11:11	ON	N22.17017 E113.85697	92 m	0:00:20	17 kph
15/4/2015 11:11	ON	N22.16978 E113.85775	91 m	0:00:20	16 kph
15/4/2015 11:12	ON	N22.16944 E113.85841	77 m	0:00:17	16 kph
15/4/2015 11:12	ON	N22.16922 E113.85905	71 m	0:00:16	16 kph
15/4/2015 11:12	ON	N22.16941 E113.85950	51 m	0:00:14	13 kph
15/4/2015 11:12	ON	N22.16979 E113.85967	45 m	0:00:13	13 kph
15/4/2015 11:13	ON	N22.17026 E113.85958	54 m	0:00:16	12 kph
15/4/2015 11:13	ON	N22.17071 E113.85931	57 m	0:00:17	12 kph
15/4/2015 11:13	ON	N22.17121 E113.85903	63 m	0:00:18	13 kph
15/4/2015 11:13	ON	N22.17169 E113.85901	53 m	0:00:15	13 kph
15/4/2015 11:14	ON	N22.17225 E113.85908	63 m	0:00:17	13 kph
15/4/2015 11:14	ON	N22.17278 E113.85896	60 m	0:00:17	13 kph
15/4/2015 11:14	ON	N22.17335 E113.85887	64 m	0:00:18	13 kph
15/4/2015 11:15	ON	N22.17393 E113.85874	66 m	0:00:18	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 11:15	ON	N22.17444 E113.85868	57 m	0:00:16	13 kph
15/4/2015 11:15	ON	N22.17497 E113.85873	59 m	0:00:16	13 kph
15/4/2015 11:15	ON	N22.17550 E113.85862	60 m	0:00:17	13 kph
15/4/2015 11:16	ON	N22.17613 E113.85866	70 m	0:00:19	13 kph
15/4/2015 11:16	ON	N22.17671 E113.85867	65 m	0:00:18	13 kph
15/4/2015 11:16	ON	N22.17730 E113.85866	65 m	0:00:18	13 kph
15/4/2015 11:17	ON	N22.17786 E113.85868	63 m	0:00:17	13 kph
15/4/2015 11:17	ON	N22.17849 E113.85868	70 m	0:00:19	13 kph
15/4/2015 11:17	ON	N22.17892 E113.85875	49 m	0:00:13	14 kph
15/4/2015 11:17	ON	N22.17949 E113.85881	63 m	0:00:17	13 kph
15/4/2015 11:18	ON	N22.18003 E113.85885	60 m	0:00:16	13 kph
15/4/2015 11:18	ON	N22.18060 E113.85888	64 m	0:00:17	14 kph
15/4/2015 11:18	ON	N22.18118 E113.85891	65 m	0:00:17	14 kph
15/4/2015 11:19	ON	N22.18181 E113.85891	71 m	0:00:19	13 kph
15/4/2015 11:19	ON	N22.18245 E113.85886	71 m	0:00:19	13 kph
15/4/2015 11:19	ON	N22.18292 E113.85895	54 m	0:00:14	14 kph
15/4/2015 11:19	ON	N22.18346 E113.85904	60 m	0:00:16	14 kph
15/4/2015 11:20	ON	N22.18406 E113.85899	68 m	0:00:18	14 kph
15/4/2015 11:20	ON	N22.18457 E113.85898	56 m	0:00:15	14 kph
15/4/2015 11:20	ON	N22.18501 E113.85900	49 m	0:00:13	14 kph
15/4/2015 11:21	ON	N22.18562 E113.85897	68 m	0:00:18	14 kph
15/4/2015 11:21	ON	N22.18619 E113.85897	63 m	0:00:17	13 kph
15/4/2015 11:21	ON	N22.18677 E113.85899	65 m	0:00:17	14 kph
15/4/2015 11:21	ON	N22.18731 E113.85894	60 m	0:00:16	14 kph
15/4/2015 11:22	ON	N22.18790 E113.85891	66 m	0:00:17	14 kph
15/4/2015 11:22	ON	N22.18860 E113.85888	78 m	0:00:20	14 kph
15/4/2015 11:22	ON	N22.18930 E113.85886	79 m	0:00:20	14 kph
15/4/2015 11:23	ON	N22.18985 E113.85893	61 m	0:00:15	15 kph
15/4/2015 11:23	ON	N22.19046 E113.85899	69 m	0:00:17	15 kph
15/4/2015 11:23	ON	N22.19100 E113.85895	59 m	0:00:15	14 kph
15/4/2015 11:23	ON	N22.19166 E113.85900	74 m	0:00:18	15 kph
15/4/2015 11:24	ON	N22.19237 E113.85907	80 m	0:00:19	15 kph
15/4/2015 11:24	ON	N22.19294 E113.85898	64 m	0:00:16	14 kph
15/4/2015 11:24	ON	N22.19346 E113.85885	59 m	0:00:15	14 kph
15/4/2015 11:24	ON	N22.19409 E113.85884	70 m	0:00:17	15 kph
15/4/2015 11:25	ON	N22.19491 E113.85893	92 m	0:00:22	15 kph
15/4/2015 11:25	ON	N22.19560 E113.85899	77 m	0:00:18	15 kph
15/4/2015 11:25	ON	N22.19620 E113.85903	68 m	0:00:16	15 kph
15/4/2015 11:26	ON	N22.19682 E113.85914	70 m	0:00:16	16 kph
15/4/2015 11:26	ON	N22.19746 E113.85936	74 m	0:00:17	16 kph
15/4/2015 11:26	ON	N22.19787 E113.85982	66 m	0:00:15	16 kph
15/4/2015 11:27	ON	N22.19816 E113.86053	80 m	0:00:18	16 kph
15/4/2015 11:27	ON	N22.19831 E113.86087	38 m	0:00:12	11 kph
15/4/2015 11:27	OFF	N22.19841 E113.86110	27 m	0:00:11	9 kph
15/4/2015 11:27	OFF	N22.19848 E113.86122	14 m	0:00:07	7 kph
15/4/2015 11:27	OFF	N22.19855 E113.86135	16 m	0:00:09	6 kph
15/4/2015 11:27	OFF	N22.19864 E113.86150	18 m	0:00:10	6 kph
15/4/2015 11:27	OFF	N22.19869 E113.86159	12 m	0:00:06	7 kph
15/4/2015 11:28	OFF	N22.19880 E113.86179	23 m	0:00:10	8 kph
15/4/2015 11:28	OFF	N22.19882 E113.86183	5 m	0:00:02	9 kph
15/4/2015 11:28	OFF	N22.19898 E113.86210	33 m	0:00:12	10 kph
15/4/2015 11:28	OFF	N22.19914 E113.86240	36 m	0:00:10	13 kph
15/4/2015 11:28	OFF	N22.19918 E113.86247	8 m	0:00:02	15 kph
15/4/2015 11:28	OFF	N22.19936 E113.86288	47 m	0:00:11	15 kph
15/4/2015 11:28	OFF	N22.19938 E113.86292	4 m	0:00:01	16 kph
15/4/2015 11:28	OFF	N22.19956 E113.86339	52 m	0:00:12	16 kph
15/4/2015 11:29	OFF	N22.19962 E113.86354	18 m	0:00:04	16 kph
15/4/2015 11:29	OFF	N22.19971 E113.86378	26 m	0:00:06	16 kph
15/4/2015 11:29	OFF	N22.19979 E113.86407	31 m	0:00:07	16 kph
15/4/2015 11:29	OFF	N22.19984 E113.86428	22 m	0:00:05	16 kph
15/4/2015 11:29	OFF	N22.19989 E113.86448	22 m	0:00:05	16 kph
15/4/2015 11:29	OFF	N22.20003 E113.86502	57 m	0:00:13	16 kph
15/4/2015 11:29	OFF	N22.20004 E113.86506	4 m	0:00:01	15 kph
15/4/2015 11:29	OFF	N22.20016 E113.86560	58 m	0:00:13	16 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 11:30	OFF	N22.20029 E113.86618	62 m	0:00:17	13 kph
15/4/2015 11:30	OFF	N22.20041 E113.86656	41 m	0:00:17	9 kph
15/4/2015 11:30	OFF	N22.20052 E113.86686	33 m	0:00:18	7 kph
15/4/2015 11:31	OFF	N22.20062 E113.86714	31 m	0:00:21	5 kph
15/4/2015 11:31	OFF	N22.20073 E113.86738	27 m	0:00:21	5 kph
15/4/2015 11:31	OFF	N22.20073 E113.86739	1 m	0:00:01	4 kph
15/4/2015 11:31	OFF	N22.20074 E113.86741	2 m	0:00:02	4 kph
15/4/2015 11:31	OFF	N22.20076 E113.86744	3 m	0:00:03	4 kph
15/4/2015 11:31	OFF	N22.20077 E113.86747	4 m	0:00:04	4 kph
15/4/2015 11:31	OFF	N22.20083 E113.86775	29 m	0:00:18	6 kph
15/4/2015 11:32	OFF	N22.20062 E113.86783	24 m	0:00:14	6 kph
15/4/2015 11:32	OFF	N22.20047 E113.86753	35 m	0:00:16	8 kph
15/4/2015 11:32	OFF	N22.20041 E113.86713	42 m	0:00:14	11 kph
15/4/2015 11:32	OFF	N22.20035 E113.86667	48 m	0:00:14	12 kph
15/4/2015 11:33	ON	N22.20026 E113.86623	47 m	0:00:14	12 kph
15/4/2015 11:33	ON	N22.20016 E113.86571	55 m	0:00:16	12 kph
15/4/2015 11:33	ON	N22.20030 E113.86534	41 m	0:00:14	10 kph
15/4/2015 11:33	ON	N22.20061 E113.86543	36 m	0:00:11	12 kph
15/4/2015 11:34	ON	N22.20087 E113.86597	63 m	0:00:15	15 kph
15/4/2015 11:34	ON	N22.20118 E113.86685	96 m	0:00:21	17 kph
15/4/2015 11:34	ON	N22.20143 E113.86760	82 m	0:00:18	16 kph
15/4/2015 11:34	ON	N22.20167 E113.86840	87 m	0:00:19	17 kph
15/4/2015 11:35	ON	N22.20166 E113.86894	56 m	0:00:14	14 kph
15/4/2015 11:35	ON	N22.20128 E113.86914	47 m	0:00:14	12 kph
15/4/2015 11:35	ON	N22.20055 E113.86911	82 m	0:00:22	13 kph
15/4/2015 11:36	ON	N22.19996 E113.86901	66 m	0:00:18	13 kph
15/4/2015 11:36	ON	N22.19938 E113.86903	65 m	0:00:18	13 kph
15/4/2015 11:36	ON	N22.19879 E113.86898	66 m	0:00:18	13 kph
15/4/2015 11:37	ON	N22.19821 E113.86890	65 m	0:00:18	13 kph
15/4/2015 11:37	ON	N22.19771 E113.86897	56 m	0:00:15	14 kph
15/4/2015 11:37	ON	N22.19706 E113.86909	73 m	0:00:19	14 kph
15/4/2015 11:37	ON	N22.19636 E113.86903	78 m	0:00:21	13 kph
15/4/2015 11:38	ON	N22.19575 E113.86904	68 m	0:00:18	14 kph
15/4/2015 11:38	ON	N22.19523 E113.86897	59 m	0:00:16	13 kph
15/4/2015 11:38	ON	N22.19456 E113.86894	74 m	0:00:20	13 kph
15/4/2015 11:39	ON	N22.19383 E113.86899	81 m	0:00:21	14 kph
15/4/2015 11:39	ON	N22.19318 E113.86889	74 m	0:00:20	13 kph
15/4/2015 11:39	ON	N22.19250 E113.86895	76 m	0:00:20	14 kph
15/4/2015 11:40	ON	N22.19194 E113.86894	62 m	0:00:16	14 kph
15/4/2015 11:40	ON	N22.19133 E113.86888	69 m	0:00:18	14 kph
15/4/2015 11:40	ON	N22.19074 E113.86890	65 m	0:00:17	14 kph
15/4/2015 11:40	ON	N22.19014 E113.86895	68 m	0:00:17	14 kph
15/4/2015 11:41	ON	N22.18947 E113.86898	74 m	0:00:19	14 kph
15/4/2015 11:41	ON	N22.18879 E113.86891	77 m	0:00:20	14 kph
15/4/2015 11:41	ON	N22.18822 E113.86901	64 m	0:00:16	14 kph
15/4/2015 11:42	ON	N22.18749 E113.86902	80 m	0:00:20	14 kph
15/4/2015 11:42	ON	N22.18686 E113.86896	71 m	0:00:18	14 kph
15/4/2015 11:42	ON	N22.18622 E113.86894	71 m	0:00:18	14 kph
15/4/2015 11:43	ON	N22.18553 E113.86895	77 m	0:00:19	15 kph
15/4/2015 11:43	ON	N22.18485 E113.86894	76 m	0:00:19	14 kph
15/4/2015 11:43	ON	N22.18420 E113.86893	72 m	0:00:18	14 kph
15/4/2015 11:44	ON	N22.18360 E113.86896	66 m	0:00:16	15 kph
