Measurement News

November 1996 Issue #80

Here we see members of the team that validated the Freihofer's course at work taping the calibration course. Left to right: Mike Wickiser, Elaine Humphrey, Jim Gilmer.

MEASUREMENT NEWS
#80 - November 1996

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AN APOLOGY

Readers of the last few issues have seen what can happen when an editor does not do his job. Because I failed to do mine, I caused people I admire and respect to suffer hurt. Wayne and Sally Nicoll and I go back a long way, and I never thought I would bring them hurt. Nevertheless I did. I have already apologized to them, but saying "I'm sorry" doesn't mend the wound.

To those many of you who have expressed support for Wayne and Sally, thank you.

To readers who who have expressed dismay at my editorial policy I extend apologies, and I will try to be more careful in the future.

CHANGES

Carl Wisser, after over 13 years as Northern California Certifier, has decided to resign this position effective December 31. He will be replaced by **Ron Scardera**, presently Southern California Certifier. This will give California one certifier, just as other states have. During his tenure Carl certified 489 courses and measured 151.

Carl will remain a final signatory certifier, and will continue to issue certificates for those courses he may measure.

Wayne Nicoll has decided to emphasize other aspects of his life, and, after ten years of work as Eastern Vice-Chairman, will resign that position effective December 31. He will remain as certifier for the several states he now serves. Wayne and I discussed this at the Olympic Marathon measurement, and Wayne emphatically states that the recent Reik/Nicoll unpleasantries were not a factor in his decision. Wayne has certified 1351 courses and measured 463.

A replacement for Wayne will be appointed at the Convention. If you have an interest in the position, please let Pete Riegel know.

It is difficult for me to find words to adequately express the gratitude I feel to these men for the service they have given. This work can eat your life, and after a while it is understandable that overload and burnout can force one to a different path. I wish both of them the best, and, for all of us, offer our sincere and most emphatic thanks for the service they have given to the sport. They leave behind accomplishments that will be hard to match.

GREATER BAY AREA CERTIFICATION COMMITTEE
4899 Shafter Avenue, Oakland CA 94609

September 8, 1996

Pete Riegle, RRTC Chairman
3345 Kirkham Road
Columbus, OH 43221-1368

Dear Pete,

It is with real regret that I must step down from my position as Northern California's Course Certifier. I started back in 1982 and for 14 years I've thoroughly enjoyed the fun of certification and measurement and helping others do the same. Besides my love of measurement I was fortunate to have my architectural office which allowed me the time and the facilities to carry out my certification duties. Now all that has changed; my business has fallen off dramatically in November of 1995 and fortunately I was able to secure a full time job in San Francisco. My time (and energy) for certification has disappeared! The full time job plus carrying through with the work I still had in my Oakland office left me unable to adequately tend to my certification duties.

Tom Knight and I have handled 95% of the certification in the San Francisco Bay Area and besides Tom Benjamin and Paul Oerth there is no one else to carry on. I did ask Tom Knight but he is just too busy.

I plan on remaining on the job up to the first of next year. I will willingly work with my substitute by showing him my procedures and turning over my files.

I would, of course, appreciate any suggestions you might have.

Again, I wish to convey my regrets - it has been a pleasure but I'm not able to carry on as I once could.

Sincerely,

Carl Wisser
Member of USATF/RRTC

c.c. Tom Knight

Creep & Temperature Coefficient Of Pneumatic Tyres

By M.C.W.Sandford, 22 Stevenson Drive, Abingdon, Oxon, OX14 1SN, United Kingdom.

20 October 1996

Introduction

After we pump up a pneumatic tyre, our simple expectation is that it expands and contracts with temperature, and as air leaks slowly out over many days it contracts. This picture is approximately correct but I have sometimes seen small expansions at constant temperature. In order to investigate these, I pumped up to 100 psi a brand new Vee Rubber 27x1.25 tyre which had not been previously inflated, and started calibrating on my 650.6 m test course in Copenhagen Drive. Over 3 months I did 52 sets of 4 calibration rides.

Temperature Measurement

In order to derive a temperature coefficient of expansion one should ideally measure the temperature of the tyre casing and of the air in the inner tube. This is clearly difficult to do with a rotating wheel and ordinary thermometers. I have a board fixed over my handle bars which carries my note book and provides a writing surface. For many years I have had an alcohol thermometer attached to the upper surface of the board. Although I shielded the bulb with aluminium foil, I have found the temperature indicated rises drastically (up to 5 C) when illuminated by the sun, and judging from the expansion the tyre responds much less. In order to get a better approximation to the temperature of the front tyre, I have recently acquired a digital aquarium thermometer which reads to 0.1 C in nice big digits, clearly visible as I cycle along. I have mounted the sensor close to the wheel at the back of the front fork where it is usually shielded from the sun but is well exposed to the airflow past the tyre which I suspect is probably the dominant factor determining the tyre temperature. Although I can not justify it by any quantitative measurement, I believe from the subjective observation of a consistency between the wheel counts and the temperature fluctuations as the solar illumination varies on a partially cloudy day that this measuring position gives the tyre temperature to within 1 or perhaps 2 C.

Data Analysis

First I considered just the temperature coefficient calculated from each day's data individually, and then I averaged the temperature coefficient from several days to derive a mean temperature coefficient. I used this temperature coefficient to work out what the counts would have been at 15 C and so derived a plot of the variation with time of counts at constant temperature. This plot was a preliminary version of what is shown in figure 1 after the iteration described below.

For about 7 days after being pumped up the tyre continues to expand by about 0.07% per week at the constant temperature of 15 C. This is what I call creep. After a week or so the loss of air pressure dominates and the tyre contracts at a coincidentally similar rate of 0.07% per week. Since air would have leaked during the first week the actual rate of expansion due to creep would have been about 0.14% per week.

After 5 weeks the pressure had fallen to 70 psi. This tyre had an inner tube which was less permeable than the typical inner tube which I use. The tyre was pumped up again to 100 psi. The pattern repeated itself, although the creep lasted only for about 4 days, before deflation took over as the dominant phenomenon.

Next I plotted a smooth curve through the points. I used this curve to provide a correction for creep and deflation and plotted in fig. 2 an accurate temperature characteristic using all 52 sets of calibration rides. This gave a very linear relationship with a coefficient of expansion 140 ppm per C. A change of 7.1 C gives a change equal to the 0.1% SCPF. I then went back and plotted the data shown here as fig. 1 using the new mean temp coefficient from all the data in fig. 2. This gave a slightly different creep/deflation correction, which had negligible effect on fig. 2.

Explanation of Creep

The casing of a pneumatic tyre is made of rubber reinforced by a two layer cross ply of what seem to be nylon fibres. The fibres in one layer are at 90 degrees to the other and lie at an angle of +/- 45 degrees to the radius of the wheel. These nylon fibres are much less elastic than the rubber and they probably take most of the stress as the casing is stretched by inflating the inner tube. The nylon polymer chains in common with other plastic polymers would be expected to exhibit a creep over several days of after the application of a strain such as that induced by inflating the tyre.

Discussion and Implications for Measurement Practice

The creep I observed in my tyre was, like deflation, so small it would produce negligible change during the typical period between a pre and post measurement calibration. So for normal course measurements the effect can be safely ignored. However, measurers trying to make very precise non-standard measurements such as temperature calibrations, may be interested to note that creep can for a week or so reverse the expected slow contraction of the tyre as it deflates.

With the precise temperature plots, such as fig. 2, I hope to investigate the performance of different pneumatic tyres under different conditions in my search for the perfect pneumatic tyre with a low temperature coefficient.

