CAS 2020/A/7510 Daniel Kinyua Wanjiru v. World Athletics

ARBITRAL AWARD

delivered by the

COURT OF ARBITRATION FOR SPORT

sitting in the following composition

President: Prof. Jan Paulsson, Attorney at Law, Manama, Bahrain
Arbitrators: Ms Janie Soublière, Attorney at Law, Montréal, Canada
Mr Nicholas Stewart QC, Barrister, London, United Kingdom

In the arbitration between

Daniel Kinyua Wanjiru, Kenya

Represented by Mr Michiel Van Dijk, Attorney at Law, Utrecht, Netherlands

Appellant

and

World Athletics, Monaco

Represented by Mr Ross Wenzel of Kellerhals Carrard, Attorney at Law and Solicitor, Lausanne, Switzerland

Respondent

I. THE PARTIES

1. **Daniel Kinyua Wanjiru** (the "Appellant" or the "Athlete ") is a world-class Kenyan long-distance runner who notably won the 2016 Amsterdam Marathon and the 2017 London Marathon. He was at all material times defined as an "International Level Athlete" under applicable World Athletics Rules ("WA Rules").

2. World Athletics ("WA" or the "Respondent") (formerly the International Association of Athletics Federations or IAAF) is the international federation for track and field. It acts by delegation through the Athletics Integrity Unit, to which it has ceded jurisdiction over International-Level Athletes and their support personnel, WA officials, and member federations.

II. INTRODUCTION

3. On 8 October 2020, after WA had charged the Athlete with an anti-doping rule violation ('ADRV') as a result of abnormalities found in his Athlete Biological Passport ('ABP'), the WA Disciplinary Tribunal found him guilty of violating Rule 2.2 of the IAAF/WA Anti-Doping Rules 2019 ('WA ADR'). The Athlete claims innocence and argues that (i) the abnormal ABP finding must be the result of an error in the relevant laboratory's custodial procedures and in any event (ii) the doping hypothesis or "scenario" presented by WA does not justify the finding of an ADRV.

III. BACKGROUND

4. According to his uncontradicted account, the Athlete has undergone numerous doping controls since early 2014; all were negative and his level of performance has been stable over the years.

5. At the center of this dispute is the Athlete's hematological passport, specifically a blood sample collected from the Athlete on the morning of 9 March 2019, the day before he competed in the London Half Marathon (the 'Vitality Big Half Marathon'). This sample, when compared to the rest of the samples in his ABP, was flagged by the Adaptive Model as being an Abnormal Passport Finding. WA maintains that the Athlete's highly abnormal ABP indicates blood doping because it cannot be explained by any other pathological or physiological cause, as determined and confirmed by a Joint Expert Panel.

6. Three substances or methods are well known to be used for blood doping, namely: (i) administering recombinant human erythropoietin (by injection to trigger erythropoiesis, the stimulation of red blood cells); (ii) synthetic oxygen carriers (i.e. infusing blood substitutes such as a hemoglobin-based oxygen carrier or perfluorocarbons to increase hemoglobin ('HGB') well above normal levels); and (iii) blood transfusions (i.e. infusing a matching donor's or the athlete's own, previously extracted red blood cells to increase the hemoglobin to an abnormal level).

7. WADA developed and refined the concept of the ABP, and formally introduced its blood testing programme in 2009. The ABP consists of an electronic record that compiles and collates a specific athlete's test results and other data over time. Each individual athlete has a unique ABP.

8. The hematological module of the ABP records values in an athlete's blood samples of parameters known to be sensitive to changes in red blood cell production. The values collected and recorded include hemoglobin concentration and a percentage of immature red blood cells called reticulocytes ('RET%').

9. The ratio of the HGB and RET% values is used to calculate a further value, known as the OFF-score, which is sensitive to changes in erythropoiesis. The combination of either a high HGB and low RET%, or of a low HGB and high RET%, produces a high OFF-score.

