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COURSE MEASUREMENT REPORT:
Podgorica Halfmarathon 2010

I measured the whole course of the „Podgorica Halfmarathon" from the start to the finish. I was accompanied by the organisators (two cars). At km 15 the bicycle broke, so I need another bike. We made a new calibration course and a new calibration and went afterwards from km 15 to the finish.

Course measurement data sheet

NAME OF COURSE: Podgorica Halfmarathon 2010

ADVERTISED RACE DISTANCE: 21097,5 m

LOCATION OF START: U. Slobode 72

LOCATION OF FINISH (IF DIFFERENT): Danilovgrad; U. Baja Sekulica

DIFFERENCE IN HEIGTH BETWEEN START AND FINISH: 14m

DIFFERENCE IN DISTANCE BETWEEN START AND FINISH: 20 km

RACE DIRECTOR (IF COURSE IS MEASURED FOR SPECIFIC EVENT)

NAME: Milan Madžgalj (maraton@t-com.me)
ADRESS: 19. Decembra no 21 81000, Podgorica

TYPE OF TERRAIN; ~~FLAT~~ ROLLING ~~HILLY~~

ALTITUDE: START: 44 m HIGHEST: 65 m LOWEST: 44 m FINISH: 60 m

TYPE OF COURSE: ~~OUT & BACK~~ POINT TO POINT ~~LOOP COURSE~~

DATE OF THE EVENT: 31. 10. 2010

DATE MEASURED: 24.10.2010

START TIME:	09:30 am	**TEMPERATURE:**	19 °C
FINISH TIME:	01:30 pm	**TEMPERATURE:**	21 °C

Measurement 1:
start (U. Slobode 72) → km 15 at Lazine

START COUNT: **510000**
FINISH: **675815**

DIFFERENCE: **165815** → **14999,94m**

CONSTANT FOR THE DAY: 11054,37667 counts/km

Measurement 2:
km 15 at Lazine → finish at Danilovgrad (U. Baja Sekuica)

START COUNT: **696000**
FINISH: **774945**

DIFFERENCE: **78945** → **6100,45m**

CONSTANT FOR THE DAY: 12940,84458 per km

Calculation:

Measurement 1: 14999,94m
Measurement 2: 6100,45m
21100,39m

The halfmarathon is too long: 2,89m

We moved the finish line.

Measured Point	Recorded Count	Count Elapsed since previous Point	Interval Length Metres	Cumulative Length Metres
Beginning of the measurement → km 5 (Vranjske njive)	510000 → 565272	55272	5000,01	5000,01
Km 5 → Km 10 (Grbe)	565272 →620544	55272	5000,01	10000,02
Km 10 → Km 15 (Kosici)	620544 → 675816	55272	5000,01	15000,03
New bicycle, new constant of the day: 12940,84458				
Km 15 → Km 20 (Skola Danilovgrad)	696000 → 760734	64734	5002,30	20002,33
Km 20 → Km 21,0975 (Opstina „Kafe Bar“ Kordoba)	760735 → 774945	14210	1098,06	21100,39

Detail of calibration course 1

NAME OF EVENT: Podgorica Halfmarathon 2010

DATE OF THE EVENT: 31.10.2010

NAME OF CALIBRATION COURSE: Cemovsko polje

LENGTH OF CALIBRATION COURSE: 300m

CITY: Podgorica

DATE MEASURED: 23.10.2010

METHOD USED TO MEASURE CALIBRATION COURSE: steel tape

HOW ARE START AND FINISH POINTS MARKED; by nails

MEASURING TEAM LEADER: Rainer Soos

OFFICIAL AIMS/IAAF COURSE MEASURER:

Rainer Soos
Kanzelweg 8
9220 Velden am Wörthersee
Tel: 0043 699 12 11 13 40

Detail of calibration course 2

NAME OF EVENT: Podgorica Halfmarathon 2010

DATE OF THE EVENT: 31.10.2010

NAME OF CALIBRATION COURSE: Lazine

LENGTH OF CALIBRATION COURSE: 300m

CITY: Lazine

DATE MEASURED: 24.10.2010

METHOD USED TO MEASURE CALIBRATION COURSE: steel tape

HOW ARE START AND FINISH POINTS MARKED; by nails

MEASURING TEAM LEADER: Rainer Soos

OFFICIAL AIMS/IAAF COURSE MEASURER:

Rainer Soos
Kanzelweg 8
9220 Velden am Wörthersee
Tel: 0043 699 12 11 13 40

Bicycle calibration data sheet

DATE OF MEASUREMENT: 24.10.2010

LENGTH OF CALIBRATION COURSE: 300m

PRE – MEASUREMENT 1:

RIDE	START COUNT	FINISH COUNT	DIFFERENCE
1	494600	497914	3314
2	497914	501226	3312
3	501226	504539	3313
4	504539	507852	3313

time of day: 09:15 am **temperature:** 17°C

PRE–MEASUREMENT AVERAGE COUNT:

13252 : 4 = 3313 = 11043,3333 / km
11043,3333 x 1,001 = 11054,37667 **WORKING CONSTANT**

PRE – MEASUREMENT 2 : (I need a new calibration, because, the bike brake down at km 15)

RIDE	START COUNT	FINISH COUNT	DIFFERENCE
1	678500	682380	3880
2	682380	686260	3880
3	686260	690139	3879
4	690139	694021	3882

time of day: 12:15 am **temperature:** 20°C

PRE–MEASUREMENT AVERAGE COUNT 2:

15521 : 4 = 3880,25 = 12934,16667 / km
12934,16667 x 1,001 = 12947,10083 **WORKING CONSTANT**

POST – MEASUREMENT 2:

RIDE	START COUNT	FINISH COUNT	DIFFERENCE
1	775700	779578	3878
2	779578	783455	3877
3	783445	787330	3877
4	787330	791206	3876

time of day: 01:20 pm **temperature:** 14°C

POST-MEASUREMENT AVERAGE COUNT:

15506 : 4 = 3876,5 = 12921,66667 / km
12921,66667 x 1,001 = 12934,58833 **FINISHING CONSTANT**

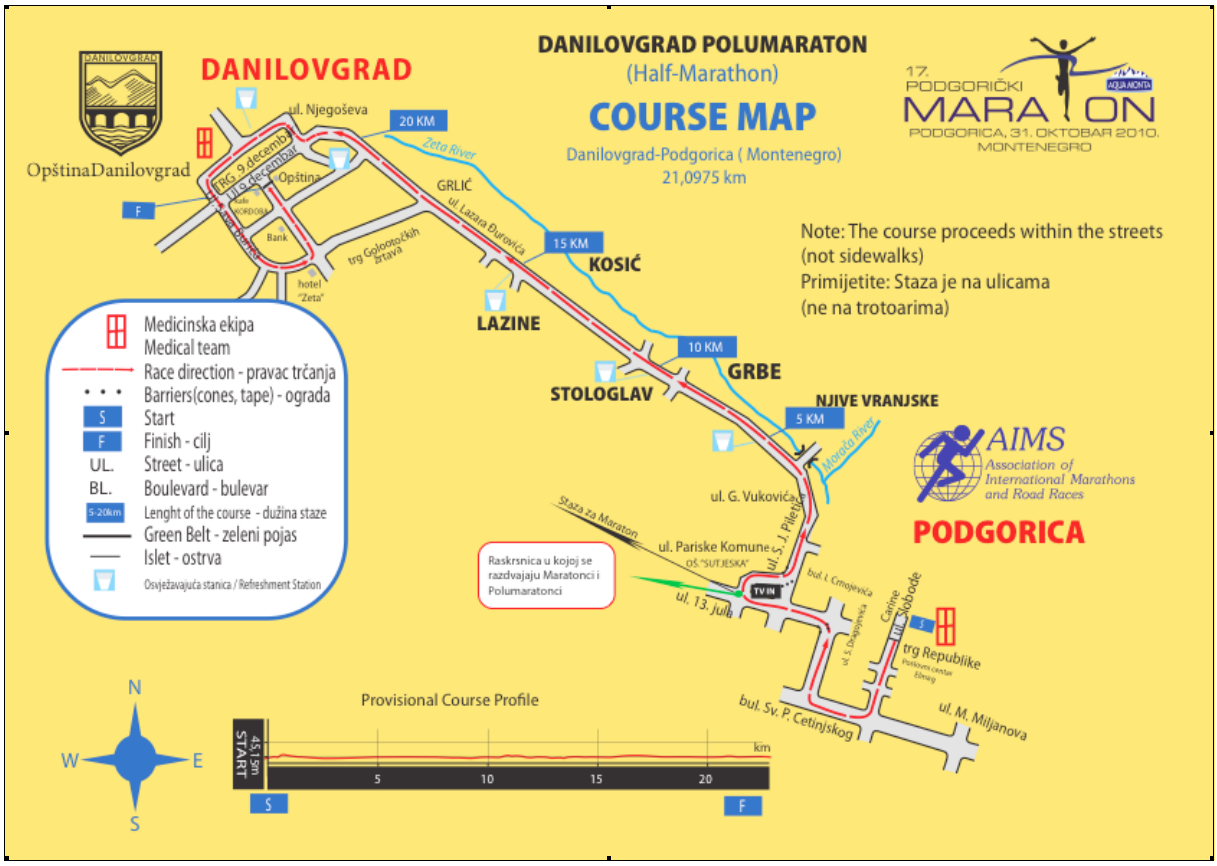
CONSTANT OF THE DAY: **12940,84458 per km**