FIG. 1. Vee-Rubber Pneumatic Tyre:
Variation with Date of Counts Corrected to 15 C

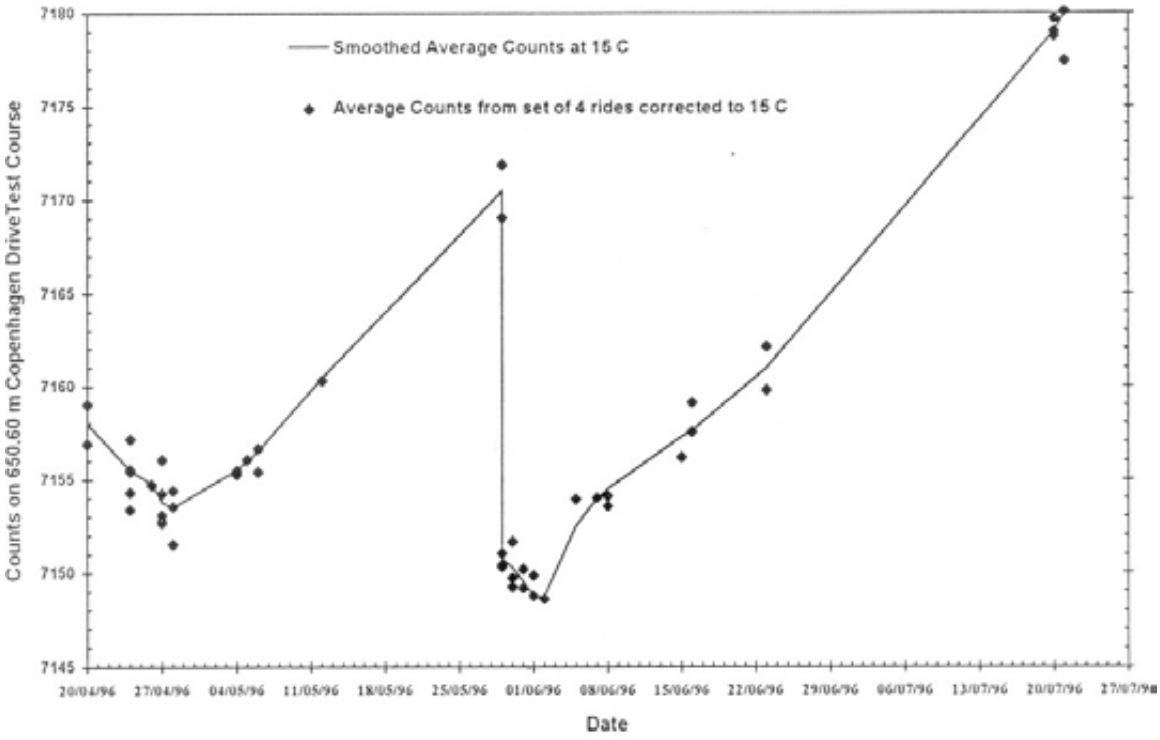
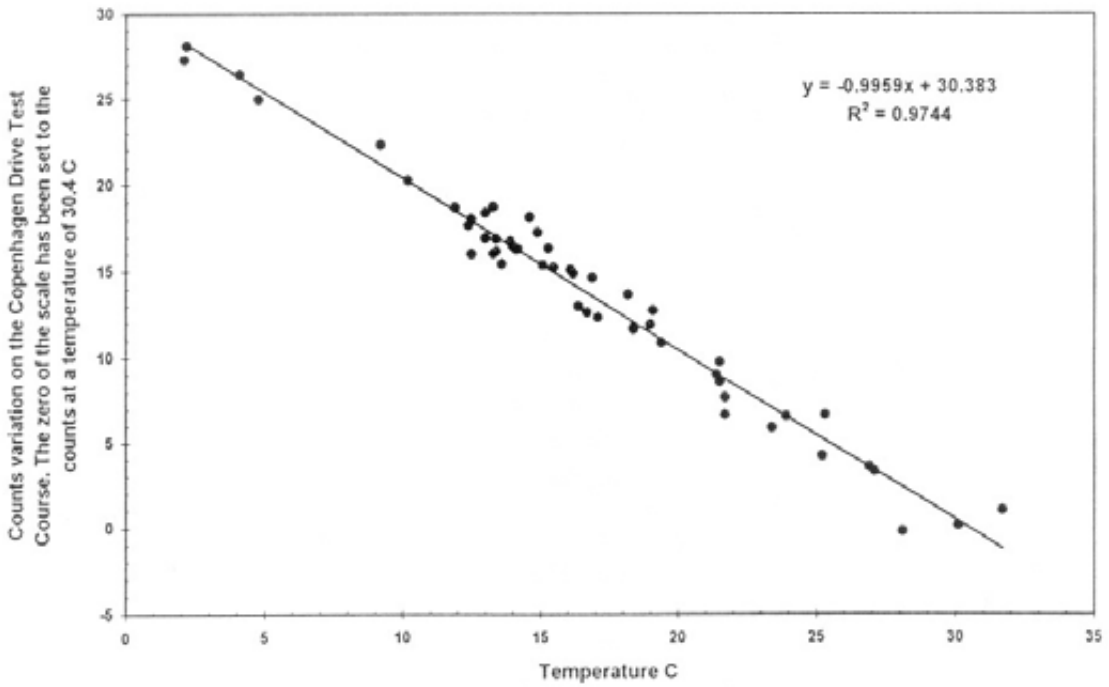


Fig. 2. Vee-Rubber Pneumatic Tyre Corrected for Creep and Deflation, showing linear temperature coefficient of expansion.



1453 W Hill Rd
Flint, MI 48507

Dear Pete,

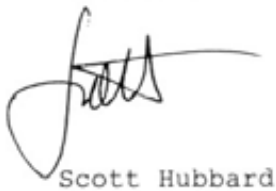
It occurred to me while recertifying the Detroit Free Press Mazda Marathon that we ought to strongly urge/recommend certified intermediate or split points in marathons. Why? Certified split or intermediate points ease the work involved in any re-measuring due to construction, etc.

Perhaps I've missed discussion of this in the past and maybe everybody is already doing it. If we're not doing it, we ought to strongly consider it. Splits that are certified also lend themselves to record purposes. (Growing use of ChampionChips will aid results gathering at certified splits.)

I wouldn't restrict recommending certifying splits to marathons. The length and difficulty of measuring some courses is enough to strongly consider splits be certified for the same reasons given for marathons.

10/23/96

Regards,



Scott Hubbard

Dear Scott,

October 26, 1996

I'll put your letter in MN in the hope that responses will be generated.

David Katz and I recently discussed his practice of doing exactly what you suggest. He lays out all his splits so that they are certifiable as to length, while I do not. The main reason for the difference is that he is the person responsible for the courses he measures, and thus has the final say as to where the finish line lies, while I am not. When I measure I must first establish a course of the proper length, and then consult with someone else as to what they want to do with adjusting the positions of start and finish. This means that, for me, it is a waste of time to lay out the splits on the first ride, as they will all have to be moved. I generally lay out a series of reference points, but they don't fall at even intervals, but at things like fire hydrants. Thus for me to certify every split would require me to ride the course three times, not two.

Looking at it as a certifier, reviewing a marathon with say, every 5 km certified, can make the job quite time-consuming, since each split represents an entire race course. Drop and separation must be separately calculated, and the distance to each split must be the minimum of two rides.

Before we recommend that everybody do it, these things must be carefully considered. Let's see what the readers have to say.

Best regards,

Greentyre

Our Ref: CPS/LT

10 October 1996

Mr J Disley CBE
Hampton House
Upper Sunbury Road
Hampton TW12 2DW

Dear Mr Disley

I sincerely apologise for the very long delay in getting back to you.

I considered how we could best service your organisation's requirements efficiently prior to getting bogged down in a very heavy show programme that we have had throughout Europe. I have come to the conclusion that we may be best servicing any orders direct through the Greentyre Co. In the UK thereby providing one contact point for your whole organisation. We do not have registered distributors in the following countries:

Germany	Sweden	Finland
Spain	Portugal	South Africa
Japan	Korea	Canada
Mexico	Brazil	Italy

The above countries do have stockists of tyres but they may not carry the full range of tyres.

Countries where we do have distributors are as follows:

FRANCE	Just Charhel, 43 Rue des Caves, 37320 Cormery, France.
IRELAND	Greentyre Ireland, 25 Fernhill Park, Terenure, DUBLIN 12
AUSTRALIA /N.ZEALAND	British International Trading Pty Limited, 69 Powers Road, Seven Hills N.S.W. 2147, Australia
U.S.A.	Shannon Group Inc. (USA) 364 Parsippany Road, Suite 913 Parsippany, NJ 07054-0185, U.S.A.
BELGIUM	Greentyre BV, Avenue Tedescolaan 4, 1160 Brussels, Belgium
HOLLAND	Greentyre Holland, 6903 AP Zevenaar, Holland

I understand from your telephone message that you have an enquiry from South Africa and I will be happy to post these to your contact direct.

Again my apologies for the long delay in responding. I can assure you that this is not representative of our normal service.

Yours sincerely

Colin P Scarsi
Managing Director

Dictated by Mr Scarsi, signed and transmitted in his absence.

WORLD RECORD LOST DUE TO MISPLACED CONES

Jean-Francois Delasalle writes:

I measured the Stramilano Half Marathon. Everybody was very disappointed!!! The distance was too short by only 49 meters. No record for Tergat

He ran this race in 58:51 and the old record was 59:47.

I also checked the old Tanui record (measured by **Dieter Damm** in 1992): It is good. The circuit had just a small change in the 2 small laps around the Dôme place.

The reason is a stupid mistake of the organiser and not a measurement mistake. Barriers were not in the position at the turn around point: 6 meters shorter with 4 laps equal 12 x 4 = 48 meters!!! The turn around nail was not respected: the video of the race was very clear about this.