15/4/2015 11:44	ON	N22.18309 E113.86896	58 m	0:00:14	15 kph
15/4/2015 11:44	ON	N22.18236 E113.86889	82 m	0:00:20	15 kph
15/4/2015 11:44	ON	N22.18166 E113.86891	77 m	0:00:19	15 kph
15/4/2015 11:45	ON	N22.18110 E113.86901	64 m	0:00:15	15 kph
15/4/2015 11:45	ON	N22.18042 E113.86905	75 m	0:00:18	15 kph
15/4/2015 11:45	ON	N22.17973 E113.86899	78 m	0:00:19	15 kph
15/4/2015 11:46	ON	N22.17909 E113.86901	71 m	0:00:17	15 kph
15/4/2015 11:46	ON	N22.17841 E113.86897	75 m	0:00:18	15 kph
15/4/2015 11:46	ON	N22.17782 E113.86896	66 m	0:00:16	15 kph
15/4/2015 11:46	ON	N22.17706 E113.86903	85 m	0:00:20	15 kph
15/4/2015 11:47	ON	N22.17630 E113.86903	84 m	0:00:20	15 kph
15/4/2015 11:47	ON	N22.17563 E113.86901	76 m	0:00:18	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 11:47	ON	N22.17490 E113.86903	81 m	0:00:19	15 kph
15/4/2015 11:48	ON	N22.17425 E113.86900	72 m	0:00:17	15 kph
15/4/2015 11:48	ON	N22.17350 E113.86891	84 m	0:00:20	15 kph
15/4/2015 11:48	ON	N22.17277 E113.86896	81 m	0:00:19	15 kph
15/4/2015 11:49	ON	N22.17215 E113.86899	69 m	0:00:16	16 kph
15/4/2015 11:49	ON	N22.17130 E113.86900	94 m	0:00:22	15 kph
15/4/2015 11:49	ON	N22.17052 E113.86904	87 m	0:00:20	16 kph
15/4/2015 11:50	ON	N22.16990 E113.86897	69 m	0:00:16	15 kph
15/4/2015 11:50	ON	N22.16915 E113.86896	84 m	0:00:20	15 kph
15/4/2015 11:50	ON	N22.16821 E113.86897	104 m	0:00:24	16 kph
15/4/2015 11:51	ON	N22.16736 E113.86896	95 m	0:00:22	16 kph
15/4/2015 11:51	ON	N22.16657 E113.86901	87 m	0:00:20	16 kph
15/4/2015 11:51	ON	N22.16580 E113.86898	87 m	0:00:20	16 kph
15/4/2015 11:52	ON	N22.16510 E113.86894	78 m	0:00:18	16 kph
15/4/2015 11:52	ON	N22.16448 E113.86893	69 m	0:00:16	16 kph
15/4/2015 11:52	ON	N22.16377 E113.86894	79 m	0:00:18	16 kph
15/4/2015 11:53	ON	N22.16298 E113.86896	88 m	0:00:20	16 kph
15/4/2015 11:53	ON	N22.16227 E113.86905	80 m	0:00:19	15 kph
15/4/2015 11:53	ON	N22.16181 E113.86957	74 m	0:00:17	16 kph
15/4/2015 11:53	ON	N22.16134 E113.87030	93 m	0:00:20	17 kph
15/4/2015 11:54	ON	N22.16096 E113.87123	104 m	0:00:23	16 kph
15/4/2015 11:54	ON	N22.16080 E113.87178	59 m	0:00:13	16 kph
15/4/2015 11:54	ON	N22.16060 E113.87245	73 m	0:00:16	16 kph
15/4/2015 11:55	ON	N22.16035 E113.87321	83 m	0:00:18	17 kph
15/4/2015 11:55	ON	N22.16002 E113.87402	92 m	0:00:20	17 kph
15/4/2015 11:55	ON	N22.15964 E113.87472	84 m	0:00:18	17 kph
15/4/2015 11:56	ON	N22.15942 E113.87529	64 m	0:00:14	16 kph
15/4/2015 11:56	ON	N22.15923 E113.87628	104 m	0:00:23	16 kph
15/4/2015 11:56	ON	N22.15897 E113.87718	97 m	0:00:21	17 kph
15/4/2015 11:57	ON	N22.15889 E113.87788	73 m	0:00:17	15 kph
15/4/2015 11:57	ON	N22.15926 E113.87822	54 m	0:00:15	13 kph
15/4/2015 11:57	ON	N22.15991 E113.87824	72 m	0:00:20	13 kph
15/4/2015 11:57	ON	N22.16051 E113.87812	68 m	0:00:19	13 kph
15/4/2015 11:58	ON	N22.16108 E113.87824	64 m	0:00:17	14 kph
15/4/2015 11:58	ON	N22.16177 E113.87824	77 m	0:00:21	13 kph
15/4/2015 11:58	ON	N22.16243 E113.87812	74 m	0:00:20	13 kph
15/4/2015 11:59	ON	N22.16306 E113.87812	70 m	0:00:19	13 kph
15/4/2015 11:59	ON	N22.16370 E113.87807	71 m	0:00:19	13 kph
15/4/2015 11:59	ON	N22.16427 E113.87807	64 m	0:00:17	13 kph
15/4/2015 12:00	ON	N22.16494 E113.87803	75 m	0:00:20	14 kph
15/4/2015 12:00	ON	N22.16562 E113.87803	76 m	0:00:20	14 kph
15/4/2015 12:00	ON	N22.16630 E113.87805	75 m	0:00:20	14 kph
15/4/2015 12:01	ON	N22.16701 E113.87806	80 m	0:00:21	14 kph
15/4/2015 12:01	ON	N22.16767 E113.87807	73 m	0:00:19	14 kph
15/4/2015 12:01	ON	N22.16842 E113.87806	83 m	0:00:22	14 kph
15/4/2015 12:02	ON	N22.16923 E113.87801	90 m	0:00:24	14 kph
15/4/2015 12:02	ON	N22.17001 E113.87803	87 m	0:00:23	14 kph
15/4/2015 12:02	ON	N22.17070 E113.87809	77 m	0:00:20	14 kph
15/4/2015 12:03	ON	N22.17139 E113.87810	77 m	0:00:20	14 kph
15/4/2015 12:03	ON	N22.17214 E113.87812	84 m	0:00:22	14 kph
15/4/2015 12:04	ON	N22.17298 E113.87811	93 m	0:00:24	14 kph
15/4/2015 12:04	ON	N22.17364 E113.87808	73 m	0:00:19	14 kph
15/4/2015 12:04	ON	N22.17426 E113.87806	69 m	0:00:18	14 kph
15/4/2015 12:05	ON	N22.17516 E113.87809	100 m	0:00:26	14 kph
15/4/2015 12:05	ON	N22.17589 E113.87814	82 m	0:00:21	14 kph
15/4/2015 12:05	ON	N22.17659 E113.87814	78 m	0:00:20	14 kph
15/4/2015 12:06	ON	N22.17722 E113.87813	70 m	0:00:18	14 kph
15/4/2015 12:06	ON	N22.17792 E113.87807	78 m	0:00:20	14 kph
15/4/2015 12:06	ON	N22.17857 E113.87800	72 m	0:00:19	14 kph
15/4/2015 12:07	ON	N22.17923 E113.87795	74 m	0:00:19	14 kph
15/4/2015 12:07	ON	N22.17990 E113.87797	75 m	0:00:19	14 kph
15/4/2015 12:07	ON	N22.18072 E113.87804	91 m	0:00:23	14 kph
15/4/2015 12:08	ON	N22.18133 E113.87806	68 m	0:00:17	14 kph
15/4/2015 12:08	ON	N22.18189 E113.87806	63 m	0:00:16	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 12:08	ON	N22.18239 E113.87805	55 m	0:00:14	14 kph
15/4/2015 12:08	ON	N22.18310 E113.87803	79 m	0:00:20	14 kph
15/4/2015 12:09	ON	N22.18370 E113.87805	67 m	0:00:17	14 kph
15/4/2015 12:09	ON	N22.18438 E113.87807	76 m	0:00:19	14 kph
15/4/2015 12:09	ON	N22.18512 E113.87806	82 m	0:00:21	14 kph
15/4/2015 12:10	ON	N22.18590 E113.87801	87 m	0:00:22	14 kph
15/4/2015 12:10	ON	N22.18672 E113.87792	91 m	0:00:23	14 kph
15/4/2015 12:10	ON	N22.18741 E113.87790	77 m	0:00:19	15 kph
15/4/2015 12:11	ON	N22.18807 E113.87791	73 m	0:00:18	15 kph
15/4/2015 12:11	ON	N22.18874 E113.87798	75 m	0:00:18	15 kph
15/4/2015 12:11	ON	N22.18930 E113.87806	63 m	0:00:15	15 kph
15/4/2015 12:12	ON	N22.18998 E113.87811	75 m	0:00:18	15 kph
15/4/2015 12:12	ON	N22.19072 E113.87810	83 m	0:00:20	15 kph
15/4/2015 12:12	ON	N22.19150 E113.87812	87 m	0:00:21	15 kph
15/4/2015 12:13	ON	N22.19236 E113.87810	96 m	0:00:23	15 kph
15/4/2015 12:13	ON	N22.19311 E113.87808	83 m	0:00:20	15 kph
15/4/2015 12:13	ON	N22.19397 E113.87809	96 m	0:00:23	15 kph
15/4/2015 12:14	ON	N22.19492 E113.87814	106 m	0:00:25	15 kph
15/4/2015 12:14	ON	N22.19576 E113.87813	94 m	0:00:23	15 kph
15/4/2015 12:14	ON	N22.19631 E113.87808	61 m	0:00:15	15 kph
15/4/2015 12:15	ON	N22.19710 E113.87802	88 m	0:00:21	15 kph
15/4/2015 12:15	ON	N22.19801 E113.87801	102 m	0:00:24	15 kph
15/4/2015 12:16	ON	N22.19895 E113.87799	104 m	0:00:24	16 kph
15/4/2015 12:16	ON	N22.19979 E113.87797	94 m	0:00:22	15 kph
15/4/2015 12:16	ON	N22.20063 E113.87803	94 m	0:00:22	15 kph
15/4/2015 12:17	ON	N22.20154 E113.87812	101 m	0:00:23	16 kph
15/4/2015 12:17	ON	N22.20234 E113.87807	89 m	0:00:21	15 kph
15/4/2015 12:17	ON	N22.20316 E113.87796	92 m	0:00:22	15 kph
15/4/2015 12:18	ON	N22.20399 E113.87800	92 m	0:00:21	16 kph
15/4/2015 12:18	ON	N22.20484 E113.87805	95 m	0:00:22	16 kph
15/4/2015 12:18	ON	N22.20559 E113.87804	83 m	0:00:19	16 kph
15/4/2015 12:19	ON	N22.20638 E113.87796	88 m	0:00:21	15 kph
15/4/2015 12:19	ON	N22.20707 E113.87810	79 m	0:00:19	15 kph
15/4/2015 12:19	ON	N22.20750 E113.87867	76 m	0:00:18	15 kph
15/4/2015 12:20	ON	N22.20782 E113.87917	62 m	0:00:14	16 kph
15/4/2015 12:20	ON	N22.20826 E113.87971	75 m	0:00:17	16 kph
15/4/2015 12:20	ON	N22.20858 E113.88018	60 m	0:00:16	13 kph
15/4/2015 12:20	OFF	N22.20882 E113.88051	44 m	0:00:19	8 kph
15/4/2015 12:21	OFF	N22.20900 E113.88076	32 m	0:00:20	6 kph
15/4/2015 12:21	OFF	N22.20915 E113.88098	29 m	0:00:21	5 kph
15/4/2015 12:21	OFF	N22.20915 E113.88120	23 m	0:00:16	5 kph
15/4/2015 12:22	OFF	N22.20903 E113.88153	36 m	0:00:17	8 kph
15/4/2015 12:22	OFF	N22.20902 E113.88201	50 m	0:00:16	11 kph
15/4/2015 12:22	OFF	N22.20905 E113.88275	76 m	0:00:21	13 kph
15/4/2015 12:23	OFF	N22.20906 E113.88317	44 m	0:00:12	13 kph
15/4/2015 12:23	OFF	N22.20905 E113.88370	54 m	0:00:15	13 kph
15/4/2015 12:23	OFF	N22.20906 E113.88417	48 m	0:00:13	13 kph
15/4/2015 12:23	OFF	N22.20907 E113.88463	47 m	0:00:13	13 kph
15/4/2015 12:23	OFF	N22.20907 E113.88515	54 m	0:00:16	12 kph
15/4/2015 12:24	OFF	N22.20910 E113.88548	35 m	0:00:15	8 kph
15/4/2015 12:24	OFF	N22.20914 E113.88579	32 m	0:00:19	6 kph
15/4/2015 12:24	OFF	N22.20919 E113.88600	23 m	0:00:17	5 kph
15/4/2015 12:25	OFF	N22.20924 E113.88615	16 m	0:00:14	4 kph