10. The marker values from the blood samples collected in the ABP programme are fed into a statistical model, known as the 'Adaptive Model'. The Adaptive Model uses an algorithm that takes into account both (i) variability of such values within the population generally (i.e. blood values reported in a large population of non-doped athletes) and (ii) factors affecting the variability of each particular athlete's individual values (including gender, ethnic origin, age, altitude, type of sport, and instrument related technology).

11. The selected biological markers are monitored over a period of time and a longitudinal profile is created that establishes upper and lower limits within which the athlete's values would be expected to be found, assuming normal physiology (i.e. that of a healthy and non-doping individual).

12. The Adaptive Model calculates the probability of abnormality of the sequence of values in the ABP profile. At the outset, when the first samples are collected from a particular athlete, the upper and lower limits are based on population norms at the level of specificity of 99%, but over time, as samples are collected from the same athlete, the limits become individualized based on the athlete's individual values. An athlete therefore becomes his/her own point of reference.

13. Each time a blood sample is collected and analysed, the Adaptive Model calculates where the reported HGB, RET% and OFF-score values fall within the athlete's expected distribution and sets a new range of expected results for the athlete.

14. Where the Adaptive Model "flags" a sample as abnormal, meaning falling outside an athlete's usual values, a process is triggered whereby the ABP is assessed in conformity to the International Standard for Testing and Investigations, the WADA ABP Guidelines, and the WADA International Standard for Results Management.

    From 20 April 2017 to 25 April 2019, WA collected 16 ABP samples from the Athlete. Thirteen of them were found to be valid and to have been collected and tested in full

compliance with all International Standards and Technical Documents. Of those 13 valid samples, ABP Samples 13, 14, and 15 (collected on 13 March 2019, when the Athlete was back in Kenya) triggered a review of the Athlete's ABP by a Panel of three experts ('the Expert Panel'): Dr. Laura Garvican-Lewis, Prof. Giusseppe d'Onofrio and Dr. Paulo Paixao. In accordance with the ABP Guidelines and the ISTI, they proceeded with their evaluations of the ABP and all three independently suspected blood doping.

15. On 13 September 2019, following those initial evaluation and its quantitative assessment of the ABP, the Expert Panel issued its first Joint Expert Report, opining that:

> *"… the increase of HB from sample 13 to sample 14, and its sudden decrease from sample 14 to sample 15 cannot be explained by any other cause than blood manipulation. In terms of a blood doping scenario, such a sequence of HB variation has been achieved, in our opinion, by means of transfusion of blood, likely by reinfusing, before leaving altitude, at least two or more bags of previously stored red blood cells on 8.3.2019, followed by withdrawal of blood either shortly after the race or after return to the Athlete's own country on 11 or 12.03.2019; in any case before collection of sample 15.*"

16. The Joint Expert Panel unanimously concluded:

> "… *considering the information within the passport and in the absence of an appropriate explanation, that it is highly likely that a prohibited substance or prohibited method has been used and that it is unlikely that the passport is the result of any other cause.*"

17. Upon being informed of the abnormalities in his passport, the Athlete accepted a provisional suspension. On 21 February 2020, he provided his explanation for the abnormalities in the ABP as well as an expert report by Dr. Roger Palfreeman in support.

18. This explanation was forwarded to the Expert Panel, which proceeded with a qualitative assessment of the Athlete's no longer anonymized ABP, having regard to the Athlete's affirmations and Dr. Palfreeman's report.