average of both Working Constant and Finishing Constant = Constant of the Day

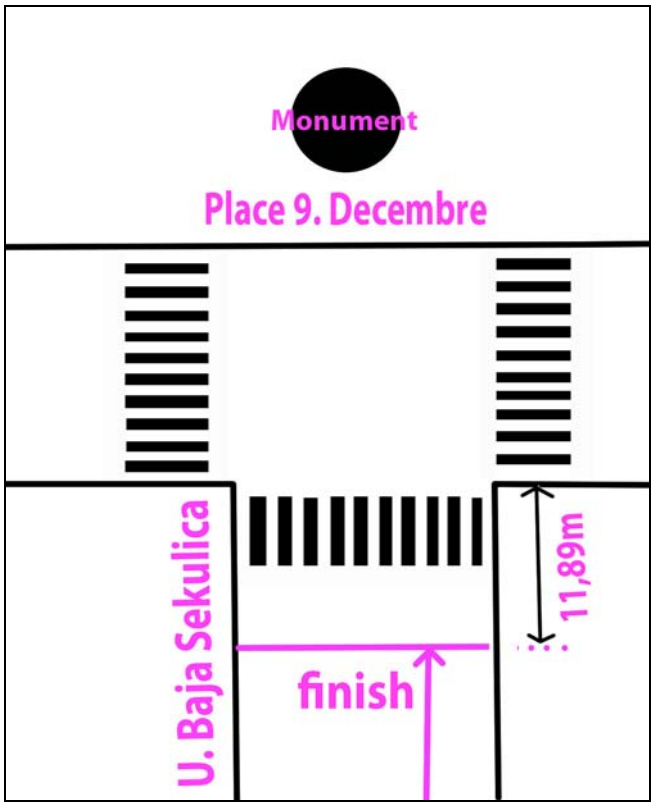
Description of the course

Start: in front of U. Slobode 72; 19,7m in front of U. Hercegovacka.

U. Slobode → bul. Sv.P.Cetinjskog → U. S.Dragojevica → Millenium Bridge → U. 13. Julia → U. S.J.Piletica → Njeve Vranicke → Grbe → Stologlav → Lazine → Grlic → Danilovgrad: U. Njegoseva → Save Burica → U. Baja Sekulica



Finish at Danilovgrad: U. Baja Sekulica: 11,89m in front of Place 9. Decembre



IAAF

ROAD RACE
COURSE MEASUREMENT
CERTIFICATE

Name of Race:	**Podgorica Halfmarathon 2010**		
Location:	**Podgorica**	Country:	**Montenegro**
Date of Race:	**31.10.2010**	Distance of Race:	**21097,5 m**
Measured Distance of Course:	**21097,5 m**	Date Measured:	**24.10.2010**
Altitude (in metres above sea level)			
Start: **44m**	Highest: **65m**	Lowest:**44m**	Finish: **60m**
Type of Course:	**Point to point**		
Local Race Measurer:	**Milan Madžgalj** (maraton@t-com.me)		
Adress:	**19. Decembra 21, 81000 Podgorica, Montenegro**		
Method of Measuring:	**Bicycle**	**Steel tape**	
IAAF Approved Course Measurer:	**Mag. Rainer Soos (aims.austria@gmail.com)**		
Adress:	**Kanzelweg 8** **9220 Velden am Wörthersee** **Austria**		

This is to certify that the course described above and defined by the attached map has been measured and approved for certification. The course measurement complies with IAAF Rules for Road Race Course Measurement and the measured distance is not less than the official distance for the event. It remains valid for five years. Any modification of the course, however minimal, will require a new official measurement.

Signature
IAAF Approved Course Measurer

24.10.2010
Date