15/4/2015 12:25	OFF	N22.20925 E113.88619	5 m	0:00:04	4 kph
15/4/2015 12:25	OFF	N22.20927 E113.88626	8 m	0:00:06	5 kph
15/4/2015 12:25	OFF	N22.20922 E113.88647	22 m	0:00:15	5 kph
15/4/2015 12:25	OFF	N22.20896 E113.88671	38 m	0:00:20	7 kph
15/4/2015 12:26	OFF	N22.20865 E113.88693	41 m	0:00:20	7 kph
15/4/2015 12:26	OFF	N22.20833 E113.88715	42 m	0:00:23	7 kph
15/4/2015 12:26	OFF	N22.20818 E113.88730	23 m	0:00:20	4 kph
15/4/2015 12:27	OFF	N22.20811 E113.88742	15 m	0:00:19	3 kph
15/4/2015 12:27	OFF	N22.20808 E113.88755	14 m	0:00:23	2 kph
15/4/2015 12:27	OFF	N22.20807 E113.88767	12 m	0:00:20	2 kph
15/4/2015 12:28	OFF	N22.20800 E113.88775	12 m	0:00:15	3 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 12:28	OFF	N22.20775 E113.88771	27 m	0:00:19	5 kph
15/4/2015 12:28	OFF	N22.20744 E113.88768	35 m	0:00:20	6 kph
15/4/2015 12:29	OFF	N22.20721 E113.88768	26 m	0:00:21	4 kph
15/4/2015 12:29	OFF	N22.20711 E113.88771	12 m	0:00:17	3 kph
15/4/2015 12:29	OFF	N22.20707 E113.88774	5 m	0:00:13	1.4 kph
15/4/2015 12:29	OFF	N22.20707 E113.88777	3 m	0:00:18	0.7 kph
15/4/2015 12:30	OFF	N22.20708 E113.88783	6 m	0:00:17	1.2 kph
15/4/2015 12:30	OFF	N22.20711 E113.88787	6 m	0:00:18	1.1 kph
15/4/2015 12:30	OFF	N22.20716 E113.88794	9 m	0:00:20	2 kph
15/4/2015 12:31	OFF	N22.20722 E113.88798	8 m	0:00:20	1.4 kph
15/4/2015 12:31	OFF	N22.20729 E113.88804	10 m	0:00:23	2 kph
15/4/2015 12:31	OFF	N22.20731 E113.88803	2 m	0:00:13	0.5 kph
15/4/2015 12:32	OFF	N22.20746 E113.88776	33 m	0:00:17	7 kph
15/4/2015 12:32	OFF	N22.20798 E113.88762	60 m	0:00:17	13 kph
15/4/2015 12:32	OFF	N22.20856 E113.88777	66 m	0:00:16	15 kph
15/4/2015 12:32	OFF	N22.20921 E113.88771	72 m	0:00:18	14 kph
15/4/2015 12:33	OFF	N22.21007 E113.88756	97 m	0:00:24	15 kph
15/4/2015 12:33	OFF	N22.21101 E113.88762	105 m	0:00:25	15 kph
15/4/2015 12:34	OFF	N22.21173 E113.88771	81 m	0:00:19	15 kph
15/4/2015 12:34	OFF	N22.21258 E113.88783	95 m	0:00:22	16 kph
15/4/2015 12:34	OFF	N22.21330 E113.88801	82 m	0:00:20	15 kph
15/4/2015 12:34	ON	N22.21344 E113.88834	38 m	0:00:11	12 kph
15/4/2015 12:35	ON	N22.21324 E113.88862	35 m	0:00:12	11 kph
15/4/2015 12:35	ON	N22.21286 E113.88853	43 m	0:00:14	11 kph
15/4/2015 12:35	ON	N22.21231 E113.88817	72 m	0:00:20	13 kph
15/4/2015 12:35	ON	N22.21175 E113.88812	62 m	0:00:17	13 kph
15/4/2015 12:36	ON	N22.21126 E113.88814	55 m	0:00:15	13 kph
15/4/2015 12:36	ON	N22.21063 E113.88813	70 m	0:00:19	13 kph
15/4/2015 12:36	ON	N22.21019 E113.88818	49 m	0:00:13	13 kph
15/4/2015 12:36	ON	N22.20973 E113.88818	52 m	0:00:14	13 kph
15/4/2015 12:37	ON	N22.20927 E113.88813	51 m	0:00:14	13 kph
15/4/2015 12:37	ON	N22.20894 E113.88815	37 m	0:00:10	13 kph
15/4/2015 12:37	ON	N22.20852 E113.88822	48 m	0:00:13	13 kph
15/4/2015 12:37	ON	N22.20802 E113.88824	56 m	0:00:15	13 kph
15/4/2015 12:38	ON	N22.20752 E113.88824	56 m	0:00:15	13 kph
15/4/2015 12:38	ON	N22.20706 E113.88827	52 m	0:00:14	13 kph
15/4/2015 12:38	ON	N22.20658 E113.88831	53 m	0:00:14	14 kph
15/4/2015 12:38	ON	N22.20608 E113.88832	56 m	0:00:15	14 kph
15/4/2015 12:39	ON	N22.20551 E113.88832	63 m	0:00:17	13 kph
15/4/2015 12:39	ON	N22.20508 E113.88834	48 m	0:00:13	13 kph
15/4/2015 12:39	ON	N22.20462 E113.88829	51 m	0:00:14	13 kph
15/4/2015 12:39	ON	N22.20414 E113.88822	54 m	0:00:15	13 kph
15/4/2015 12:40	ON	N22.20354 E113.88821	67 m	0:00:18	13 kph
15/4/2015 12:40	ON	N22.20291 E113.88823	70 m	0:00:19	13 kph
15/4/2015 12:40	ON	N22.20231 E113.88822	67 m	0:00:18	13 kph
15/4/2015 12:41	ON	N22.20170 E113.88825	68 m	0:00:18	14 kph
15/4/2015 12:41	ON	N22.20105 E113.88827	72 m	0:00:19	14 kph
15/4/2015 12:41	ON	N22.20035 E113.88824	78 m	0:00:21	13 kph
15/4/2015 12:42	ON	N22.19956 E113.88822	88 m	0:00:23	14 kph
15/4/2015 12:42	ON	N22.19906 E113.88821	55 m	0:00:16	12 kph
15/4/2015 12:42	OFF	N22.19872 E113.88827	38 m	0:00:20	7 kph
15/4/2015 12:42	OFF	N22.19858 E113.88831	17 m	0:00:14	4 kph
15/4/2015 12:43	OFF	N22.19845 E113.88838	15 m	0:00:20	3 kph
15/4/2015 12:43	OFF	N22.19837 E113.88846	13 m	0:00:23	2 kph
15/4/2015 12:43	OFF	N22.19834 E113.88851	6 m	0:00:16	1.4 kph
15/4/2015 12:44	OFF	N22.19832 E113.88857	7 m	0:00:22	1.1 kph
15/4/2015 12:44	OFF	N22.19833 E113.88861	4 m	0:00:17	0.8 kph
15/4/2015 12:44	OFF	N22.19836 E113.88867	7 m	0:00:21	1.2 kph
15/4/2015 12:45	OFF	N22.19839 E113.88873	7 m	0:00:18	1.4 kph
15/4/2015 12:45	OFF	N22.19844 E113.88880	9 m	0:00:16	2 kph
15/4/2015 12:45	OFF	N22.19846 E113.88883	4 m	0:00:16	0.8 kph
15/4/2015 12:45	OFF	N22.19845 E113.88882	1 m	0:00:02	2 kph
15/4/2015 12:46	OFF	N22.19809 E113.88879	40 m	0:00:18	8 kph
15/4/2015 12:46	ON	N22.19752 E113.88873	64 m	0:00:19	12 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 12:46	ON	N22.19698 E113.88838	70 m	0:00:20	13 kph
15/4/2015 12:46	ON	N22.19648 E113.88815	61 m	0:00:17	13 kph
15/4/2015 12:47	ON	N22.19597 E113.88822	57 m	0:00:15	14 kph
15/4/2015 12:47	ON	N22.19538 E113.88833	66 m	0:00:17	14 kph
15/4/2015 12:47	ON	N22.19474 E113.88823	71 m	0:00:19	14 kph
15/4/2015 12:48	ON	N22.19416 E113.88827	65 m	0:00:17	14 kph
15/4/2015 12:48	ON	N22.19358 E113.88826	65 m	0:00:17	14 kph
15/4/2015 12:48	ON	N22.19297 E113.88823	68 m	0:00:18	14 kph
15/4/2015 12:49	ON	N22.19231 E113.88825	74 m	0:00:19	14 kph
15/4/2015 12:49	ON	N22.19162 E113.88825	77 m	0:00:20	14 kph
15/4/2015 12:49	ON	N22.19081 E113.88822	89 m	0:00:23	14 kph
15/4/2015 12:50	ON	N22.19000 E113.88821	90 m	0:00:23	14 kph
15/4/2015 12:50	ON	N22.18940 E113.88824	67 m	0:00:17	14 kph
15/4/2015 12:50	ON	N22.18873 E113.88824	75 m	0:00:19	14 kph
15/4/2015 12:51	ON	N22.18803 E113.88821	78 m	0:00:20	14 kph
15/4/2015 12:51	ON	N22.18725 E113.88822	87 m	0:00:22	14 kph
15/4/2015 12:51	ON	N22.18651 E113.88825	82 m	0:00:21	14 kph
15/4/2015 12:52	ON	N22.18576 E113.88827	83 m	0:00:21	14 kph
15/4/2015 12:52	ON	N22.18501 E113.88828	83 m	0:00:21	14 kph
15/4/2015 12:52	ON	N22.18417 E113.88830	94 m	0:00:24	14 kph
15/4/2015 12:53	ON	N22.18317 E113.88825	111 m	0:00:28	14 kph
15/4/2015 12:53	ON	N22.18234 E113.88823	93 m	0:00:23	14 kph
15/4/2015 12:54	ON	N22.18157 E113.88829	86 m	0:00:21	15 kph
15/4/2015 12:54	ON	N22.18073 E113.88832	93 m	0:00:23	15 kph
15/4/2015 12:54	ON	N22.18005 E113.88827	76 m	0:00:19	14 kph
15/4/2015 12:55	ON	N22.17920 E113.88815	95 m	0:00:24	14 kph
15/4/2015 12:55	ON	N22.17835 E113.88819	95 m	0:00:23	15 kph
15/4/2015 12:55	ON	N22.17766 E113.88827	77 m	0:00:19	15 kph
15/4/2015 12:56	ON	N22.17693 E113.88830	81 m	0:00:20	15 kph
15/4/2015 12:56	ON	N22.17614 E113.88828	88 m	0:00:22	14 kph
15/4/2015 12:56	ON	N22.17537 E113.88823	87 m	0:00:21	15 kph
15/4/2015 12:57	ON	N22.17467 E113.88827	78 m	0:00:19	15 kph
15/4/2015 12:57	ON	N22.17398 E113.88826	77 m	0:00:19	15 kph
15/4/2015 12:57	ON	N22.17322 E113.88824	85 m	0:00:21	15 kph
15/4/2015 12:58	ON	N22.17255 E113.88830	75 m	0:00:18	15 kph
15/4/2015 12:58	ON	N22.17187 E113.88829	76 m	0:00:18	15 kph
15/4/2015 12:58	ON	N22.17126 E113.88821	68 m	0:00:17	14 kph
15/4/2015 12:59	ON	N22.17067 E113.88824	65 m	0:00:16	15 kph
15/4/2015 12:59	ON	N22.17008 E113.88830	66 m	0:00:16	15 kph
15/4/2015 12:59	ON	N22.16941 E113.88828	75 m	0:00:18	15 kph
15/4/2015 12:59	ON	N22.16870 E113.88824	79 m	0:00:19	15 kph
15/4/2015 13:00	ON	N22.16800 E113.88825	77 m	0:00:19	15 kph
15/4/2015 13:00	ON	N22.16710 E113.88826	101 m	0:00:24	15 kph
15/4/2015 13:00	ON	N22.16635 E113.88820	84 m	0:00:20	15 kph
15/4/2015 13:01	ON	N22.16564 E113.88828	80 m	0:00:19	15 kph
15/4/2015 13:01	ON	N22.16496 E113.88827	76 m	0:00:18	15 kph
15/4/2015 13:01	ON	N22.16414 E113.88825	91 m	0:00:22	15 kph
15/4/2015 13:02	ON	N22.16328 E113.88827	96 m	0:00:23	15 kph
15/4/2015 13:02	ON	N22.16244 E113.88827	93 m	0:00:22	15 kph
15/4/2015 13:03	ON	N22.16160 E113.88822	94 m	0:00:22	15 kph
15/4/2015 13:03	ON	N22.16093 E113.88823	75 m	0:00:18	15 kph
15/4/2015 13:03	ON	N22.16017 E113.88821	85 m	0:00:20	15 kph
15/4/2015 13:04	ON	N22.15953 E113.88823	71 m	0:00:17	15 kph
15/4/2015 13:04	ON	N22.15892 E113.88825	68 m	0:00:16	15 kph
15/4/2015 13:04	ON	N22.15815 E113.88823	85 m	0:00:20	15 kph