19. The Expert Panel's Second Expert Report dated 18 March 2020 concluded that:

> " *… the arguments forwarded by the Athlete cannot explain the hematological abnormalities in the ABP Passport* (sic). *…We therefore confirm our previous opinion that it is highly unlikely that this profile is the result of a normal physiological or pathological condition, and it is highly likely that it was caused by the use of prohibited methods, with or without the use of prohibited substances.*"

20. By a Notice of Charge dated 10 April 2020, the Athlete was charged with an ADRV for "Use" pursuant to Article 2.2 of the WA ADR. In addition to relying on the Expert Panel's Joint Expert Reports, WA's ADRV charge was based on the Athlete's ABP which revealed:

> a. *data beyond the individual reference ranges for the Athlete at 99.99% specificity for sample 14 (collected on 9 March 2019), which shows an HGB value of 19.4g/dL and an OFF-score of 132.5, both markedly above the upper intraindividual limit calculated at 18.0g/dL and 117.4 respectively;*
>
> *b. the significant increase in HGB from sample 13 (17.4g/dL) and its sudden decrease from sample 14 to sample 15 (16.8g/dL), which cannot be explained by any other cause other than blood manipulation.*

21. The matter was then referred to the WA Disciplinary Tribunal, which found the Athlete to have committed an ADRV and imposed a four-year period of ineligibility and the disqualification of all his results since 9 March 2019.

22. Before the CAS, the Athlete abandoned the defence he presented to the Disciplinary Tribunal. He now relies on the evidence of a set of different expert witnesses and an explanation that differs from the one that failed before the Disciplinary Tribunal.

23. Under these circumstances, the Panel sees no need to summarize the substance of the first instance decision.

IV. THE PROCEEDINGS BEFORE THE COURT OF ARBITRATION FOR SPORT

24. The Appellant's Statement of Appeal was filed on 9 November 2020. CAS acknowledged receipt the following day and called on the Appellant to complete his appeal by nominating an arbitrator within two days.

25. By letter of 12 November 2020, the Appellant nominated Ms Soublière. CAS responded the same day, calling his attention to the fact that Ms Soublière is a member of the Athletics Integrity Unit Disciplinary Tribunal, the body that rendered the appealed decision on behalf of WA.

26. By letter dated 16 November 2020, CAS granted the Appellant an extension to file his Appeal Brief. By letter dated 19 November 2020, he invoked difficulties with respect to securing expert assistance and requested an additional extension of the deadline for filing his Appeal Brief. By letter of 2 December 2020, CAS informed the Appellant that the deadline was extended to 16 December 2020.

27. By letter of 23 November 2020, the Respondent nominated an arbitrator. By letter dated 10 December 2020, CAS informed the Parties that the Respondent's nominee had indicated that he did not consider himself to be in a position to accept appointment and gave the Respondent a deadline of 17 December 2020 to nominate a replacement.

28. In accordance with Article R51 of the CAS Code of Sports-related Arbitration ("CAS Code"), the Appellant filed his Appeal Brief on 16 December 2020.

29. The Appeal Brief was accompanied by expert reports from Dr. Jim Stray-Gundersen, a sports medicine physician, and Dr. Peter te Boekhorst, an internist-hematologist/transfusion specialist.

30. Having been granted an extension of the deadline to appoint a replacement arbitrator, the Respondent by letter dated 22 December 2020 nominated Mr. Stewart as arbitrator.

31. On 20 January 2021, pursuant to Article R54 of the CAS Code, the CAS Court Office on behalf of the Deputy President of the Appeals Arbitration Division gave notice of the formation of the Tribunal comprising

President: Prof. Jan Paulsson, Professor in Manama, Kingdom of Bahrain

Arbitrators: Ms. Janie Soublière, Attorney-at-Law in Montréal, Canada
Mr. Nicholas Stewart QC, Barrister in London, United Kingdom

32. Having obtained an extension of its deadline, the Respondent filed its Answer on 15 February 2021.

33. Th Answer was accompanied by five Joint Expert reports signed by Drs. Guiseppe d'Onofrio, Laura Garvican-Lewis, and Paulo Paixao: (1) the First Joint Expert Report referred to in Paragraph 15 above, (2) the second Joint Expert Report, referred to in Paragraph 19 above, (3) a response to Dr. Palfreeman's second Opinion, (4) a response to Dr. Paul Scott's opinion, and (5) a response to the Opinions of Drs. Stray-Gundersen and te Boekhorst.