Isabelle Marechal, Jean-Francois Delasalle and Pierre Francois Delasalle, on the road returning from Milan after the Stramilano measurement

September 23, 1996

Mike Wickiser
Validations Chairman, USATF/RRTC
2939 Vincent Road
Silver Lake, OH 44224

Dear Mike,

VALIDATION OF CRAZY EIGHTS 8 KM
KINGSPORT, TN - TN 96006 RH

Summary: On 20 July 1996 Peter Githuka of Kenya ran 22:03 on this course, which would be a new US all-comers and "world record," surpassing the 22:04 set by Alberto Salazar in 1981, the oldest road record in the book. A validation was called for. The course, as run, measured 8005.5 meters by my measurement. The course, as certified, measured 8011.2 m. I am convinced that the course as both run and certified exceeded 8000 meters. What follows is a narrative of the activity.

Upon accepting your assignment to check this course I initiated correspondence with Hank Brown, Race Director. He responded promptly, and we set a date. I also invited Ben Chaney, the original measurer, and Bob Woods, who measured portions of the Olympic Marathon with us. State of Franklin Track Club President Al Dausman, who attended a measurement seminar in Knoxville, also measured.

Saturday, after arriving earlier than I expected, since I arose at 3 AM, I decided to try Wayne Nicoll's method of single-handed layout of a calibration course. I chose Sevier Avenue as a reasonable place, since it had "no parking" signs on the east side of the street. I set nails at random distances just short of 30 m intervals, leaving the heads protruding. Then I hooked the tape loop over each nail, and measured to the following nail. When I was done I had ten measured intervals. The 30 m tape was a Stanley tape, made in Brazil. I used my Leitz thin-ribbon plastic encased 100 foot tape to measure the return. I corrected for temperature, adjusted the calibration course to what I believed to be 300 m, and removed the intermediate nails.

That evening I met with Hank Brown and Bob Woods, and viewed a video of the race. I had some questions regarding placement of cones and the path permitted to the lead runners. Most of my questions were answered by viewing the tape. My remaining question was resolved by re-examination of the course.

Before I traveled to Kingsport, I was told that the start had been misplaced by "about 10 feet" shortening the course. Exact placement of the start was not possible from watching the video, but a large banner was in place, suspended by a high-lift on one end and a telephone pole on the other. On Sunday morning, Frank Oglesby, who had run the finish line, was there. He confirmed the position of the start, but said that he noticed that it was misplaced, and established the position of the finish line in the proper place. The pole noted in the video was at the location shown to me by Frank. Frank said that painted or taped start and finish lines had not been in place, but observed the runners and saw that they were properly positioned at start (as used) and finish.

PLEASE REPLY TO: PETER S. RIEGEL, *CHAIR, ROAD RUNNING TECHNICAL COUNCIL*
3354 KIRKHAM ROAD, COLUMBUS, OHIO 43221-1368
HOME PHONE 614/451/5617, FAX 614/451/5610

The group met at 7 AM at the start. We calibrated and measured the course. I was the lead rider. I had driven the course and was fairly familiar with it. Hank Brown rode near me as a guide, also serving once as a "temporary cone" as we turned from Fort Henry Drive onto Warpath Drive. The riders behind me mentioned that by watching me they had been able to improve my line a little. Nevertheless I felt that I had ridden competently. Upon completion of the measurement we recalibrated, and I asked Ben Chaney and Bob Woods to check the length of the calibration course.

Before I calculated, I asked Ben Chaney whether he felt I had been fair in my riding of the course, and he said I had. I calculated, and obtained a happy result.

After the measurement I went to a local restaurant and explained the outcome to the local media, enjoyed the hospitality of the State of Franklin Track Club, then drove home.

Some Notes on the Measurement:
I was extremely careful in my measurement of the calibration course, and I knew what the guy at the other end of the tape was doing, since it was me. Nevertheless, my two measurements of 300 meters differed by 9.5 cm, which I felt to be marginal, if not downright unacceptable. Certainly the adjusted average figure was reasonably accurate, but I wondered at the difference. However, I reflected that I had used two different tapes. The steel 30 m tape requires a pull of 10 lb. The Leitz 100 foot tape requires a pull of 4.5 pounds. I did not use a spring scale. As I was unsatisfied, I was interested to see what a check by others would show.

Ben Chaney and Bob Woods got a corrected length of 300.14 m for the calibration course. They, like me, judged tension "by feel." I am mystified at the difference. Yes, they used crayon instead of pen-on-tape (because of damp pavement) but still I don't think that explains away 13 cm. I was extremely careful in my checking of the offset of the zero mark on my tape from the nailhead, and I don't think there is significant error there.

As for the course measurement, I maintained a careful 30 cm clearance at turns and attempted straight tangents elsewhere, but was verbally corrected by Ben once when I strayed off line. But my off-line was on a long stretch, and I did not feel it was significant. In short, I would have stood by my ride.

All four measurements of the course fell within a span of 4.8 meters, a good group agreement.

Neither of the two values obtained for the calibration course would have resulted in the course being shown short, either as run or as certified, by anybody's measurement.

Also, by my measurement, the course would have passed even if the finish had been off by the same distance as the start.

If you have any questions, please get in touch.

Best regards,

Pete Riegel

copy: Hank Brown, Ben Chaney, Bob Woods, Al Dausman

Measurement of Sevier Calibration course

September 21 - Pete Riegel laid out using nails pounded at random distances, hooking the tape over the previous nail and reading the following nail. Data as follows:

Note: 0.114 m must be added to the 30 m readings
0.728 feet must be added to the 100 foot readings.
These represent the offset from the nail center to the zero mark on the tapes

Temperature = 75 F

After calculation, the calibration course was shortened by 6 cm and nailed. Intermediate nails were removed.

30 m Tape	Offset	Corrected Meters	100 foot Tape	Offset	Corrected Feet	Corrected Meters	100ft - 30m Difference cm
29.973	0.114	30.087	98.01	0.728	98.738	30.095	0.8
29.915	0.114	30.029	97.82	0.728	98.548	30.037	0.8
29.860	0.114	29.974	97.65	0.728	98.378	29.986	1.2
29.874	0.114	29.988	97.69	0.728	98.418	29.998	1.0
29.835	0.114	29.949	97.56	0.728	98.288	29.958	0.9
29.874	0.114	29.988	97.69	0.728	98.418	29.998	1.0
29.849	0.114	29.963	97.60	0.728	98.328	29.970	0.7
29.912	0.114	30.026	97.82	0.728	98.548	30.037	1.1
29.897	0.114	30.011	97.76	0.728	98.488	30.019	0.8
29.870	0.114	29.984	97.68	0.728	98.408	29.995	1.1
		299.999				300.094	
Temperature Correction Factor		0.014				0.014	
Corrected length		300.013				300.107	
Final length after removal of 6 cm		299.953				300.047	

Average corrected measured length: 300.000 meters

September 22, 1996

Length check by Ben Chaney and Bob Woods, using crayon on damp pavement:

Temperature = 60 F

	Raw data	Decimal feet	Meters	
First	984' 8 1/4 "	984.6875	300.133	
Second	984' 10"	984.8333	300.177	
Average		984.7604	300.155	meters
Temperature correction factor			-0.015	meters
Corrected length =			**300.139**	**meters**

Since Pete's measurement was official, 300.000 m was used for calculating the length of the course

Validation Measurement of Crazy Eights 8 km Course - Kingsport TN

USATF Certified Course TN 96006 RH

Validator: Pete Riegel, assisted by Ben Chaney (original measurer), Bob Woods and Al Dausman

Calibrations on Sevier 300 m

All calculations use Average Constant and DO NOT include 1.001 Short Course Prevention Factor

Precal - 7:15 AM - damp - 58 F

Pete Counter Reading	Interval Counts	Ben Counter Reading	Interval Counts	Bob Counter Reading	Interval Counts	Al Counter Reading	Interval Counts
73720		90000		3212		3204	
77082.5	3362.5	92854	2854	6646	3434	6610.5	3406.5
80445.5	3363	93000		6800		6642	
83808	3362.5	95853.5	2853.5	10234	3434	10046.5	3404.5
87170.5	3362.5	96000		10315		10099	
		98854	2854	13746	3431	13505	3406
		99000		73879		13541	
		101854	2854	77311	3432	16947	3406
Average	3362.625		2853.875		3432.75		3405.75
Counts per km	11208.75		9512.917		11442.5		11352.5

Postcal 8:15 AM - damp - 58 F

Pete Counter Reading	Interval Counts	Ben Counter Reading	Interval Counts	Bob Counter Reading	Interval Counts	Al Counter Reading	Interval Counts
82000		82400		14276		12991	
85363.5	3363.5	85253	2853	17708	3432	16396.5	3405.5
88727	3363.5	85400		17845		16420	
92189.5	3462.5	88253	2853	21279	3434	19825	3405
95453	3263.5	88400		21432		19850	
		91252	2852	24861	3429	23257	3407
		91400		25024		23257	
		94252.5	2852.5	28453	3429	26662	3405
	3363.25		2852.625		3431		3405.625
	11210.83		9508.75		11436.67		11352.08