15/4/2015 13:04	ON	N22.15747 E113.88822	76 m	0:00:18	15 kph
15/4/2015 13:05	ON	N22.15674 E113.88825	81 m	0:00:19	15 kph
15/4/2015 13:05	ON	N22.15610 E113.88830	72 m	0:00:17	15 kph
15/4/2015 13:05	ON	N22.15531 E113.88826	88 m	0:00:21	15 kph
15/4/2015 13:06	ON	N22.15467 E113.88826	72 m	0:00:17	15 kph
15/4/2015 13:06	ON	N22.15405 E113.88828	68 m	0:00:16	15 kph
15/4/2015 13:06	ON	N22.15348 E113.88830	63 m	0:00:15	15 kph
15/4/2015 13:06	ON	N22.15299 E113.88827	55 m	0:00:13	15 kph
15/4/2015 13:07	ON	N22.15232 E113.88820	75 m	0:00:18	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 13:07	ON	N22.15184 E113.88814	54 m	0:00:13	15 kph
15/4/2015 13:07	ON	N22.15120 E113.88820	71 m	0:00:17	15 kph
15/4/2015 13:07	ON	N22.15066 E113.88846	66 m	0:00:16	15 kph
15/4/2015 13:08	ON	N22.15042 E113.88904	66 m	0:00:16	15 kph
15/4/2015 13:08	ON	N22.15038 E113.88979	77 m	0:00:18	15 kph
15/4/2015 13:08	ON	N22.15029 E113.89040	64 m	0:00:15	15 kph
15/4/2015 13:09	ON	N22.15023 E113.89110	73 m	0:00:17	15 kph
15/4/2015 13:09	ON	N22.15015 E113.89194	86 m	0:00:20	16 kph
15/4/2015 13:09	ON	N22.15008 E113.89260	69 m	0:00:16	15 kph
15/4/2015 13:09	ON	N22.15004 E113.89322	65 m	0:00:15	15 kph
15/4/2015 13:10	ON	N22.14996 E113.89381	61 m	0:00:14	16 kph
15/4/2015 13:10	ON	N22.14981 E113.89464	88 m	0:00:20	16 kph
15/4/2015 13:10	ON	N22.14965 E113.89530	70 m	0:00:16	16 kph
15/4/2015 13:10	ON	N22.14947 E113.89596	70 m	0:00:16	16 kph
15/4/2015 13:11	ON	N22.14933 E113.89666	73 m	0:00:17	16 kph
15/4/2015 13:11	ON	N22.14942 E113.89724	61 m	0:00:16	14 kph
15/4/2015 13:11	ON	N22.14983 E113.89740	48 m	0:00:14	12 kph
15/4/2015 13:12	ON	N22.15035 E113.89730	59 m	0:00:16	13 kph
15/4/2015 13:12	ON	N22.15092 E113.89727	63 m	0:00:17	13 kph
15/4/2015 13:12	ON	N22.15143 E113.89732	57 m	0:00:15	14 kph
15/4/2015 13:12	ON	N22.15204 E113.89722	69 m	0:00:18	14 kph
15/4/2015 13:13	ON	N22.15255 E113.89718	58 m	0:00:15	14 kph
15/4/2015 13:13	ON	N22.15313 E113.89720	64 m	0:00:17	14 kph
15/4/2015 13:13	ON	N22.15372 E113.89714	65 m	0:00:17	14 kph
15/4/2015 13:13	ON	N22.15426 E113.89717	60 m	0:00:16	14 kph
15/4/2015 13:14	ON	N22.15472 E113.89722	51 m	0:00:13	14 kph
15/4/2015 13:14	ON	N22.15517 E113.89722	50 m	0:00:13	14 kph
15/4/2015 13:14	ON	N22.15589 E113.89718	81 m	0:00:21	14 kph
15/4/2015 13:15	ON	N22.15665 E113.89726	85 m	0:00:22	14 kph
15/4/2015 13:15	ON	N22.15728 E113.89728	70 m	0:00:18	14 kph
15/4/2015 13:15	ON	N22.15787 E113.89725	65 m	0:00:17	14 kph
15/4/2015 13:15	ON	N22.15839 E113.89727	58 m	0:00:15	14 kph
15/4/2015 13:16	ON	N22.15908 E113.89730	77 m	0:00:20	14 kph
15/4/2015 13:16	ON	N22.15983 E113.89724	83 m	0:00:22	14 kph
15/4/2015 13:16	ON	N22.16051 E113.89723	77 m	0:00:20	14 kph
15/4/2015 13:17	ON	N22.16146 E113.89722	105 m	0:00:27	14 kph
15/4/2015 13:17	ON	N22.16212 E113.89720	73 m	0:00:19	14 kph
15/4/2015 13:18	ON	N22.16276 E113.89717	72 m	0:00:19	14 kph
15/4/2015 13:18	ON	N22.16352 E113.89714	85 m	0:00:22	14 kph
15/4/2015 13:18	ON	N22.16411 E113.89714	66 m	0:00:17	14 kph
15/4/2015 13:18	ON	N22.16464 E113.89719	58 m	0:00:15	14 kph
15/4/2015 13:19	ON	N22.16502 E113.89724	43 m	0:00:11	14 kph
15/4/2015 13:19	ON	N22.16536 E113.89726	38 m	0:00:10	14 kph
15/4/2015 13:19	ON	N22.16571 E113.89725	38 m	0:00:10	14 kph
15/4/2015 13:19	ON	N22.16605 E113.89723	38 m	0:00:10	14 kph
15/4/2015 13:19	ON	N22.16646 E113.89724	46 m	0:00:12	14 kph
15/4/2015 13:20	ON	N22.16723 E113.89721	87 m	0:00:22	14 kph
15/4/2015 13:20	ON	N22.16801 E113.89721	87 m	0:00:22	14 kph
15/4/2015 13:20	ON	N22.16872 E113.89719	79 m	0:00:20	14 kph
15/4/2015 13:21	ON	N22.16939 E113.89718	75 m	0:00:19	14 kph
15/4/2015 13:21	ON	N22.17003 E113.89717	71 m	0:00:18	14 kph
15/4/2015 13:21	ON	N22.17085 E113.89713	91 m	0:00:23	14 kph
15/4/2015 13:22	ON	N22.17149 E113.89711	71 m	0:00:19	13 kph
15/4/2015 13:22	OFF	N22.17184 E113.89708	39 m	0:00:19	7 kph
15/4/2015 13:22	OFF	N22.17207 E113.89707	26 m	0:00:19	5 kph
15/4/2015 13:23	OFF	N22.17223 E113.89708	18 m	0:00:18	4 kph
15/4/2015 13:23	OFF	N22.17234 E113.89710	13 m	0:00:18	3 kph
15/4/2015 13:23	OFF	N22.17244 E113.89713	11 m	0:00:12	3 kph
15/4/2015 13:24	OFF	N22.17270 E113.89733	35 m	0:00:21	6 kph
15/4/2015 13:24	OFF	N22.17303 E113.89756	44 m	0:00:18	9 kph
15/4/2015 13:24	OFF	N22.17329 E113.89767	32 m	0:00:19	6 kph
15/4/2015 13:24	OFF	N22.17353 E113.89773	27 m	0:00:21	5 kph
15/4/2015 13:25	OFF	N22.17387 E113.89783	39 m	0:00:19	7 kph
15/4/2015 13:25	OFF	N22.17438 E113.89794	58 m	0:00:24	9 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 13:26	OFF	N22.17479 E113.89805	47 m	0:00:19	9 kph
15/4/2015 13:26	OFF	N22.17526 E113.89825	56 m	0:00:24	8 kph
15/4/2015 13:26	OFF	N22.17557 E113.89839	38 m	0:00:25	5 kph
15/4/2015 13:27	OFF	N22.17573 E113.89848	21 m	0:00:20	4 kph
15/4/2015 13:27	OFF	N22.17587 E113.89857	18 m	0:00:22	3 kph
15/4/2015 13:27	OFF	N22.17597 E113.89865	14 m	0:00:21	2 kph
15/4/2015 13:28	OFF	N22.17605 E113.89873	12 m	0:00:17	3 kph
15/4/2015 13:28	OFF	N22.17631 E113.89863	31 m	0:00:14	8 kph
15/4/2015 13:28	OFF	N22.17641 E113.89825	41 m	0:00:14	11 kph
15/4/2015 13:28	OFF	N22.17619 E113.89779	54 m	0:00:15	13 kph
15/4/2015 13:29	OFF	N22.17555 E113.89726	90 m	0:00:23	14 kph
15/4/2015 13:29	OFF	N22.17483 E113.89692	87 m	0:00:22	14 kph
15/4/2015 13:30	OFF	N22.17402 E113.89677	92 m	0:00:23	14 kph
15/4/2015 13:30	ON	N22.17333 E113.89682	78 m	0:00:20	14 kph
15/4/2015 13:30	ON	N22.17315 E113.89721	45 m	0:00:13	12 kph
15/4/2015 13:30	ON	N22.17343 E113.89757	47 m	0:00:14	12 kph
15/4/2015 13:31	ON	N22.17399 E113.89762	63 m	0:00:17	13 kph
15/4/2015 13:31	ON	N22.17459 E113.89744	69 m	0:00:18	14 kph
15/4/2015 13:31	ON	N22.17523 E113.89744	72 m	0:00:18	14 kph
15/4/2015 13:32	ON	N22.17599 E113.89745	84 m	0:00:21	14 kph
15/4/2015 13:32	ON	N22.17680 E113.89731	92 m	0:00:23	14 kph
15/4/2015 13:32	ON	N22.17747 E113.89714	76 m	0:00:19	14 kph
15/4/2015 13:33	ON	N22.17822 E113.89713	83 m	0:00:21	14 kph
15/4/2015 13:33	ON	N22.17894 E113.89721	81 m	0:00:20	15 kph
15/4/2015 13:33	ON	N22.17982 E113.89726	98 m	0:00:24	15 kph
15/4/2015 13:34	ON	N22.18062 E113.89736	90 m	0:00:22	15 kph
15/4/2015 13:34	ON	N22.18157 E113.89741	106 m	0:00:26	15 kph
15/4/2015 13:34	ON	N22.18240 E113.89737	92 m	0:00:23	14 kph
15/4/2015 13:35	ON	N22.18321 E113.89735	90 m	0:00:22	15 kph
15/4/2015 13:35	ON	N22.18397 E113.89731	85 m	0:00:21	15 kph
15/4/2015 13:36	ON	N22.18466 E113.89726	78 m	0:00:19	15 kph
15/4/2015 13:36	ON	N22.18532 E113.89724	73 m	0:00:18	15 kph
15/4/2015 13:36	ON	N22.18587 E113.89725	61 m	0:00:15	15 kph
15/4/2015 13:36	ON	N22.18657 E113.89727	78 m	0:00:19	15 kph
15/4/2015 13:37	ON	N22.18730 E113.89723	81 m	0:00:20	15 kph
15/4/2015 13:37	ON	N22.18803 E113.89717	82 m	0:00:20	15 kph
15/4/2015 13:37	ON	N22.18884 E113.89709	90 m	0:00:22	15 kph
15/4/2015 13:38	ON	N22.18961 E113.89703	86 m	0:00:21	15 kph
15/4/2015 13:38	ON	N22.19046 E113.89703	95 m	0:00:23	15 kph
15/4/2015 13:38	ON	N22.19104 E113.89707	65 m	0:00:16	15 kph
15/4/2015 13:39	ON	N22.19160 E113.89710	62 m	0:00:15	15 kph
15/4/2015 13:39	ON	N22.19230 E113.89713	78 m	0:00:19	15 kph
15/4/2015 13:39	ON	N22.19292 E113.89715	70 m	0:00:17	15 kph
15/4/2015 13:40	ON	N22.19376 E113.89717	93 m	0:00:22	15 kph
15/4/2015 13:40	ON	N22.19458 E113.89720	91 m	0:00:22	15 kph
15/4/2015 13:40	ON	N22.19544 E113.89722	96 m	0:00:23	15 kph
15/4/2015 13:41	ON	N22.19625 E113.89722	91 m	0:00:22	15 kph
15/4/2015 13:41	ON	N22.19703 E113.89726	87 m	0:00:21	15 kph
15/4/2015 13:41	ON	N22.19786 E113.89728	92 m	0:00:22	15 kph
15/4/2015 13:42	ON	N22.19872 E113.89730	96 m	0:00:23	15 kph
15/4/2015 13:42	ON	N22.19965 E113.89730	104 m	0:00:25	15 kph
15/4/2015 13:43	ON	N22.20052 E113.89727	96 m	0:00:23	15 kph
15/4/2015 13:43	ON	N22.20138 E113.89728	96 m	0:00:23	15 kph
15/4/2015 13:43	ON	N22.20229 E113.89732	101 m	0:00:24	15 kph
15/4/2015 13:44	ON	N22.20321 E113.89724	103 m	0:00:25	15 kph
15/4/2015 13:44	ON	N22.20401 E113.89731	90 m	0:00:21	15 kph