34. As of 22 March 2021, both Parties had signed the Order of Procedure.

35. A virtual hearing was conducted on 19 May 2021. On the Appellant's side, the participants were Mr. Wanjiru and his counsel Mr. van Dijk, assisted by Ms. Amajanti; his manager Ms. Hannah van de Veen, and three experts: Dr. James Stray-Gunderson, M.D.; Dr. Peter te Boekhorst, M.D., and Prof. Donald Berry. On the Respondent's side, the participants were his counsel Mr. Wenzel, Mr. Tony Jackson; Prof. Giuseppe d'Onofrio, Dr. Laura Garvican-Lewis, Dr. Pierre-Edouard Sottas, Mr. Christiaan Bartlett, and Mr. Raphael Roux.

36. On 26 May 2021, the CAS Court Office provided a link to the complete audio recording of the hearing to the Parties and the Panel.

37. On 3 June 2021, the CAS Court Office communicated a list of additional written questions from the Panel to the Parties for their answers and comments.

38. On 8 June 2021, the Respondent provided a quick response to one of these questions, in the form of an email from Mr. Bartlett from the King's College WADA-accredited laboratory in London where the Athlete's sample 14 had been analyzed, accompanied by an enclosed "screenshot from the Laboratory Information Management System ('LIMS') confirming the volume of 3.5mL in the Sample (14)", and in the same letter requested clarifications in respect of the post-hearing written submissions.

39. Answers to the requests for clarification were made by the CAS Court Office on 10 June 2021.

40. The Parties' post-hearing briefs were acknowledged by the CAS Court Office on 16 June 2021.

41. The following day, the Respondent emailed the CAS Court Office signifying its objection to certain materials filed by the Appellant with his brief. In particular, the Respondent considered that three new expert reports submitted by the Appellant went beyond the limits set out in the CAS clarifications of 10 June 2021 and constituted "a wilful violation of the unambiguous instructions given by the Panel."

42. Counsel for the Appellant responded the next day, "strongly" disagreeing and stating that he had simply answered the Panel's questions and that no new evidence was submitted.

43. On 1 July 2021, CAS wrote to the Appellant on behalf of the Panel, inviting him to provide by 6 July 2021 a "clear and detailed itinerary (without any comments) for his trip to London and back home at the end of the first week in March 2019," and disclosing specified details such as the identity of anyone accompanying him and his movements while in London.

44. On 6 July 2021, he communicated the itinerary as requested.

45. On 7 July 2021, CAS wrote to the Parties confirming that the Panel would disregard any post hearing brief materials not directly responsive to its specific questions.

46. On 9 July 2021, the Respondent objected to the introduction of the itinerary to the file as it had not been in a position to cross-examine the Athlete. On 14 July 2021, the Athlete rejected the objection. Given the Panel's determination that the itinerary did not create sufficient doubt to defeat the charge against the Athlete, as will be seen below, the objection was immaterial and there was no reason to rule on it.

V. JURISDICTION

47. Article R47 of the CAS Code provides as follows:

> "*An appeal against the decision of a federation, association or sports-related body may be filed with the CAS insofar as the statutes or regulations of the said body so provide or as the parties have concluded a specific arbitration agreement and insofar as the Appellant has exhausted the legal remedies available to him prior to the appeal, in accordance with the statutes or regulations of the said sports-related body.*"

48. The Appellant brings his case under Article 13 of the ADR. The Parties confirmed CAS jurisdiction when they signed the Order of Procedure. The Panel accordingly confirms CAS jurisdiction.

VI. ADMISSIBILITY

49. The Appealed Decision was dated 8 October 2020 and received by the Athlete on 14 October 2020. His Statement of Appeal was filed on 9 November 2020 and therefore within the 21-day deadline set out in Article 13.7 of the ADR.