Day's Constant counts/km	**Pete**	**Ben**	**Bob**	**Al**
	11209.79	9510.833	11439.58	11352.29

Measurements of the Course

	Pete Counter Reading	Interval Counts	Interval Meters	Ben Counter Reading	Interval Counts	Interval Meters	Bob Counter Reading	Interval Counts	Interval Meters	Al Counter Reading	Interval Counts	Interval Meters
Certified St	89650			4000			20010			19475.5		
Actual Star	89714	64	5.71	4055	55	5.78	20074	64	5.59	19541	65.5	5.77
Mile 1	107719	18005	1606.19	19320	15265	1605.01	38448	18374	1606.18	37776	18235	1606.28
Mile 2	125788	18069	1611.89	34639	15319	1610.69	56875	18427	1610.81	56074	18298	1611.83
Mile 3	143851	18063	1611.36	49958	15319	1610.69	75298	18423	1610.46	74365	18291	1611.22
Mile 4	161914	18063	1611.36	65276	15318	1610.58	93739	18441	1612.03	92651	18286	1610.78
Finish	179454	17540	1564.70	80148	14872	1563.69	111629	17890	1563.87	110416	17765	1564.88
Total as Certified			8011.21			8006.45			8008.95			8010.76
Total as Run			8005.50			8000.67			8003.35			8004.99

MEMO

To: Pete Riegel

From: Mike Wickiser

Date: September 29, 1996

Subject: Calibration Courses & Steel Tapes

I couldn't help but feel for you over the discrepancy you got on the Sevier Ave calibration course. First I did like your method of measuring between nails set at approximately 100 foot intervals. I have done four or five solo cal courses and always set the nail to align the zero point on the tape at even distances. I've also pulled a few nails out of the road along the way. For those instances you simply go back to the pen/tape mark and reset the nail. This has always worked well and you ALWAYS know what is going on at both ends of the tape.

One lesson I learned in Washington DC with Bob Thurston is that you must be mindful of tape tension whenever using a long or "skinny" tape. I have a 200' and 60 meter tape that has been stretched beyond it's nominal length from years of pulling it by feel. This was found when Bob and I checked a 500 meter calibration course at the Reflecting Pool. Bob had measured the course several times and had used it as training for steel taping. When we used my skinny 60 meter tape, the distance came out 500.12 meters. This concerned Bob greatly and we got out his steel tape and spring scale. What we found was that my tape compared with his at about a 5 pound pull. I went along with this and had a surveyor friend shoot a 30 meter EDM course for me to check my steel tape against. Sure enough 5 pounds force was all that was required to obtain accuracy.

For 100 feet, I have had the best luck with Lufkin tapes. Prior to going to Friehofer's I checked my 60 meter tape and found that with any tension it was inaccurate. This caused me to wonder about all the Lufkin 100' tapes that I have used over the years. I have four of them. The oldest has been through quite a few mishaps. It is the first tape I used measuring and now has repair sections, kinks and is well rusted. Fresh out of the box was a new one, and two were well used but still in good shape.

I spent a morning checking them against each other as well as a new Keson 165' tape that I checked on the known 30 meter course. What I found was that the Lufkin 100' tapes were all within about 3/16" of each other with 10 lb. tension. The 60 meter tape was off about 2mm.with enough force to straighten it out and the new tape was right on when properly tensioned at 5kg.

Lessons learned ? Tapes that get tensioned may tend to stretch. Longer tapes or those that are overtensioned or tensioned by feel are inclined to inaccuracy. This wouldn't be a big deal for the lay out of a course, since it would lengthen the calibration course. Most importantly, USE a spring scale for Validations! I'm willing to bet you would have gotten a lot better agreement if all tape lengths had been pulled with a spring scale.

Bart.

Peter S. Riegel P.E. - 3354 Kirkham Rd - Columbus, OH 43221
Phone: (614) 451-5617 FAX: (614) 451-5610
E-mail: Riegelpete@aol.com

The Stanley Works
1000 Stanley Dr.
New Britain, CT 06053-1675

September 25, 1996

Dear Sirs:

I enclose a Stanley 30 meter steel tape which I acquired in Brazil last year. It was made in Brazil.

After some puzzling comparisons in my work, I compared the tape with some US counterparts. I found it to be 1 to 2 cm longer than 30 meters. This would not be bad for fiberglass, but for a steel tape it is way out of line.

This far exceeds the US standard, as I understand it to be. It's enough of a difference to cause me trouble in my work.

Does Stanley have a different standard for foreign-built tapes? I had hoped that the Stanley name would give me the accuracy to which I have been accustomed.

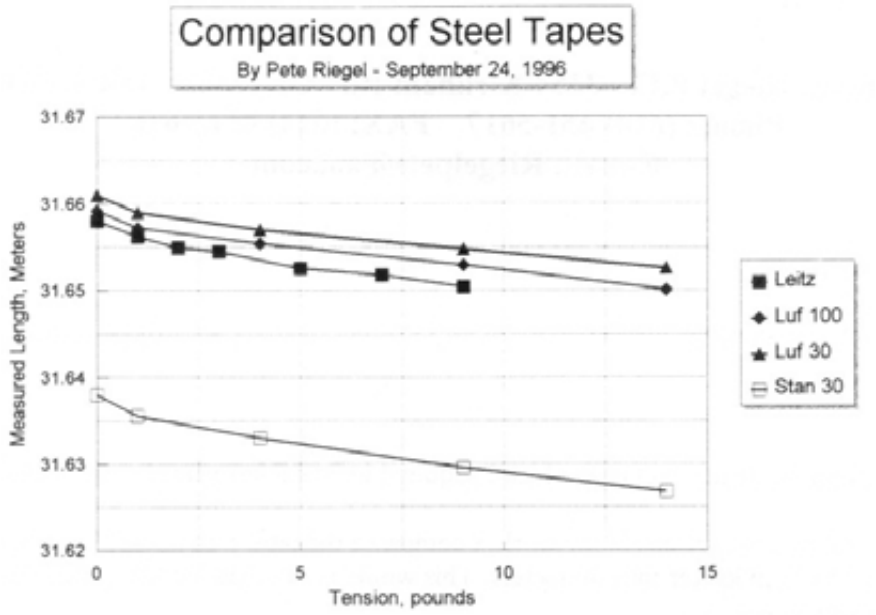
I hope you will examine the tape. It may lead you to a quality-control problem of which you are presently unaware. If you do examine the tape, I'd appreciate your assessment of its length under standard conditions. My own tests, while reasonably accurate, are certainly not of the quality of which you are capable.

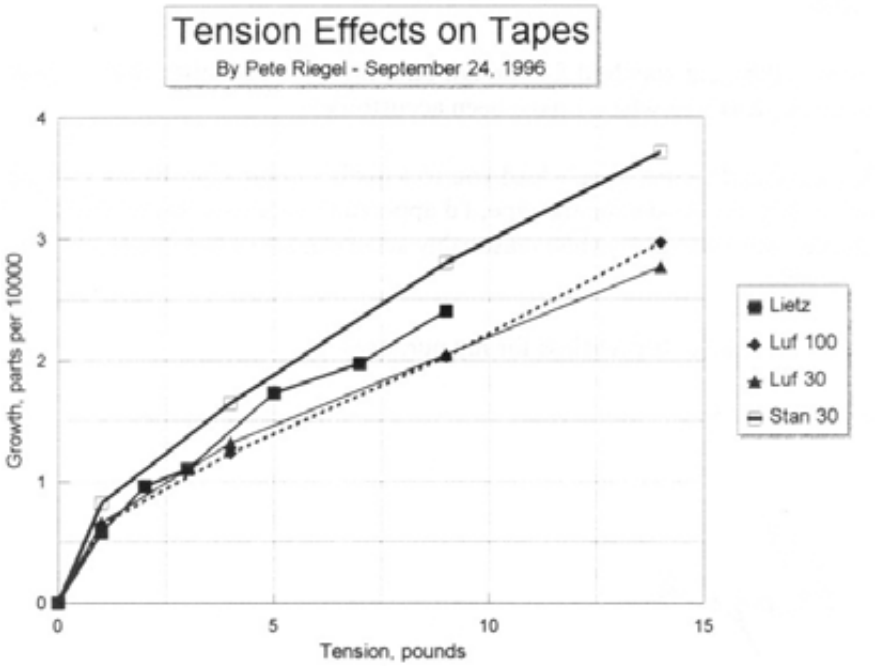
You need not return the tape. It is useless for my purposes.

I hope to hear from you soon.

Best regards,

Peter S. Riegel, P.E.