15/4/2015 13:45	ON	N22.20481 E113.89729	89 m	0:00:21	15 kph
15/4/2015 13:45	ON	N22.20562 E113.89732	90 m	0:00:21	15 kph
15/4/2015 13:45	ON	N22.20652 E113.89731	101 m	0:00:24	15 kph
15/4/2015 13:46	ON	N22.20752 E113.89731	111 m	0:00:26	15 kph
15/4/2015 13:46	ON	N22.20837 E113.89731	94 m	0:00:22	15 kph
15/4/2015 13:47	ON	N22.20931 E113.89724	105 m	0:00:25	15 kph
15/4/2015 13:47	ON	N22.21007 E113.89721	85 m	0:00:20	15 kph
15/4/2015 13:47	ON	N22.21095 E113.89725	97 m	0:00:23	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 13:48	ON	N22.21183 E113.89722	98 m	0:00:23	15 kph
15/4/2015 13:48	ON	N22.21246 E113.89742	73 m	0:00:18	15 kph
15/4/2015 13:48	ON	N22.21250 E113.89785	45 m	0:00:13	12 kph
15/4/2015 13:48	ON	N22.21220 E113.89832	59 m	0:00:15	14 kph
15/4/2015 13:49	ON	N22.21179 E113.89879	67 m	0:00:17	14 kph
15/4/2015 13:49	ON	N22.21149 E113.89927	60 m	0:00:15	14 kph
15/4/2015 13:49	ON	N22.21102 E113.89998	89 m	0:00:22	15 kph
15/4/2015 13:50	ON	N22.21051 E113.90075	98 m	0:00:24	15 kph
15/4/2015 13:50	ON	N22.21000 E113.90146	93 m	0:00:23	15 kph
15/4/2015 13:50	ON	N22.20957 E113.90205	77 m	0:00:19	15 kph
15/4/2015 13:51	ON	N22.20914 E113.90269	82 m	0:00:20	15 kph
15/4/2015 13:51	ON	N22.20882 E113.90317	61 m	0:00:15	15 kph
15/4/2015 13:51	ON	N22.20845 E113.90371	69 m	0:00:17	15 kph
15/4/2015 13:52	ON	N22.20810 E113.90421	65 m	0:00:16	15 kph
15/4/2015 13:52	ON	N22.20784 E113.90458	48 m	0:00:12	14 kph
15/4/2015 13:52	ON	N22.20737 E113.90523	85 m	0:00:21	15 kph
15/4/2015 13:52	ON	N22.20684 E113.90594	94 m	0:00:23	15 kph
15/4/2015 13:53	ON	N22.20639 E113.90656	81 m	0:00:20	15 kph
15/4/2015 13:53	ON	N22.20600 E113.90713	73 m	0:00:18	15 kph
15/4/2015 13:53	ON	N22.20554 E113.90766	75 m	0:00:19	14 kph
15/4/2015 13:54	ON	N22.20504 E113.90766	56 m	0:00:15	13 kph
15/4/2015 13:54	ON	N22.20455 E113.90763	55 m	0:00:14	14 kph
15/4/2015 13:54	ON	N22.20395 E113.90778	68 m	0:00:17	14 kph
15/4/2015 13:54	ON	N22.20329 E113.90781	74 m	0:00:19	14 kph
15/4/2015 13:55	ON	N22.20259 E113.90779	77 m	0:00:20	14 kph
15/4/2015 13:55	ON	N22.20199 E113.90782	67 m	0:00:17	14 kph
15/4/2015 13:55	ON	N22.20136 E113.90778	70 m	0:00:18	14 kph
15/4/2015 13:56	ON	N22.20074 E113.90774	69 m	0:00:18	14 kph
15/4/2015 13:56	ON	N22.20006 E113.90777	75 m	0:00:19	14 kph
15/4/2015 13:56	ON	N22.19935 E113.90775	79 m	0:00:20	14 kph
15/4/2015 13:57	ON	N22.19876 E113.90774	66 m	0:00:17	14 kph
15/4/2015 13:57	ON	N22.19815 E113.90778	68 m	0:00:17	14 kph
15/4/2015 13:57	ON	N22.19740 E113.90778	84 m	0:00:21	14 kph
15/4/2015 13:58	ON	N22.19673 E113.90775	75 m	0:00:19	14 kph
15/4/2015 13:58	ON	N22.19604 E113.90782	77 m	0:00:19	15 kph
15/4/2015 13:58	ON	N22.19536 E113.90783	76 m	0:00:19	14 kph
15/4/2015 13:59	ON	N22.19464 E113.90781	80 m	0:00:20	14 kph
15/4/2015 13:59	ON	N22.19404 E113.90786	67 m	0:00:17	14 kph
15/4/2015 13:59	ON	N22.19346 E113.90777	66 m	0:00:17	14 kph
15/4/2015 13:59	ON	N22.19285 E113.90765	69 m	0:00:18	14 kph
15/4/2015 14:00	ON	N22.19221 E113.90759	72 m	0:00:19	14 kph
15/4/2015 14:00	ON	N22.19155 E113.90736	76 m	0:00:20	14 kph
15/4/2015 14:00	ON	N22.19094 E113.90694	81 m	0:00:21	14 kph
15/4/2015 14:01	ON	N22.19033 E113.90644	85 m	0:00:22	14 kph
15/4/2015 14:01	ON	N22.18971 E113.90592	87 m	0:00:22	14 kph
15/4/2015 14:02	ON	N22.18909 E113.90542	86 m	0:00:22	14 kph
15/4/2015 14:02	ON	N22.18850 E113.90499	79 m	0:00:20	14 kph
15/4/2015 14:02	ON	N22.18768 E113.90444	108 m	0:00:27	14 kph
15/4/2015 14:03	ON	N22.18685 E113.90398	104 m	0:00:26	14 kph
15/4/2015 14:03	ON	N22.18604 E113.90368	95 m	0:00:24	14 kph
15/4/2015 14:03	ON	N22.18536 E113.90348	79 m	0:00:20	14 kph
15/4/2015 14:04	ON	N22.18455 E113.90329	93 m	0:00:24	14 kph
15/4/2015 14:04	ON	N22.18375 E113.90319	89 m	0:00:23	14 kph
15/4/2015 14:05	ON	N22.18297 E113.90315	88 m	0:00:23	14 kph
15/4/2015 14:05	ON	N22.18206 E113.90312	101 m	0:00:26	14 kph
15/4/2015 14:05	ON	N22.18121 E113.90312	95 m	0:00:25	14 kph
15/4/2015 14:06	ON	N22.18052 E113.90318	77 m	0:00:20	14 kph
15/4/2015 14:06	ON	N22.17973 E113.90331	89 m	0:00:23	14 kph
15/4/2015 14:07	ON	N22.17909 E113.90360	77 m	0:00:21	13 kph
15/4/2015 14:07	ON	N22.17854 E113.90401	75 m	0:00:20	13 kph
15/4/2015 14:07	ON	N22.17797 E113.90453	83 m	0:00:22	14 kph
15/4/2015 14:08	ON	N22.17740 E113.90507	84 m	0:00:22	14 kph
15/4/2015 14:08	ON	N22.17685 E113.90572	91 m	0:00:24	14 kph
15/4/2015 14:08	ON	N22.17640 E113.90633	80 m	0:00:21	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 14:09	ON	N22.17588 E113.90698	89 m	0:00:23	14 kph
15/4/2015 14:09	ON	N22.17528 E113.90765	96 m	0:00:25	14 kph
15/4/2015 14:10	ON	N22.17467 E113.90818	87 m	0:00:22	14 kph
15/4/2015 14:10	ON	N22.17398 E113.90856	86 m	0:00:22	14 kph
15/4/2015 14:10	ON	N22.17342 E113.90853	63 m	0:00:16	14 kph
15/4/2015 14:11	ON	N22.17272 E113.90822	84 m	0:00:21	14 kph
15/4/2015 14:11	ON	N22.17199 E113.90789	88 m	0:00:22	14 kph
15/4/2015 14:11	ON	N22.17112 E113.90764	101 m	0:00:25	14 kph
15/4/2015 14:12	ON	N22.17053 E113.90718	81 m	0:00:20	15 kph
15/4/2015 14:12	ON	N22.16985 E113.90636	114 m	0:00:28	15 kph
15/4/2015 14:12	ON	N22.16933 E113.90566	92 m	0:00:23	14 kph
15/4/2015 14:13	ON	N22.16884 E113.90490	96 m	0:00:24	14 kph
15/4/2015 14:13	ON	N22.16833 E113.90404	105 m	0:00:26	15 kph
15/4/2015 14:14	ON	N22.16772 E113.90315	115 m	0:00:28	15 kph
15/4/2015 14:14	ON	N22.16712 E113.90224	115 m	0:00:28	15 kph
15/4/2015 14:15	ON	N22.16655 E113.90134	112 m	0:00:27	15 kph
15/4/2015 14:15	ON	N22.16591 E113.90052	111 m	0:00:27	15 kph
15/4/2015 14:16	ON	N22.16534 E113.89981	97 m	0:00:24	15 kph
15/4/2015 14:16	ON	N22.16471 E113.89922	92 m	0:00:23	14 kph
15/4/2015 14:16	ON	N22.16395 E113.89863	104 m	0:00:26	14 kph
15/4/2015 14:17	ON	N22.16332 E113.89817	84 m	0:00:21	14 kph
15/4/2015 14:17	ON	N22.16270 E113.89780	79 m	0:00:20	14 kph
15/4/2015 14:17	ON	N22.16182 E113.89751	103 m	0:00:26	14 kph
15/4/2015 14:18	ON	N22.16090 E113.89736	103 m	0:00:26	14 kph
15/4/2015 14:18	ON	N22.16007 E113.89735	92 m	0:00:23	14 kph
15/4/2015 14:19	ON	N22.15934 E113.89754	84 m	0:00:21	14 kph
15/4/2015 14:19	ON	N22.15879 E113.89783	68 m	0:00:17	14 kph
15/4/2015 14:19	ON	N22.15815 E113.89824	83 m	0:00:21	14 kph
15/4/2015 14:20	ON	N22.15754 E113.89875	87 m	0:00:22	14 kph
15/4/2015 14:20	ON	N22.15696 E113.89935	88 m	0:00:22	14 kph
15/4/2015 14:20	ON	N22.15651 E113.89986	73 m	0:00:18	15 kph
15/4/2015 14:21	ON	N22.15607 E113.90043	76 m	0:00:19	14 kph
15/4/2015 14:21	ON	N22.15570 E113.90106	77 m	0:00:19	15 kph
15/4/2015 14:21	ON	N22.15536 E113.90176	81 m	0:00:20	15 kph
15/4/2015 14:22	ON	N22.15502 E113.90254	89 m	0:00:22	15 kph
15/4/2015 14:22	ON	N22.15480 E113.90328	80 m	0:00:20	14 kph
15/4/2015 14:22	ON	N22.15472 E113.90391	66 m	0:00:17	14 kph
15/4/2015 14:23	ON	N22.15474 E113.90467	79 m	0:00:21	14 kph
15/4/2015 14:23	ON	N22.15482 E113.90544	80 m	0:00:21	14 kph
15/4/2015 14:23	ON	N22.15497 E113.90621	81 m	0:00:21	14 kph
15/4/2015 14:24	ON	N22.15516 E113.90679	64 m	0:00:16	14 kph
15/4/2015 14:24	ON	N22.15542 E113.90741	69 m	0:00:18	14 kph
15/4/2015 14:24	ON	N22.15535 E113.90777	38 m	0:00:12	11 kph
15/4/2015 14:24	ON	N22.15493 E113.90785	48 m	0:00:14	12 kph
15/4/2015 14:25	ON	N22.15430 E113.90780	70 m	0:00:18	14 kph
15/4/2015 14:25	ON	N22.15367 E113.90793	72 m	0:00:18	14 kph
15/4/2015 14:25	ON	N22.15283 E113.90798	94 m	0:00:23	15 kph
15/4/2015 14:26	ON	N22.15222 E113.90809	69 m	0:00:17	15 kph
15/4/2015 14:26	OFF	N22.15185 E113.90818	42 m	0:00:16	10 kph
15/4/2015 14:26	OFF	N22.15156 E113.90821	32 m	0:00:20	6 kph
15/4/2015 14:26	OFF	N22.15142 E113.90822	16 m	0:00:15	4 kph
15/4/2015 14:27	OFF	N22.15129 E113.90825	14 m	0:00:17	3 kph
15/4/2015 14:27	OFF	N22.15122 E113.90829	9 m	0:00:15	2 kph
15/4/2015 14:27	OFF	N22.15118 E113.90837	8 m	0:00:18	2 kph
15/4/2015 14:28	OFF	N22.15116 E113.90839	4 m	0:00:18	0.8 kph
15/4/2015 14:28	OFF	N22.15115 E113.90843	4 m	0:00:18	0.8 kph
15/4/2015 14:28	OFF	N22.15114 E113.90846	3 m	0:00:20	0.5 kph
15/4/2015 14:28	OFF	N22.15113 E113.90849	4 m	0:00:15	0.9 kph