50. In the absence of any objection to the admissibility of this appeal, the Panel confirms it as such.

VII. APPLICABLE LAW

51. Article R58 of the CAS Code provides as follows:

> "*The Panel shall decide the dispute according to the applicable regulations and the rules of law chosen by the parties or, in the absence of such a choice, according to the law of the country in which the federation, association or sports-related body which has issued the challenged decision is domiciled or according to the rules of law, the application of which the Panel deems appropriate. In the latter case, the Panel shall give reasons for its decision.*"

52. In the present case, the "applicable regulations" for the purposes of Article R58 of the CAS Code are the WA ADR and WA Anti-Doping Regulations (ADRegs) because the appeal is directed against a decision issued by the Respondent in application thereof. By virtue of WA being a signatory to the World Anti-Doping Code, all International Standards and all Technical Documents are also applicable.

53. As a body constituted under Swiss law, CAS and therefore the Panel consider themselves bound to act in accordance with Swiss principles of due process.

VIII. SUMMARY OF THE PARTIES' SUBMISSIONS

The Appellant

54. The Athlete's case has evolved considerably as time has passed and he has consulted different experts who have considered the likelihood of there being innocent explanations for the adverse passport finding. The Panel does not count his changing stance against him; he and his advisers would not necessarily have been expected to identify his optimal arguments at the first instance. By the same token, the Panel sees no reason to consider arguments which have been superseded.

55. The Athlete submits that this case is about one single suspect HGB value in one sample and that one suspect ABP value is in itself insufficient to prove an ADRV.

56. It is common ground that Sample 14 revealed a "very abnormal" hemoglobin value of 19.4g/dL. But the Athlete offers an explanation consistent with his innocence, namely an "inadequate mixing of his specimen prior to its analysis", which could have caused a "false positive" and which would also explain the return to normal of the blood values in sample 15 just four days later. The Athlete also contends that given the glaring abnormality of the results of his sample 14, the laboratory should have analyzed his B sample to verify the finding. Had the B sample analysis occurred, it might very well have provided an alternative

finding or confirmed that his A sample was inadequately mixed, thereby absolving the Athlete.

57. The Athlete relies on Dr. Stray-Gundersen's expert opinion that: "Viewed as a whole, there are no pathologic, physiologic or doping scenarios that are consistent with results on Samples 13, 14 and 15. The only reasonable explanation is that there was inadequate mixing of the sample (14) prior to analysis". The Athlete also relies on the experiments and evidence of Dr. te Boekhorst, a hematologist whose studies and experiments show that inadequate mixing can and does occur.

58. With respect to the Expert Panel's assertion that the reproducibility of the results of the analyses carried out on sample 14 exclude the possibility that the blood in the tube was inadequately mixed, and the presumption to the effect that the laboratory followed the applicable protocol, the Athlete concedes that both lend support to a conclusion that the Athlete's sample were adequately mixed. However, relying on an experiment and case report of Dr. te Boekhorst, the Athlete argues that it is still possible to get matching duplicates with inadequate mixing if a tube is overfilled or if settling occurs between duplicate sampling.

59. In particular, although the Athlete accepts that all blood collection tubes should have a capacity of 5 ml and an internal vacuum that causes 3.5 ml of blood to be drawn into the tube, he relies on a study by Pewarchuk[1] which found that 6% of 5 ml ethylenediaminetetraacetic ('EDTA') tubes received from manufacturers had a higher varying vacuum that resulted in overfilling of the tube. This, the Athlete argues providesd greater credence to his explanation that overfilling is possible and thus that inadequate mixing can occur as a result.

60. The Athlete also argues that "False Positives" are more frequent than represented in statistics or as portrayed by the Respondent. While WA has submitted that an outlier at 99.99% specificity entails a statistical risk of a false positive of 1 in 10000, the Athlete points to Dr. Stray-Gundersen's statement that false positive rates cannot be assessed unless there has been a study large enough to warrant that conclusion, and what Dr. Stray-Gundersen perceives to be a concession by Dr. Sottas at the hearing to the effect that there is no established or known false positive rate for the ABP. The Athlete thus argues that there is no defensible criterion for judging the accuracy of the ABP in this particular case and that the possibility of Sample 14's analytical results having been falsely reported should be accepted.