Tape	Recommended Tension Pounds	Measured Length Meters
Leitz	4.5	31.653
Lufkin 100 foot	10	31.6525
Lufkin 30 meter	10	31.654
Brazilian Stanley 30 m	10	31.629

Janvier 1996

n° 4

Association Internationale des Mesureurs de courses

MAPS OF THE MONTH

Entire course is smooth Macadam or concrete surface

Extrait du livre "Général Régulations" and PROGRAMM OF THE OLYMPIC GAMES 1932, Dixon Bell Press Los Angeles.
Mesurage ou plan du parcours par l'Automobile Club ???

FROM JEAN-FRANCOIS DELASALLE

DROP AND SEPARATION DO NOT APPLY IN AIMS "WORLD RECORDS"

"If the Association of International Marathons and Road Races (AIMS) gets its way, net drop courses such as the Fontana Days Half Marathon, Pittsburgh Great Race, St. George Marathon, and venerable Boston Marathon will be eligible for world record purposes. "The argument over the correct criteria for recognition of world record road running performances has been struggling for some time now. The Athletic Congress of the America (USATF) among other organizations have strong beliefs that records should only be recognised if a race meets certain geographical and barometrical criteria," an AIMS press release states. "AIMS believes that the whole concept of road running is as set at the first marathon in Greece over 2000 years ago—that is, that a race is run from point A to point B over the correct distance, regardless of geography of the course or weather conditions.

"While discussion continues in other organisations over such factors as "loop courses" "out and back" "point to point", "drops in elevation" and "wind speed", AIMS world record criteria are relatively simple: (1) AIMS Board of Directors must be satisfied that the event is organised to the highest standards according to AIMS road race management policies; (2) The course must not be less than the distance stipulated (e.g. if a marathon, not less than 42.195Km); (3) The course must have been measured and certified by an AIMS/IAAF approved measurer."

What this means, is that Peter Githuka's recent 22:03 world record for 8K set at Kingsport, Tennessee's Crazy Eights course, could be superseded by Larry Smithee's 21:09 (Michele Simonaitis also won the women's race in 24:52) run at the September 14th Alta Peruvian Lodge Downhill Dash 8Km. The Utah course drops 1950 feet, or 74 meters per kilometer, somewhat over the current recommended 1m/kilometer maximum allowed for record purposes. Get out the cudgels..."

Used with permission from Running Stats, Issue No. 516 - September 24, 1996

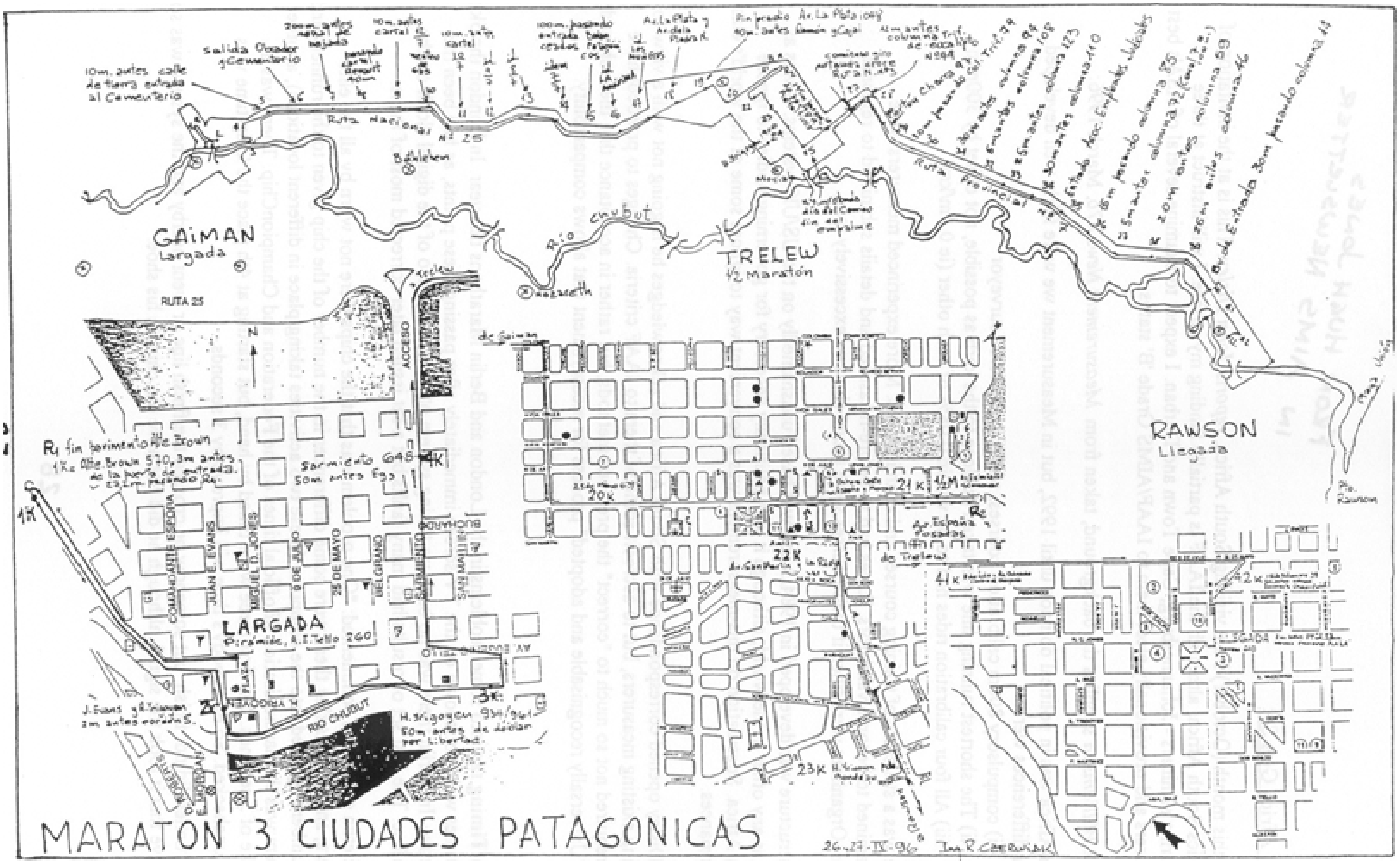
WESTERN HEMISPHERE MEASUREMENT RECORDS

Rolando Czerwiak sent a map which, as far as I know, represents the southernmost seriously-measured course in the Western Hemisphere. It's the **Maraton Tres Ciudades Patagonicas** (Gaiman-Trelew-Rawson, Argentina). He notes that a marathon has been run in Antarctica, but the means used to measure that course is unknown.

There is not much measurable land farther south, and were it not for New Zealand, this course would be the absolutely farthest south. It's farther south than anything in Africa.

The northernmost accurately-course in this hemisphere is the Midnight Sun 84 km course in Baffin Island, Northwest Territories, Canada. Your Editor measured this one in 1985 using a Jones Counter mounted on the front wheel of a truck, with four intermediate calibration courses used enroute.

There is land farther north and farther south of these courses. If anyone has knowledge of accurately-measured courses more poleward than these, let me know. **Andy Galloway** - have you something in New Zealand? You may be the new record-holder!


MARATON 3 CIUDADES PATAGONICAS
GAIMAN
Largada
TRELEW
1/2 Maratón
RAWSON
Llegada
Rio Chubut
Ruta Nacional Nº 25
Ruta Provincial Nº 7
RUTA 25
LARGADA
Piramide, A.I.Tello 260
COMANDANTE ESPORA
JUAN E. EVANS
MIGUEL D. JONES
9 DE JULIO
25 DE MAYO
BELGRANO
SARMIENTO
SAN MARTIN
BOUCHARDO
ACCESO
RIO CHUBUT
Sarmiento 648 50m antes Fgs
20K
21K
22K
23K
41K
42K
26-27-IX-96

FROM HUGH JONES IN AIMS NEWSLETTER

South Africa Gets Set

Later this month (October) I am visiting South Africa, *reports John Disley*. This is at the invitation of Athletics South Africa, although the IAAF is partially funding my airfare. I will instruct at three measuring seminars - Johannesburg, Cape Town and Durban. I expect to examine several of ASA's best measurers and provisionally elect them to IAAF/AIMS Grade 'B' status.

Norrie Williamson supplies the background, taken from *Measurement News #76,* March 1996:

South Africa was in political oblivion until 1992, but in Measurement we were fairly well developed. Minor differences were:

i) compulsory 800m calibration courses, set by a chartered surveyor
ii) The shortest running line was taken as close to the kerb as possible, not offset by 300mm.
iii) All four calibration rides had to be within 0.08% of each other (ie 0.8m/km)

There was a structure of training courses and examinations. More experinced measurers were re-examined to become validators. Races had to be pre-measured and details submitted to regional bodies. Organisers were fined if their courses were found short or excessively long.