15/4/2015 14:29	OFF	N22.15111 E113.90861	13 m	0:00:06	8 kph
15/4/2015 14:29	OFF	N22.15130 E113.90894	41 m	0:00:15	10 kph
15/4/2015 14:29	OFF	N22.15172 E113.90886	47 m	0:00:16	11 kph
15/4/2015 14:29	OFF	N22.15189 E113.90837	54 m	0:00:16	12 kph
15/4/2015 14:30	OFF	N22.15168 E113.90778	66 m	0:00:18	13 kph
15/4/2015 14:30	OFF	N22.15122 E113.90764	53 m	0:00:15	13 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 14:30	OFF	N22.15069 E113.90786	63 m	0:00:17	13 kph
15/4/2015 14:30	OFF	N22.15034 E113.90832	62 m	0:00:16	14 kph
15/4/2015 14:31	OFF	N22.14999 E113.90842	40 m	0:00:12	12 kph
15/4/2015 14:31	OFF	N22.14966 E113.90837	37 m	0:00:17	8 kph
15/4/2015 14:31	OFF	N22.14947 E113.90831	22 m	0:00:16	5 kph
15/4/2015 14:31	ON	N22.14920 E113.90820	32 m	0:00:16	7 kph
15/4/2015 14:32	ON	N22.14871 E113.90814	55 m	0:00:18	11 kph
15/4/2015 14:32	ON	N22.14813 E113.90811	64 m	0:00:18	13 kph
15/4/2015 14:32	ON	N22.14739 E113.90805	83 m	0:00:21	14 kph
15/4/2015 14:33	ON	N22.14673 E113.90809	74 m	0:00:18	15 kph
15/4/2015 14:33	ON	N22.14603 E113.90798	79 m	0:00:20	14 kph
15/4/2015 14:33	ON	N22.14543 E113.90799	67 m	0:00:17	14 kph
15/4/2015 14:34	ON	N22.14482 E113.90802	67 m	0:00:17	14 kph
15/4/2015 14:34	ON	N22.14416 E113.90795	75 m	0:00:19	14 kph
15/4/2015 14:34	ON	N22.14353 E113.90792	70 m	0:00:19	13 kph
15/4/2015 14:35	ON	N22.14284 E113.90799	78 m	0:00:20	14 kph
15/4/2015 14:35	ON	N22.14221 E113.90787	71 m	0:00:18	14 kph
15/4/2015 14:35	ON	N22.14176 E113.90800	52 m	0:00:14	13 kph
15/4/2015 14:35	ON	N22.14155 E113.90841	48 m	0:00:13	13 kph
15/4/2015 14:36	ON	N22.14153 E113.90912	73 m	0:00:19	14 kph
15/4/2015 14:36	ON	N22.14163 E113.90978	69 m	0:00:17	15 kph
15/4/2015 14:36	ON	N22.14165 E113.91051	75 m	0:00:18	15 kph
15/4/2015 14:37	ON	N22.14167 E113.91127	78 m	0:00:19	15 kph
15/4/2015 14:37	ON	N22.14172 E113.91201	78 m	0:00:19	15 kph
15/4/2015 14:37	ON	N22.14179 E113.91271	72 m	0:00:18	14 kph
15/4/2015 14:37	ON	N22.14188 E113.91340	73 m	0:00:18	15 kph
15/4/2015 14:38	ON	N22.14198 E113.91411	74 m	0:00:18	15 kph
15/4/2015 14:38	ON	N22.14210 E113.91498	91 m	0:00:22	15 kph
15/4/2015 14:38	ON	N22.14216 E113.91566	70 m	0:00:17	15 kph
15/4/2015 14:39	ON	N22.14220 E113.91646	82 m	0:00:20	15 kph
15/4/2015 14:39	ON	N22.14227 E113.91721	78 m	0:00:19	15 kph
15/4/2015 14:39	ON	N22.14238 E113.91783	65 m	0:00:16	15 kph
15/4/2015 14:40	ON	N22.14276 E113.91811	51 m	0:00:14	13 kph
15/4/2015 14:40	ON	N22.14346 E113.91821	79 m	0:00:20	14 kph
15/4/2015 14:40	ON	N22.14422 E113.91814	84 m	0:00:21	14 kph
15/4/2015 14:40	ON	N22.14472 E113.91818	56 m	0:00:14	15 kph
15/4/2015 14:41	ON	N22.14542 E113.91799	79 m	0:00:20	14 kph
15/4/2015 14:41	ON	N22.14600 E113.91780	68 m	0:00:17	14 kph
15/4/2015 14:41	ON	N22.14656 E113.91789	64 m	0:00:16	14 kph
15/4/2015 14:42	ON	N22.14735 E113.91810	90 m	0:00:22	15 kph
15/4/2015 14:42	ON	N22.14802 E113.91805	75 m	0:00:19	14 kph
15/4/2015 14:42	ON	N22.14879 E113.91795	86 m	0:00:21	15 kph
15/4/2015 14:43	ON	N22.14963 E113.91794	94 m	0:00:23	15 kph
15/4/2015 14:43	ON	N22.15017 E113.91790	60 m	0:00:15	14 kph
15/4/2015 14:43	ON	N22.15080 E113.91786	70 m	0:00:17	15 kph
15/4/2015 14:44	ON	N22.15144 E113.91789	72 m	0:00:18	14 kph
15/4/2015 14:44	ON	N22.15199 E113.91789	61 m	0:00:15	15 kph
15/4/2015 14:44	ON	N22.15271 E113.91788	80 m	0:00:20	14 kph
15/4/2015 14:45	ON	N22.15340 E113.91790	77 m	0:00:19	15 kph
15/4/2015 14:45	ON	N22.15409 E113.91792	77 m	0:00:19	15 kph
15/4/2015 14:45	ON	N22.15485 E113.91788	85 m	0:00:21	15 kph
15/4/2015 14:45	ON	N22.15554 E113.91789	77 m	0:00:19	15 kph
15/4/2015 14:46	ON	N22.15630 E113.91795	85 m	0:00:21	15 kph
15/4/2015 14:46	ON	N22.15710 E113.91806	90 m	0:00:22	15 kph
15/4/2015 14:46	ON	N22.15735 E113.91810	28 m	0:00:08	13 kph
15/4/2015 14:46	ON	N22.15747 E113.91811	14 m	0:00:06	8 kph
15/4/2015 14:47	ON	N22.15792 E113.91818	50 m	0:00:16	11 kph
15/4/2015 14:47	ON	N22.15868 E113.91832	86 m	0:00:21	15 kph
15/4/2015 14:47	ON	N22.15937 E113.91845	78 m	0:00:19	15 kph
15/4/2015 14:48	ON	N22.16003 E113.91857	74 m	0:00:18	15 kph
15/4/2015 14:48	ON	N22.16077 E113.91869	84 m	0:00:20	15 kph
15/4/2015 14:48	ON	N22.16151 E113.91879	83 m	0:00:20	15 kph
15/4/2015 14:49	ON	N22.16225 E113.91891	83 m	0:00:20	15 kph
15/4/2015 14:49	ON	N22.16300 E113.91902	84 m	0:00:20	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 14:49	ON	N22.16383 E113.91911	93 m	0:00:22	15 kph
15/4/2015 14:50	ON	N22.16474 E113.91921	102 m	0:00:24	15 kph
15/4/2015 14:50	ON	N22.16547 E113.91928	81 m	0:00:19	15 kph
15/4/2015 14:50	ON	N22.16635 E113.91939	98 m	0:00:23	15 kph
15/4/2015 14:51	ON	N22.16709 E113.91947	82 m	0:00:19	16 kph
15/4/2015 14:51	ON	N22.16786 E113.91952	87 m	0:00:20	16 kph
15/4/2015 14:51	ON	N22.16857 E113.91955	79 m	0:00:18	16 kph
15/4/2015 14:52	ON	N22.16936 E113.91965	89 m	0:00:21	15 kph
15/4/2015 14:52	ON	N22.17006 E113.91977	78 m	0:00:19	15 kph
15/4/2015 14:52	ON	N22.17071 E113.91988	73 m	0:00:18	15 kph
15/4/2015 14:53	ON	N22.17128 E113.92000	65 m	0:00:16	15 kph
15/4/2015 14:53	ON	N22.17211 E113.92018	94 m	0:00:23	15 kph
15/4/2015 14:53	ON	N22.17280 E113.92031	78 m	0:00:19	15 kph
15/4/2015 14:54	ON	N22.17369 E113.92050	102 m	0:00:25	15 kph
15/4/2015 14:54	ON	N22.17431 E113.92064	70 m	0:00:17	15 kph
15/4/2015 14:54	ON	N22.17483 E113.92081	61 m	0:00:15	15 kph
15/4/2015 14:55	ON	N22.17548 E113.92094	74 m	0:00:18	15 kph
15/4/2015 14:55	ON	N22.17612 E113.92108	73 m	0:00:18	15 kph
15/4/2015 14:55	ON	N22.17692 E113.92132	92 m	0:00:23	14 kph
15/4/2015 14:56	ON	N22.17765 E113.92157	85 m	0:00:21	15 kph
15/4/2015 14:56	ON	N22.17833 E113.92180	79 m	0:00:19	15 kph
15/4/2015 14:56	ON	N22.17910 E113.92196	87 m	0:00:22	14 kph
15/4/2015 14:57	ON	N22.17990 E113.92195	90 m	0:00:22	15 kph
15/4/2015 14:57	ON	N22.18060 E113.92175	80 m	0:00:20	14 kph
15/4/2015 14:57	ON	N22.18129 E113.92146	83 m	0:00:20	15 kph
15/4/2015 14:58	ON	N22.18204 E113.92115	89 m	0:00:21	15 kph
15/4/2015 14:58	ON	N22.18267 E113.92068	85 m	0:00:20	15 kph
15/4/2015 14:58	ON	N22.18329 E113.92000	98 m	0:00:23	15 kph
15/4/2015 14:59	ON	N22.18396 E113.91922	109 m	0:00:25	16 kph
15/4/2015 14:59	ON	N22.18446 E113.91849	94 m	0:00:21	16 kph
15/4/2015 15:00	ON	N22.18490 E113.91774	92 m	0:00:21	16 kph
15/4/2015 15:00	ON	N22.18531 E113.91753	50 m	0:00:13	14 kph
15/4/2015 15:00	ON	N22.18585 E113.91774	64 m	0:00:16	14 kph
15/4/2015 15:00	ON	N22.18656 E113.91804	85 m	0:00:20	15 kph
15/4/2015 15:01	ON	N22.18727 E113.91807	79 m	0:00:19	15 kph
15/4/2015 15:01	ON	N22.18819 E113.91796	103 m	0:00:24	16 kph
15/4/2015 15:01	ON	N22.18915 E113.91792	107 m	0:00:25	15 kph
15/4/2015 15:02	ON	N22.18996 E113.91792	90 m	0:00:21	15 kph
15/4/2015 15:02	ON	N22.19068 E113.91794	80 m	0:00:19	15 kph
15/4/2015 15:02	ON	N22.19129 E113.91788	68 m	0:00:16	15 kph
15/4/2015 15:03	ON	N22.19211 E113.91784	91 m	0:00:22	15 kph
15/4/2015 15:03	ON	N22.19289 E113.91776	87 m	0:00:21	15 kph
15/4/2015 15:03	ON	N22.19351 E113.91778	69 m	0:00:17	15 kph
15/4/2015 15:04	ON	N22.19416 E113.91784	73 m	0:00:18	15 kph
15/4/2015 15:04	ON	N22.19482 E113.91778	74 m	0:00:18	15 kph
15/4/2015 15:04	ON	N22.19548 E113.91782	74 m	0:00:18	15 kph
15/4/2015 15:05	ON	N22.19629 E113.91789	90 m	0:00:22	15 kph
15/4/2015 15:05	ON	N22.19684 E113.91785	62 m	0:00:15	15 kph
15/4/2015 15:05	ON	N22.19761 E113.91778	86 m	0:00:21	15 kph
15/4/2015 15:06	ON	N22.19842 E113.91786	91 m	0:00:22	15 kph
15/4/2015 15:06	ON	N22.19921 E113.91785	87 m	0:00:21	15 kph
15/4/2015 15:06	ON	N22.20007 E113.91782	96 m	0:00:23	15 kph
15/4/2015 15:07	ON	N22.20082 E113.91786	83 m	0:00:20	15 kph
15/4/2015 15:07	ON	N22.20166 E113.91786	94 m	0:00:23	15 kph
15/4/2015 15:07	ON	N22.20241 E113.91783	83 m	0:00:20	15 kph
15/4/2015 15:08	ON	N22.20342 E113.91784	113 m	0:00:27	15 kph
15/4/2015 15:08	ON	N22.20429 E113.91793	97 m	0:00:23	15 kph
15/4/2015 15:09	ON	N22.20504 E113.91807	85 m	0:00:21	15 kph
15/4/2015 15:09	ON	N22.20532 E113.91850	54 m	0:00:15	13 kph
15/4/2015 15:09	ON	N22.20539 E113.91909	62 m	0:00:16	14 kph
15/4/2015 15:09	ON	N22.20538 E113.91951	43 m	0:00:11	14 kph
15/4/2015 15:09	ON	N22.20535 E113.91988	37 m	0:00:10	13 kph
15/4/2015 15:10	ON	N22.20528 E113.92034	48 m	0:00:13	13 kph
15/4/2015 15:10	ON	N22.20523 E113.92089	57 m	0:00:15	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 15:10	ON	N22.20523 E113.92159	72 m	0:00:19	14 kph
15/4/2015 15:11	ON	N22.20520 E113.92229	72 m	0:00:19	14 kph
15/4/2015 15:11	ON	N22.20514 E113.92286	60 m	0:00:16	13 kph
15/4/2015 15:11	ON	N22.20517 E113.92347	62 m	0:00:17	13 kph
15/4/2015 15:11	ON	N22.20524 E113.92409	64 m	0:00:17	14 kph
15/4/2015 15:12	ON	N22.20529 E113.92460	53 m	0:00:14	14 kph
15/4/2015 15:12	ON	N22.20536 E113.92534	77 m	0:00:20	14 kph
15/4/2015 15:12	ON	N22.20543 E113.92608	77 m	0:00:20	14 kph
15/4/2015 15:13	ON	N22.20550 E113.92671	65 m	0:00:17	14 kph
15/4/2015 15:13	ON	N22.20543 E113.92716	47 m	0:00:13	13 kph
15/4/2015 15:13	ON	N22.20494 E113.92753	66 m	0:00:17	14 kph
15/4/2015 15:13	ON	N22.20442 E113.92758	59 m	0:00:15	14 kph
15/4/2015 15:14	ON	N22.20388 E113.92752	60 m	0:00:15	14 kph
15/4/2015 15:14	ON	N22.20331 E113.92759	64 m	0:00:16	14 kph
15/4/2015 15:14	ON	N22.20278 E113.92764	59 m	0:00:15	14 kph
15/4/2015 15:14	ON	N22.20216 E113.92762	69 m	0:00:17	15 kph
15/4/2015 15:15	ON	N22.20150 E113.92758	73 m	0:00:18	15 kph
15/4/2015 15:15	ON	N22.20089 E113.92759	68 m	0:00:17	14 kph
15/4/2015 15:15	ON	N22.20015 E113.92756	82 m	0:00:20	15 kph
15/4/2015 15:16	ON	N22.19938 E113.92759	86 m	0:00:21	15 kph
15/4/2015 15:16	ON	N22.19858 E113.92755	89 m	0:00:22	15 kph
15/4/2015 15:16	ON	N22.19778 E113.92751	89 m	0:00:22	15 kph
15/4/2015 15:17	ON	N22.19706 E113.92752	80 m	0:00:20	14 kph
15/4/2015 15:17	ON	N22.19644 E113.92754	69 m	0:00:17	15 kph
15/4/2015 15:17	ON	N22.19568 E113.92749	85 m	0:00:21	15 kph
15/4/2015 15:18	ON	N22.19489 E113.92745	88 m	0:00:22	14 kph
15/4/2015 15:18	ON	N22.19423 E113.92746	73 m	0:00:18	15 kph
15/4/2015 15:18	ON	N22.19362 E113.92749	68 m	0:00:17	14 kph
15/4/2015 15:19	ON	N22.19287 E113.92753	84 m	0:00:21	14 kph
15/4/2015 15:19	ON	N22.19208 E113.92756	88 m	0:00:22	14 kph
15/4/2015 15:19	ON	N22.19146 E113.92752	69 m	0:00:17	15 kph
15/4/2015 15:20	ON	N22.19090 E113.92746	63 m	0:00:16	14 kph
15/4/2015 15:20	ON	N22.19023 E113.92745	74 m	0:00:19	14 kph
15/4/2015 15:20	ON	N22.18955 E113.92746	75 m	0:00:19	14 kph
15/4/2015 15:20	ON	N22.18905 E113.92747	56 m	0:00:14	14 kph
15/4/2015 15:21	ON	N22.18826 E113.92747	88 m	0:00:22	14 kph
15/4/2015 15:21	ON	N22.18758 E113.92747	76 m	0:00:19	14 kph
15/4/2015 15:21	ON	N22.18693 E113.92747	72 m	0:00:18	14 kph
15/4/2015 15:22	ON	N22.18617 E113.92746	84 m	0:00:21	14 kph
15/4/2015 15:22	ON	N22.18545 E113.92750	80 m	0:00:20	14 kph
15/4/2015 15:22	ON	N22.18469 E113.92756	85 m	0:00:21	15 kph
15/4/2015 15:23	ON	N22.18408 E113.92755	68 m	0:00:17	14 kph
15/4/2015 15:23	ON	N22.18341 E113.92754	75 m	0:00:19	14 kph
15/4/2015 15:23	ON	N22.18282 E113.92749	66 m	0:00:17	14 kph
15/4/2015 15:24	ON	N22.18212 E113.92751	78 m	0:00:20	14 kph
15/4/2015 15:24	ON	N22.18138 E113.92760	83 m	0:00:21	14 kph
15/4/2015 15:24	ON	N22.18058 E113.92772	90 m	0:00:23	14 kph
15/4/2015 15:25	ON	N22.17999 E113.92779	66 m	0:00:17	14 kph
15/4/2015 15:25	ON	N22.17939 E113.92775	67 m	0:00:17	14 kph
15/4/2015 15:25	ON	N22.17864 E113.92765	84 m	0:00:21	14 kph
15/4/2015 15:26	ON	N22.17790 E113.92763	83 m	0:00:21	14 kph
15/4/2015 15:26	ON	N22.17732 E113.92762	65 m	0:00:16	15 kph
15/4/2015 15:26	ON	N22.17651 E113.92757	90 m	0:00:22	15 kph
15/4/2015 15:27	ON	N22.17589 E113.92753	69 m	0:00:17	15 kph
15/4/2015 15:27	ON	N22.17518 E113.92753	78 m	0:00:19	15 kph
15/4/2015 15:27	ON	N22.17456 E113.92754	70 m	0:00:17	15 kph
15/4/2015 15:28	ON	N22.17390 E113.92757	74 m	0:00:18	15 kph
15/4/2015 15:28	ON	N22.17312 E113.92759	86 m	0:00:21	15 kph
15/4/2015 15:28	ON	N22.17261 E113.92757	57 m	0:00:14	15 kph
15/4/2015 15:28	ON	N22.17191 E113.92755	78 m	0:00:19	15 kph
15/4/2015 15:29	ON	N22.17114 E113.92755	86 m	0:00:21	15 kph
15/4/2015 15:29	ON	N22.17053 E113.92758	68 m	0:00:17	14 kph
15/4/2015 15:29	ON	N22.16993 E113.92762	67 m	0:00:17	14 kph
15/4/2015 15:30	ON	N22.16922 E113.92766	79 m	0:00:20	14 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 15:30	ON	N22.16858 E113.92767	72 m	0:00:18	14 kph
15/4/2015 15:30	ON	N22.16790 E113.92767	76 m	0:00:19	14 kph
15/4/2015 15:31	ON	N22.16712 E113.92762	87 m	0:00:22	14 kph
15/4/2015 15:31	ON	N22.16636 E113.92758	84 m	0:00:21	14 kph
15/4/2015 15:31	ON	N22.16560 E113.92756	85 m	0:00:21	15 kph
15/4/2015 15:32	ON	N22.16483 E113.92756	85 m	0:00:21	15 kph
15/4/2015 15:32	ON	N22.16408 E113.92754	84 m	0:00:21	14 kph
15/4/2015 15:32	ON	N22.16341 E113.92752	75 m	0:00:19	14 kph
15/4/2015 15:33	ON	N22.16273 E113.92750	75 m	0:00:19	14 kph
15/4/2015 15:33	ON	N22.16210 E113.92752	70 m	0:00:18	14 kph
15/4/2015 15:33	ON	N22.16142 E113.92756	76 m	0:00:19	14 kph
15/4/2015 15:34	ON	N22.16067 E113.92761	84 m	0:00:21	14 kph
15/4/2015 15:34	ON	N22.15996 E113.92765	79 m	0:00:20	14 kph
15/4/2015 15:34	ON	N22.15929 E113.92765	75 m	0:00:19	14 kph
15/4/2015 15:35	ON	N22.15855 E113.92763	82 m	0:00:21	14 kph
15/4/2015 15:35	ON	N22.15785 E113.92761	78 m	0:00:20	14 kph
15/4/2015 15:35	ON	N22.15718 E113.92761	75 m	0:00:19	14 kph
15/4/2015 15:36	ON	N22.15647 E113.92764	79 m	0:00:20	14 kph
15/4/2015 15:36	ON	N22.15587 E113.92768	67 m	0:00:17	14 kph
15/4/2015 15:36	ON	N22.15524 E113.92775	70 m	0:00:18	14 kph
15/4/2015 15:37	ON	N22.15450 E113.92775	83 m	0:00:21	14 kph
15/4/2015 15:37	ON	N22.15386 E113.92770	71 m	0:00:18	14 kph
15/4/2015 15:37	ON	N22.15321 E113.92769	72 m	0:00:18	14 kph
15/4/2015 15:37	ON	N22.15250 E113.92768	79 m	0:00:20	14 kph
15/4/2015 15:38	ON	N22.15189 E113.92766	68 m	0:00:17	14 kph
15/4/2015 15:38	ON	N22.15129 E113.92761	67 m	0:00:17	14 kph
15/4/2015 15:38	ON	N22.15058 E113.92749	80 m	0:00:20	14 kph
15/4/2015 15:39	ON	N22.15005 E113.92749	59 m	0:00:15	14 kph
15/4/2015 15:39	ON	N22.14927 E113.92762	87 m	0:00:22	14 kph
15/4/2015 15:39	ON	N22.14863 E113.92759	71 m	0:00:18	14 kph
15/4/2015 15:40	ON	N22.14806 E113.92757	64 m	0:00:16	15 kph
15/4/2015 15:40	ON	N22.14734 E113.92760	80 m	0:00:20	14 kph
15/4/2015 15:40	ON	N22.14655 E113.92764	88 m	0:00:22	14 kph
15/4/2015 15:41	ON	N22.14594 E113.92768	68 m	0:00:17	14 kph
15/4/2015 15:41	ON	N22.14519 E113.92763	84 m	0:00:21	14 kph
15/4/2015 15:41	ON	N22.14462 E113.92765	64 m	0:00:16	14 kph
15/4/2015 15:41	ON	N22.14409 E113.92772	59 m	0:00:15	14 kph
15/4/2015 15:42	ON	N22.14344 E113.92773	72 m	0:00:18	14 kph
15/4/2015 15:42	ON	N22.14276 E113.92776	76 m	0:00:20	14 kph
15/4/2015 15:42	ON	N22.14263 E113.92814	42 m	0:00:13	12 kph
15/4/2015 15:43	ON	N22.14282 E113.92865	56 m	0:00:15	14 kph
15/4/2015 15:43	ON	N22.14314 E113.92915	63 m	0:00:16	14 kph
15/4/2015 15:43	ON	N22.14357 E113.92963	68 m	0:00:17	14 kph
15/4/2015 15:43	ON	N22.14401 E113.93021	77 m	0:00:19	15 kph
15/4/2015 15:44	ON	N22.14438 E113.93073	68 m	0:00:17	14 kph
15/4/2015 15:44	ON	N22.14481 E113.93127	73 m	0:00:18	15 kph
15/4/2015 15:44	ON	N22.14521 E113.93172	65 m	0:00:16	15 kph
15/4/2015 15:44	ON	N22.14560 E113.93213	61 m	0:00:15	15 kph
15/4/2015 15:45	ON	N22.14621 E113.93272	90 m	0:00:22	15 kph
15/4/2015 15:45	ON	N22.14669 E113.93320	74 m	0:00:18	15 kph
15/4/2015 15:45	ON	N22.14724 E113.93373	82 m	0:00:20	15 kph
15/4/2015 15:46	ON	N22.14772 E113.93423	74 m	0:00:18	15 kph
15/4/2015 15:46	ON	N22.14812 E113.93483	77 m	0:00:19	15 kph
15/4/2015 15:46	ON	N22.14847 E113.93533	64 m	0:00:16	14 kph
15/4/2015 15:47	ON	N22.14891 E113.93581	69 m	0:00:17	15 kph
15/4/2015 15:47	ON	N22.14947 E113.93625	77 m	0:00:19	15 kph
15/4/2015 15:47	ON	N22.15007 E113.93635	68 m	0:00:17	14 kph
15/4/2015 15:48	ON	N22.15079 E113.93648	81 m	0:00:20	15 kph
15/4/2015 15:48	ON	N22.15145 E113.93682	82 m	0:00:20	15 kph
15/4/2015 15:48	ON	N22.15212 E113.93682	74 m	0:00:18	15 kph
15/4/2015 15:49	ON	N22.15283 E113.93684	79 m	0:00:19	15 kph