This structure was developed in 1984/5 and was based unashamedly on the US/UK systems. It was as strict as any other in the world, although it was politically necessary for governing bodies to ignore South Africa. Speculation on mis-measurement was a convenient way to ignore some of the world's class performances.

John Disley opened correspondance with South Africa and acknowledges he is going not with a view to teaching existing measurers, but to accredit some of them to IAAF criteria. Changes to protocol have been required not so much to "correct" the previous methods, but rather in acceptance that there should be a "Universally recognisable and adopted" process for measurement that allows comparability.

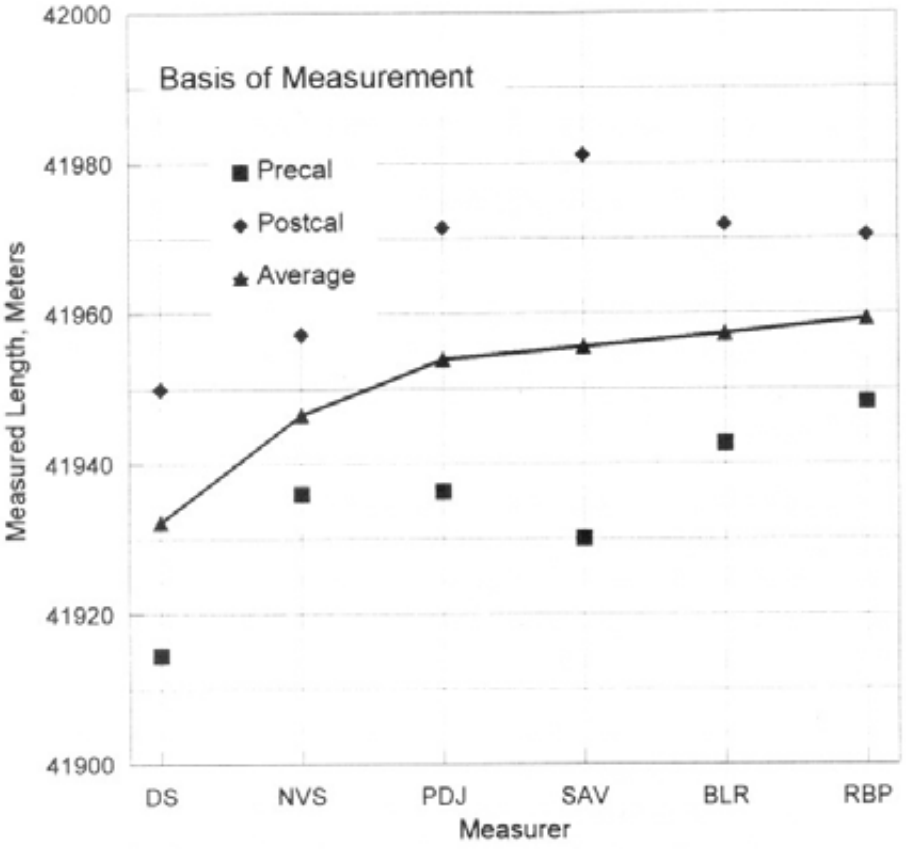
Chip Timing ran into some problems in the London and Berlin Marathons this year. In London the 5km split times were not shown on the TV screen immediately after passing these points, as had been the objective. In Berlin there was no back-up timing system other than a video of the digital clock on the finish line. The first set of results had many faults but a set issued later corrected most of these.

The Berlin organisers commented: "One problem was that the chips were not worn by all the elite runners; another was that there were some differences in the number of the chip given to the runners and the numbers inputted into the computer (these two activities taking place in different locations); another problem was the harmonisation of official times of the Federation and ChampionChip. There was a mistake of 3 seconds. The first three were timed by hand, but starting at 4th place the Chip time was taken unchecked. So everybody's time will improve by 3 seconds.

"One runner did not finish, but somehow he crossed the finish line or went nearby and the system was so sensitive that it took the signal, although he did not have the chip on his shoe."

SOWETO MARATHON

Results of 6 Measurements



This chart shows the individual overall measurements of the course.
Note: The sum of the medians of each individual segment was 41948.9 m.

Note: John Disley accompanied the above group, but suffered a puncture at 12 km. Thus no data for him appears.

NOTE: DATA REPRESENTS THE COURSE BEFORE FINAL ADJUSTMENT.

Subj: Course Measurement
Date: 96-10-25 14:38:46 EDT
From: MPRRC
To: Riegelpete
CC: ktjsudad@lava.net, MPRRC@aol.com(dukefreymprr)
CC: HawaiiDuke

Pete - Back at the RRCA National Convention we met and you subsequently sent me the latest information on the how to do course measurement, but more important to me, was the status list of certified courses in Hawaii. In my hat as the MPRRC Club President, I discovered many of our club runs were no longer on the active list. I asked [redacted] who had been V/P for Race Ops for the past ten years, if he would recertify our courses in a given priority.

Here's my concern and I may be opening Pandora's Box. In my previous association with the club 80-85, Giovanni Bartolinni, Carl Elsworth, and Wayne Prothroe measured and certified our courses in support of the club at no charge. Upon my return to Hawaii in 91, I understood [redacted] was measuring running events in Hawaii for a fee.

When I asked [redacted] to start certifying our courses, the previous president, Bob Doleman, mentioned [redacted] was charging 50-200.00. While I personally believe he should support his/our club at no charge, I went along with this NEW trend. Our 30 K was the first course to be certified and after the fact, [redacted] informed me that the charge would be $1000.00 but he was giving the club a 50% discount and the charge would be $500.00.

My question is - on the mainland do most club members charge their clubs or do they do it as a free service in support of their clubs? If so, what's average charge for 5K, 10K, 15K, 20K,30K and 1/2 Marathon? All I want is to recertify our courses. Based on info you gave to me, this is *time consuming, but doesn't require a brain surgeon, i.e. even I can do it. I just want to accomplish the basics without bells and whistles or national recognition.

Hope you will be able to help me out. Tom Ferguson is aware of my concern. Aloha

Duke Frey

Dear Duke,

There is no commonly-accepted standard for the charge to measure a race course. It is whatever the market will bear. I have measured marathon courses for a fee of $1000, and for zero. My typical fee for a 5k is about $150, but it is not constant. It depends on how busy I am. If I am busy, I charge more. I measure for my club for nothing, but I do not see that this imposes an obligation on anybody else to do likewise.

Here are typical fees I charge for courses run locally:

5k - $150
5mi/10 km - $200

10 mi - $250
20 km/Half Marathon - $ 300
Marathon - zero. The only marathon near me is Columbus and I am married to the race director. For an out-of-town marathon I consider $1000 is a cheap price, considering all the diddling around that needs to be done. The course is NEVER what they think it is, and it's a minimum of 2 to 3 days to get it right.

Note that I feel NO obligation to charge the same fee to all. The fee is based on how I am feeling when they call. They are free to take it or leave it. I always offer to give complete assistance by mail or phone, short of my ass on the bike. That's my obligation as a certifier. I do not consider myself obliged to do for others what they are free to do for themselves.

For courses requiring travel I charge all expenses plus the above fees, payable upon delivery of the certificate.

Certification (reviewing data, correcting mistakes, and issuing certificates) costs $25 maximum. Considering that the person desiring certification is free to do it him/herself, I cannot find a great fault with experienced people charging to measure courses. Yes, it is hard the first time. But they have put in the work, and it is easy for experienced people. Once you get past the first one, you will be experienced.

I suggest if you don't like [redacted]'s fees, find someone else willing to learn the trade and have them do it. There is no magic in it, just a need to learn, and not much at that. Just because [redacted] has measured several Hawaii courses does not mean he has a monopoly on it. Anyone at all is free to do the work.

Next time you agree to have someone else do the work, get the fee agreed on beforehand. That way you get no unpleasant surprises. Also, do not pay until the USATF/RRTC Certificate is delivered into your hands.

I cannot fault [redacted] for charging. How could I when I, and most of the people I know, do it myself? Still, my reply when someone wants information on how to get a course certified is still "do it yourself." Many race directors have more money than time, and it is worth it to them to pay a fee and get the problem off their back.

My advice is find someone in your club who has some enthusiasm for the job, and encourage them to try. An enthusiastic person is better than a draftee. If you can't find someone, do without a certified course, or pay [redacted] what he wants, but don't lay a guilt trip on him.

An additional note: It doesn't matter whether a course has expired from the active list. Expiration merely means the course is no longer listed as active. IF no course changes whatsoever have occurred since original certification, it is still certified. We use expiration as a tool to keep deadwood out of the list, as, after 10 years, virtually all courses have changed. But there are a few exceptions. All you need to do is renew the unchanged courses.