15/4/2015 15:49	ON	N22.15365 E113.93690	91 m	0:00:22	15 kph
15/4/2015 15:49	ON	N22.15436 E113.93688	79 m	0:00:19	15 kph
15/4/2015 15:50	ON	N22.15512 E113.93687	85 m	0:00:20	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 15:50	ON	N22.15596 E113.93684	93 m	0:00:22	15 kph
15/4/2015 15:50	ON	N22.15675 E113.93690	88 m	0:00:21	15 kph
15/4/2015 15:51	ON	N22.15731 E113.93694	63 m	0:00:15	15 kph
15/4/2015 15:51	ON	N22.15804 E113.93693	81 m	0:00:19	15 kph
15/4/2015 15:51	ON	N22.15876 E113.93695	80 m	0:00:19	15 kph
15/4/2015 15:51	ON	N22.15936 E113.93693	67 m	0:00:16	15 kph
15/4/2015 15:52	ON	N22.16008 E113.93692	80 m	0:00:19	15 kph
15/4/2015 15:52	ON	N22.16088 E113.93688	90 m	0:00:21	15 kph
15/4/2015 15:52	ON	N22.16164 E113.93682	85 m	0:00:20	15 kph
15/4/2015 15:53	ON	N22.16240 E113.93679	85 m	0:00:20	15 kph
15/4/2015 15:53	ON	N22.16311 E113.93682	79 m	0:00:19	15 kph
15/4/2015 15:53	ON	N22.16379 E113.93685	76 m	0:00:18	15 kph
15/4/2015 15:54	ON	N22.16444 E113.93685	72 m	0:00:17	15 kph
15/4/2015 15:54	ON	N22.16528 E113.93680	93 m	0:00:22	15 kph
15/4/2015 15:54	ON	N22.16607 E113.93676	88 m	0:00:21	15 kph
15/4/2015 15:55	ON	N22.16674 E113.93680	75 m	0:00:18	15 kph
15/4/2015 15:55	ON	N22.16744 E113.93688	78 m	0:00:19	15 kph
15/4/2015 15:55	ON	N22.16807 E113.93693	71 m	0:00:17	15 kph
15/4/2015 15:56	ON	N22.16871 E113.93694	71 m	0:00:17	15 kph
15/4/2015 15:56	ON	N22.16938 E113.93692	75 m	0:00:18	15 kph
15/4/2015 15:56	ON	N22.17006 E113.93691	76 m	0:00:18	15 kph
15/4/2015 15:56	ON	N22.17073 E113.93692	75 m	0:00:18	15 kph
15/4/2015 15:57	ON	N22.17149 E113.93693	84 m	0:00:20	15 kph
15/4/2015 15:57	ON	N22.17223 E113.93692	83 m	0:00:20	15 kph
15/4/2015 15:57	ON	N22.17290 E113.93692	75 m	0:00:18	15 kph
15/4/2015 15:58	ON	N22.17361 E113.93694	78 m	0:00:19	15 kph
15/4/2015 15:58	ON	N22.17419 E113.93692	65 m	0:00:16	15 kph
15/4/2015 15:58	ON	N22.17489 E113.93688	78 m	0:00:19	15 kph
15/4/2015 15:59	ON	N22.17556 E113.93688	74 m	0:00:18	15 kph
15/4/2015 15:59	ON	N22.17620 E113.93689	70 m	0:00:17	15 kph
15/4/2015 15:59	ON	N22.17686 E113.93690	75 m	0:00:18	15 kph
15/4/2015 16:00	ON	N22.17761 E113.93686	83 m	0:00:20	15 kph
15/4/2015 16:00	ON	N22.17840 E113.93677	88 m	0:00:21	15 kph
15/4/2015 16:00	ON	N22.17900 E113.93673	67 m	0:00:16	15 kph
15/4/2015 16:00	ON	N22.17960 E113.93675	67 m	0:00:16	15 kph
15/4/2015 16:01	ON	N22.18031 E113.93676	79 m	0:00:19	15 kph
15/4/2015 16:01	ON	N22.18095 E113.93682	71 m	0:00:17	15 kph
15/4/2015 16:01	ON	N22.18170 E113.93683	84 m	0:00:20	15 kph
15/4/2015 16:02	ON	N22.18245 E113.93677	84 m	0:00:20	15 kph
15/4/2015 16:02	ON	N22.18316 E113.93681	79 m	0:00:19	15 kph
15/4/2015 16:02	ON	N22.18381 E113.93683	72 m	0:00:17	15 kph
15/4/2015 16:03	ON	N22.18460 E113.93678	88 m	0:00:21	15 kph
15/4/2015 16:03	ON	N22.18529 E113.93675	77 m	0:00:18	15 kph
15/4/2015 16:03	ON	N22.18602 E113.93678	81 m	0:00:19	15 kph
15/4/2015 16:04	ON	N22.18666 E113.93682	71 m	0:00:17	15 kph
15/4/2015 16:04	ON	N22.18723 E113.93683	63 m	0:00:15	15 kph
15/4/2015 16:04	ON	N22.18795 E113.93681	80 m	0:00:19	15 kph
15/4/2015 16:04	ON	N22.18866 E113.93686	79 m	0:00:19	15 kph
15/4/2015 16:05	ON	N22.18922 E113.93691	62 m	0:00:15	15 kph
15/4/2015 16:05	ON	N22.18981 E113.93691	66 m	0:00:16	15 kph
15/4/2015 16:05	ON	N22.19053 E113.93687	80 m	0:00:19	15 kph
15/4/2015 16:06	ON	N22.19117 E113.93688	72 m	0:00:17	15 kph
15/4/2015 16:06	ON	N22.19189 E113.93693	80 m	0:00:19	15 kph
15/4/2015 16:06	ON	N22.19263 E113.93693	83 m	0:00:20	15 kph
15/4/2015 16:07	ON	N22.19337 E113.93685	83 m	0:00:20	15 kph
15/4/2015 16:07	ON	N22.19411 E113.93682	82 m	0:00:20	15 kph
15/4/2015 16:07	ON	N22.19497 E113.93678	95 m	0:00:23	15 kph
15/4/2015 16:08	ON	N22.19584 E113.93679	97 m	0:00:23	15 kph
15/4/2015 16:08	ON	N22.19659 E113.93676	84 m	0:00:20	15 kph
15/4/2015 16:08	ON	N22.19733 E113.93676	83 m	0:00:20	15 kph
15/4/2015 16:08	ON	N22.19776 E113.93681	49 m	0:00:12	15 kph
15/4/2015 16:09	ON	N22.19839 E113.93684	70 m	0:00:17	15 kph
15/4/2015 16:09	ON	N22.19913 E113.93677	83 m	0:00:20	15 kph
15/4/2015 16:09	ON	N22.19988 E113.93684	83 m	0:00:20	15 kph

Appendix I. (cont'd)

Date & Time	EFFORT	Position	Leg Length	Leg Time	Leg Speed
15/4/2015 16:10	ON	N22.20061 E113.93691	82 m	0:00:20	15 kph
15/4/2015 16:10	ON	N22.20139 E113.93686	87 m	0:00:21	15 kph
15/4/2015 16:10	ON	N22.20220 E113.93690	91 m	0:00:22	15 kph
15/4/2015 16:11	ON	N22.20307 E113.93689	97 m	0:00:23	15 kph
15/4/2015 16:11	ON	N22.20390 E113.93690	92 m	0:00:22	15 kph
15/4/2015 16:12	ON	N22.20480 E113.93688	100 m	0:00:24	15 kph
15/4/2015 16:12	ON	N22.20562 E113.93691	91 m	0:00:22	15 kph
15/4/2015 16:12	ON	N22.20656 E113.93695	104 m	0:00:25	15 kph
15/4/2015 16:13	ON	N22.20741 E113.93697	95 m	0:00:23	15 kph
15/4/2015 16:13	ON	N22.20819 E113.93694	87 m	0:00:21	15 kph
15/4/2015 16:14	ON	N22.20895 E113.93691	85 m	0:00:21	15 kph
15/4/2015 16:14	ON	N22.20986 E113.93693	101 m	0:00:25	15 kph
15/4/2015 16:14	ON	N22.21056 E113.93691	78 m	0:00:19	15 kph
15/4/2015 16:15	ON	N22.21128 E113.93692	80 m	0:00:20	14 kph
15/4/2015 16:15	ON	N22.21217 E113.93700	100 m	0:00:25	14 kph
15/4/2015 16:15	ON	N22.21305 E113.93704	97 m	0:00:24	15 kph
15/4/2015 16:16	ON	N22.21377 E113.93702	81 m	0:00:20	15 kph
15/4/2015 16:16	ON	N22.21450 E113.93696	81 m	0:00:20	15 kph
15/4/2015 16:16	ON	N22.21511 E113.93694	68 m	0:00:17	14 kph
15/4/2015 16:17	ON	N22.21595 E113.93684	94 m	0:00:23	15 kph
15/4/2015 16:17	ON	N22.21673 E113.93686	87 m	0:00:22	14 kph
15/4/2015 16:18	ON	N22.21773 E113.93681	111 m	0:00:27	15 kph
15/4/2015 16:18	ON	N22.21867 E113.93679	105 m	0:00:26	15 kph
15/4/2015 16:18	ON	N22.21963 E113.93675	106 m	0:00:26	15 kph
15/4/2015 16:19	ON	N22.22055 E113.93671	102 m	0:00:25	15 kph
15/4/2015 16:19	ON	N22.22137 E113.93674	91 m	0:00:23	14 kph
15/4/2015 16:20	ON	N22.22226 E113.93685	101 m	0:00:25	14 kph
15/4/2015 16:20	ON	N22.22312 E113.93697	96 m	0:00:24	14 kph
15/4/2015 16:20	ON	N22.22339 E113.93730	45 m	0:00:13	13 kph

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

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

DATE	AREA	BEAU	EFFORT	SEASON	VESSEL	TYPE	P/S
13-Apr-15	SW LANTAU	2	2.90	SPRING	STANDARD31516	HKCRP	P
13-Apr-15	SW LANTAU	3	12.52	SPRING	STANDARD31516	HKCRP	P
13-Apr-15	SW LANTAU	4	4.96	SPRING	STANDARD31516	HKCRP	P
13-Apr-15	SW LANTAU	2	1.40	SPRING	STANDARD31516	HKCRP	S
13-Apr-15	SW LANTAU	3	5.85	SPRING	STANDARD31516	HKCRP	S
13-Apr-15	SW LANTAU	4	2.22	SPRING	STANDARD31516	HKCRP	S
15-Apr-15	SW LANTAU	1	2.67	SPRING	STANDARD31516	HYD-HZMB	P
15-Apr-15	SW LANTAU	2	49.88	SPRING	STANDARD31516	HYD-HZMB	P
15-Apr-15	SW LANTAU	1	0.60	SPRING	STANDARD31516	HYD-HZMB	S
15-Apr-15	SW LANTAU	2	14.16	SPRING	STANDARD31516	HYD-HZMB	S
21-Apr-15	SW LANTAU	1	2.99	SPRING	STANDARD31516	HKCRP	P
21-Apr-15	SW LANTAU	2	12.38	SPRING	STANDARD31516	HKCRP	P
21-Apr-15	SW LANTAU	3	1.15	SPRING	STANDARD31516	HKCRP	P
21-Apr-15	SW LANTAU	1	2.20	SPRING	STANDARD31516	HKCRP	S
21-Apr-15	SW LANTAU	2	9.70	SPRING	STANDARD31516	HKCRP	S
21-Apr-15	SW LANTAU	3	2.51	SPRING	STANDARD31516	HKCRP	S
27-Apr-15	SW LANTAU	3	13.85	SPRING	STANDARD31516	HKCRP	P
27-Apr-15	SW LANTAU	4	1.22	SPRING	STANDARD31516	HKCRP	P
27-Apr-15	SW LANTAU	3	1.22	SPRING	STANDARD31516	HKCRP	S

Appendix III. Chinese White Dolphin Sighting Database in SWL (April 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
13-Apr-15	1	1315	1	SW LANTAU	3	46	ON	HKCRP	806183	802518	SPRING	NONE	S
15-Apr-15	1	1127	1	SW LANTAU	1	61	ON	HYD-HZMB	806679	803715	SPRING	NONE	S
15-Apr-15	2	1220	2	SW LANTAU	2	50	ON	HYD-HZMB	807804	805677	SPRING	NONE	S
15-Apr-15	3	1242	2	SW LANTAU	2	123	ON	HYD-HZMB	806707	806500	SPRING	NONE	P
15-Apr-15	4	1322	2	SW LANTAU	2	253	ON	HYD-HZMB	803726	807401	SPRING	NONE	P

Appendix IV. Individual dolphins identified during HYD-HZMB monitoring surveys in April 2015

ID#	DATE	STG#	AREA
SL50	15/04/15	2	SW LANTAU
	15/04/15	4	SW LANTAU
WL221	15/04/15	1	SW LANTAU

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