Best regards,

Pete Riegel
riegelpete@aol.com

September 6, 1996

Peter Riegel
3354 Kirkham Road
Columbus, OH 43221

Pete,

I would like to comment on your observations of the TV motorcycles positioning during the Olympic marathons. As either a driver, or the one in charge of the lead vehicles at 50-70 major road races (New York, Boston, Los Angels, San Francisco, Gasparilla, Philadelphia Distance Run etc.), I have observed the "in your face" approach.

When I asked why this had to be, the most common answer I received was: "the closer to the runner, the less camera movement, the better the transmitted picture". Not a bad answer, but at a price for the runner. Tangents are often not taken by the lead runner/pack, water stops are hard to locate, and splits/clocks are many times missed. But TV does get a better picture!

I would also put forth in some races there is a "drafting effect"; maybe not great, however, on a windy day, there has to be some relief ! In the world of cycling, there would be a Fed official moving the lead vehicles forward. Watch the Core States Bike Race on TV and 95% of the shots are from the athlete's side.

And while we are on the subject, we have press vehicles, written press bus (Boston), timing vehicles, promo vehicles, police (sometimes from several different jurisdictions) etc. to add to the mix. I am told the front of the Tour de France is awesome.

It could be worse; no one could be there!

Chris

Chris Tatreau

PS: Sports Illustrated has a column in the Scorecard section to point out the extremes of "Sport" in the present day. It is called "This week's sign that the Apocalypse is upon Us". I see Measurement News has begun a similar column with David Reik's commentary. Tell David to give it a rest!

Subj: thoughts on the written word
Date: 96-09-07 17:48:06 EDT
From: javiles@azstarnet.com (Jennifer Aviles)
To: Riegelpete@aol.com
CC: javiles@azstarnet.com

Hi, Pete. I read carefully and with interest the series of letters that appears in the September issue of Measurement News about the Lake Waramaug measurement done by my friend, Wayne Nicoll. The tone of the correspondence reminded me of the sequence of events that led to my decision to leave the technical side of the sport of long distance running. I do hope that this recent exchange of letters will not lead to anyone leaving the sport. I am concerned that by publishing the letters in their entirety, that further harm may have been done.

I also would like to recommend for your consideration that should such an exchange of correspondence occur in the future, that you extract from the correspondence the salient points that specifically apply to the technique of course measurement and leave for the letter writers themselves the task of clarifying and sorting out what was written and what was meant by what was written.

Thank you for continuing to include me on your mailing list and my very best to you and Joan.

Sincerely,

Jennifer Aviles
javiles@azstarnet.com

Dear Pete,

It must be frustrating to you and especially Wayne concerning the letters by David Reik. Good luck. You know that I support your efforts. No one starts out as an expert and we are all trying to do what we believe is best for our sport and for measuring. When measuring safety must be taken into account which means we may not always ride as well as we may like. We attempt to overcome this by riding courses more than once, by riding as tight a course as possible, and by adding on a short course prevention factor of 0.1 %. We also usually use the larger constant of the day rather than the average. These are all used because no one is perfect. Perfection is what we strive towards.

yours truly,

Bernie Conway

10 September 1996 SINGLE PAGE ONLY

ATTN: Pete Riegel, +1 614 451 5610

FROM: Hugh Jones, +44 171 916 0356
928 2700

Dear Unilateral Deviator,

My, My. The contents of MN are getting more sensationalist than our royalty headlines in the British tabloids. All thanks to you Pete, for running a show that is robust enough to handle this sort of stuff. I admire your resistance to censorship, or at least judicious editing (but I suppose that would constitute 'unilateral deviance'?).

Dave Reik could advisedly replace the word "dishonesty" by the word "humanity" in the opening sentence of his third para. I remember your sad remark to a previous heated protestor: "Your threat to sue depresses me". It is a testament to Wayne's decency that he has resisted his daughter's advice and issued no similar threat under such extreme provocation. I am at a loss to explain how someone who wrote that particular offending sentence can claim that it was **not** his intention to characterize Wayne as a dishonest person.

Luckily, we all know better. My short aquaintance with Wayne over the Olympic measurement weekend in May left me with a lasting impression of his courtesy, warm-heartedness, diligence and ... honesty.

Like you, Pete, I recognise that there are some good points about procedure buried in David Reik's letter. He has now made them. Why though, couple them with this unwarranted, distressing and absurd personal abuse? Despite my interest in the substance of the exchange, I agree with Sally Nicholl in not wanting to read any further slanders. Please edit them out and withstand all accusations of unilateral deviation (doesn't this apply to all editors, by definition?).

Ultimately, no matter how tight a set of rules and procedures are followed, the system is administered by people. I'm very happy that there are people like Wayne, Tom McBrayer and yourself out there doing it.

Best wishes,

cc Wayne Nicholl (by post)

Douglas L. Loeffler
Florida State Certifier, IAAF/AIMS Validator
1399 W. Royal Palm Rd.
Boca Raton, Florida 33486 USA

407-997-2080 (Phone)
407-997-2110 (Fax)

September 23, 1996

Dear Pete,

Several Topics:

Olympic Measurement:

I started my ride behind Mike Wickiser and in front of David Katz. I believe someone was behind David and eventually dropped out. David ultimately had mechanical problems and also dropped out. I then rode last until Rodolfo Martinez, who originally was in front of Mike Wickiser, fell off the pace. I believe he rode last for about the last 3-4 miles.

Revisions to Course Measurement Procedures:

I constantly have problems with the paperwork from beginning measurers regarding the recording of their data on the "Course Measurement Data Sheet" and continuing with calculations pertaining to the Constant for the Day. Since the book is particularly valuable for beginning measurers I think it will be helpful to make everything in it as clear as possible. In my opinion the problem starts with the use of the terms "Measurer #1" and "Measurer #2". Can we explain that we mean "Measurer #1 and #2" when there are two people measuring, or Measurement #1 and Measurement #2 when only one person is measuring? Then in the calculation and recalculation sections I believe we should do the same thing, Use "Measurer/Measurement #x". Of course if everyone would read the book first and talk to their F.S. we probably wouldn't have a problem,but that doesn't seem to happen.

The David Reik Letters:

I must say that Mr. Reik brings up some interesting points. It is very unfortunate however that it seems to have escalated into a personal attack against Wayne Nicoll. I have known and worked for and with Wayne for 10 years and I have the highest respect for his integrity. We have measured together and I have validated his courses. I have never had cause to question anything that he did.

Anytime we put our name on a certificate, be it for a course we measured or for someone else's measurement, we put our reputation on the line. I personally will never risk my reputation for the sake of taking a short cut on a course measurement and I don't think Wayne would either. I know that Wayne reviews my Certificate submissions in detail and he has found, on more than one occasion, errors that I missed. He always called them to my attention and gave me the opportunity to make corrections but he never accused me of being dishonest.

So how does one encourage a n open discussion of issues while protecting someone's reputation? You seem to do this quite often when you publish letters to or about race directors. It is quite normal for you to remove both the name of the race and the name(s) of the people involved. Why then do you not take the same approach when it is an internal issue?

In regard to having F.S.'s submit their data to others for review, it is my opinion that the errors that Mr. Reik expect to uncover would never be seen. I have measured enough and processed enough certificate applications to know that unless you actually see the measurement performed you will never know what happened.

Best regards,

Doug Loeffler

E-MAIL ADDRESSES

This list will continue as a result of several requests. New addresses, and address changes will be posted as received.

Bob Baumel	Bobbau@pcok.com
Andy Beach	Abeach@ti.com
Tom Benjamin	benjtr@aol.com
Dan Brannen	Djbrunr@village.ios.com
Bill Callanan	Bcallan369@aol.com
Bernie Conway (CAN)	Bernconw@enoreo.on.ca
Dave Cundy (AUS)	Dave.cundy@atonat.ausgovtax.telememo.au
Jose Rodolfo Eichler (BRA)	JOSE.RODOLFO@cbpo.com.br
Tom Ferguson	Ktjsudad@lava.net
Michael Franke	Mfranke@worldnet.att.net
Zean Gassmann	Zeansusan@aol.com
Basil Honikman	Honikman@silcom.com
Paul Hronjak	Hronjak@aol.com
Alan Jones	AlanLJones@aol.com
Tom Knight	Tdk@stanford.edu
Justin Kuo	Kuo@world.std.com
Tom & Mary Anne McBrayer	104613.56@compuserve.com
Jack Moran	Jmoran@skypoint.com
Amy Morss	Amorss@koko.mv.com
Gene Newman	Brrunner@aol.com
Pete Riegel	Riegelpete@aol.com
Michael Sandford	M.sandford@rl.ac.uk
Brian Smith	Bnewbatt@aol.com
Jay Wight	Jaywight2@aol.com

See Bob Baumel's homepage at http://www.pcok.com/~bobbau/

Daniel M. Millet
7021 Prestonshire Lane
Dallas, Texas 75225

September 24, 1996

Peter S. Riegel
3354 Kirkham Road
Columbus, Ohio 43221-1368

Dear Pete:

I never dreamed that I would ever be sufficiently involved with running again after my 1992 sub-arctic 100K Championship and surgery on both knees to write a letter. However, the exchange of letters involving Wayne Nicoll and David Reik has briefly withdrawn me from my self-imposed shell.

My thoughts are drawn back to the Tampa TAC convention that Jean and I attended to present our bid for the U.S. Cross Country Trials. Proving that fools rush where they don't necessarily belong, we attended a meeting of top level certifiers. This was my first occasion to put faces with names I had read about, sent certification papers to and talked with at some length by phone. Ted Corbitt, Peter Riegel, Bob Baumel, Alan Jones, Tom McBrayer, Ken and Jennifer Young of the National Running Data Center, Wayne and Sally Nicoll and a few others were there. Each was too nice to tell us to get out. One of the topics was a proposed road race instruction manual to standardize measurement and finish line procedures nationwide. Little did I know that through the years, that publication would become the ultimate word in race management. Everyone in that room played an integral role in creating and refining that book.

My concern is the personal nature of the accusations that are being exchanged in *Measurement News*. Through the years I have read and heard about serious physical, financial and personal problems that have confronted many of the key players who have demonstrated a keen interest in race measurement. The impressive thing is that so few have yielded to the temptation to call it quits and hang up their counters. Our own state certifier, Tom McBrayer, has measured many courses that I personally am aware of when his body was in no shape to do so. My information on Bob Baumel is not current, but I know he has suffered a great deal from physical difficulties. Both are still actively involved and the running community should be grateful.

No one is involved with course measurement for personal gain. Only the love of the sport and a consistent desire to maintain the highest integrity in measurement standards motivates these unselfish individuals to carry on their work with infrequent or nonexistent expressions of gratitude. I will never forget the constructive red ink on the early applications, reeking of amateurism, that I submitted to Ted Corbitt in the early eighties. That man has to be a saint.

I enjoy observing the mathematical problems you and Bob discuss. With a fond smile, I suspect that you and Bob have hung in there so consistently in order for you to have a forum for exchanging mathematical documents that only those with post-doctoral qualifications can even remotely comprehend. The important thing remains – courses in the U.S. are better than ever, thanks largely to a handful of individuals who have stayed the course.

I, as one individual, am forever grateful for the lasting contributions of each of the persons making up the measuring community. Personally, I am not qualified to determine if Wayne was right or wrong. I am confident, however, that he will clear up the uncertainty in the proper way.

One thing I am qualified to establish is that in the fullness of time, the exact turning point of the Lake Waramaug 50K is not likely to be of lasting significance. Taking a shot at Wayne Nicoll, who has dedicated so much of his life to accuracy in measurement, might be. May the best man win, on technical grounds, not personal.

Warm regards,

Dan

Daniel M. Millet

WAYNE B. NICOLL
Ragged Mountain Club
Potter Place, New Hampshire 03216
(603) 735-5721

October 8, 1996

Peter S. Riegel
3354 Kirkham Road
Columbus, OH 43221-1368

Dear Pete,

Here is the measurement data supporting the two measurements of the Lake Waramaug 50K, the measurement which David Reik objected to.

On Sunday, September 29 I drove over to Albany, NY to make the adjustments on the Freihofer's course and lay out two new courses for George Regan. When I finished up on Tuesday I drove down to Connecticut to Lake Waramaug and made another measurement of the loop, stopping at the turn points that were part of the 50K course. The measurement went quite well.

I was a little frustrated by the seemingly large difference between the measurements but when one considers what a challenging course it is to ride, perhaps it is not so bad. The course is twisting and turning constantly and it seems as if you are always on a tangent. I think I just learned the course on the first ride and was able to anticipate what was ahead much better on the next ride. I took the liberty of averaging the constants on the first ride due to the steady drop in temperature (on the second ride the constants were the same).

I extended the course with heavy heart, since I had learned from Rick Favier that although the course is measured along the SPR on Rte 45, he instructs the runners to remain on the lake side of the road during the race. That stretch of road is much curvier than I depicted it on the map and has a moderate amount of fast moving traffic. Although I did not do a measurement comparison on Rte 45, it is obvious the ultras are running further than necessary. The best answer would be to restrict the runners to the lakeside route and require monitors to enforce it. Rick does not want to do that.

I have not mailed this off to David Reik yet. Thought I would let you see it first in case you spotted something askew. I am fairly confident it is OK.

Cheers,

Wayne

Wayne B. Nicoll

P.S. Have not talked to Mike yet. Will do so tonight.

Pete Riegel - 3354 Kirkham Rd - Columbus, OH 43221
Phone: (614) 451-5617 FAX: (614) 451-5610
E-mail: Riegelpete@aol.com

October 8, 1996

Dear Wayne,

I ran your numbers and found no mistakes.

It is interesting to note that you found no great error in the segment of the course that Reik had such a problem with. The main difference seems to be in the base loop.

The course validated OK, as far as I can see.

I can sympathize with Favier. I doubt in a race of that size (small field) that I would want to have to monitor it either. I'd probably do the same thing.

Best regards,

Pete

Lake Waramaug 50k

Measured by Wayne Nicoll

Calibrations on Westshore Rd 1000 ft CT 95002 WN

	09/29/95			10/01/96		
	3350			3337		
	3349			3339		
	3349			3336		
	3349			3338		
Avg	3349.25			3337.5		
Cts/m	10999.34			10960.75		
	3353			3336		
	3349			3338		
	3352			3337		
	3351			3339		
Avg	3351.25			3337.5		
Cts/m	11005.91			10960.75		
Day's constant, cts/km	11002.63			10960.75		

Measurements

	Counter Reading	Interval Counts	Interval Meters	Counter Reading	Interval Counts	Interval Meters
A	838521			57923		
B	799416	39105	3554.2	18987	38936	3552.3
A	838521			1057923		
A	704000	134521	12226.3	924000	133923	12218.4
D	738223			958075		
A	704000	34223	3110.4	924000	34075	3108.8
A to B			3554.2			3552.3
B to A			3554.2			3552.3
3 Loops			36678.8			36655.2
A to D			3110.4			3108.8
D to A			3110.4			3108.8
Total			50008.0			49977.5

Difference = 30.5 meters

Amount to add = 22.5 meters

3250 Point Pleasant Road
Buchanan, TN 38222-3659
October 24, 1996

Measurement News
3354 Kirkham Road
Columbus, OH 43221-1368

Dear Pete,

One of the most appealing aspects of MN is the open invitiation for readers to write in and contribute ideas, criticism, and to share and compare measurement experiences. Well, this time out, it's an opinion that I'd like to put on the record.

My first job after college was in the quality control division of a prominent cosmetics manufacturer. In addition to "in-house" rules and industry standards, there were also volumes of FDA regulations. The second time, armed with my rules, standards, and regulations, that I shut down plant production, my supervisor took me aside and "explained" how to use the guidelines I had been provided. After 28 years the words "common sense" and" reasonable expectations" still come to mind. Recently, I was helping my 16 year old niece study for her TN driver's license. I learned from the manual that even 1 mph over any posted speed limit is a speeding violation and a citable offense. I couldn't help but imagine what chaos and gridlock would ensue if our officers enforced this to the letter of the law. My point? There are many circumstances that we encounter when common sense and reasonable expectations are at least as important as adhering to the letter of the law. I think this extends as well to measurers and Road Race Course Measurement and Certification Procedures.

In the recent controversy between David Reik and Wayne Nicoll concerning the certification of the Lake Waramaug 50K, I wondered on what side of the arguement I would come down. I've never met or worked with David nor am I familiar with any of his work. From what I read in his letters he seems to be meticulous and concerned with accurate measurement and a no nonsense kind of guy. I *have* worked with Wayne Nicoll and have observed twice this year (New Orleans Cresent City Classic wind aided observations) and at the Olympic Marathon Course Measurement how he approached his work. Wayne is meticulous, concerned with accurate measurement, and a no-nonsense kind of guy. So, now where are we? I think the bottom line for all of us, as measurers, is that when we say that a course is certified it will meet the minimum advertised distance upon re-measurement by any other measurer. It certainly appears that Wayne was satisfied with his work and David was not. My questions is, has David or another measurer made a subsequent measurement of the Lake Waramaug 50K? And, what were the results? If we come up with a measurement other than Wayne's that shows the course non-certifiable now *there's* a place to get excited.

There is also another place to get excited. In quality control, or road race course measurement, and in human relations there is a word to live by. The word is tolerance. I must admit to being a little disappointed that a fellow measurer would exhibit such intolerance and resort to "labelling" a fellow with whom he had a procedural disagreement. I saw no dishonesty in the way Wayne handled the measurement. I think the rudeness in David's reaction to Wayne's measurement was uncalled for. Wayne deserves an apology.

And that's my opinion.

Good health and good measuring,

Bob Woods