61. The Athlete suggests that the HGB value attributed to his sample is so exceptional that it points to an error. The Athlete and his experts conclude that the most likely explanation is "inadequate mixing". And while WA's experts believe that the most likely explanation is a

[1] Pseudopolycythemia, Pseudothrombocytopenia and Pseudoleukopenia due to overfilling of blood collections vacuum tubes; Willie Pewarchuk, et al Arch Pathol Mab Med – Vol 116, January 1992.

massive transfusion less than 48 hours before Sample 14 was collected, followed by a similarly massive blood withdrawal before the collection of Sample 15, the Athlete argues that his explanation of the results is far more likely than the Respondent's. Not only is this due to inadequate mixing, but also because of the impossibility and impracticality of the occurrence of such a massive transfusion.

62. Consequently, the Athlete argues that the Respondent must put that value in some context and present a credible doping scenario; and the case against him must be dismissed if the Respondent fails to do so even if the Panel was to find the Athlete's explanation of inadequate mixing unlikely.

63. The Athlete denies that WA has established that his journey from Kenya to London took place in circumstances that support the finding of a doping scenario of blood manipulation by way of transfusion. He says that this hypothesis is virtually impossible due to his blood profile results; along with the absence of motive, of performance enhancement, and of parallels to the Damsgaard[2] study; the near impossibility of the logistics of carrying out such a transfusion given his documented locations and activities; the happenstance of an automobile accident which disrupted his already tight travel schedule; and the impossibility of the phlebotomy (i.e. blood withdrawal) scenario – which would have been necessary for his blood parameters to return to normal upon his return to Kenya.

64. The Athlete also posits that so much logistical trouble and expense (assuming he had the means to defray their cost) to go through this process in secret makes no sense in terms of return on investment; the Vitality Big Half Marathon for which he had travelled to London was a competition of secondary importance – merely an opportunity for him to test his progress after returning from an injury. At any rate, his performance was comparable to his other results with no evidence of doping. The lack of motive and no change in performance, in his view, make the transfusion scenario even less likely.

65. The Athlete contends that for this Panel to accept his explanation would not discredit the ABP system (and at the hearing his counsel expressly stated: "*We are not attacking the ABP system. We are only focusing on the situation of my client Daniel Wanjiru*."). But the explanation must fit the data of each specific case. Inadequate mixing is the only explanation that fits the values in Samples 13, 14 and 15 considered in context. If he had engaged in any type of blood manipulation, the data in these samples would have been different. Since his explanation is unique to his exceptional case, his line of defense and explanation could not be falsely used in the future by others.

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[2] Effects of blood withdrawal and reinfusion on biomarkers of erythropoiesis in humans: implications for anti-doping strategies: Rasmus Damsgaard et al, Haematologica 2006; 91:1006=1008

The Respondent

66. The principal abnormality in the Athlete's passport – the extraordinarily high HGB value of 19.4 g/dL in Sample 14 – is a concentration so high that it would according to Prof. d'Onofrio represent a serious danger to the Athlete's health, including the risk of thrombosis.

67. WA relies on the Joint Expert Reports submitted by the Expert Panel and the subsequent opinions they have provided in addition to their testimony during the hearing; it submits that there is no pathological or physiological explanation for the HGB value in Sample 14.

68. WA rejects the thesis of inadequate mixing as unsubstantiated speculation, arguing that both the factual and scientific evidence confirm that adequate mixing occurred during the custodial and analytical procedures employed in the analysis of Sample 14.

69. With regard to the overfilling hypothesis, WA asserts that a Vacutainer simply cannot be overfilled above 3.5 d/mL and goes on to make more detailed submissions as follows.

70. There is, to begin with, a presumption of proper mixing. Article 4.5.4 of the WA AD Regulations provides that:

> "*accredited laboratories shall be presumed to have conducted the Sample analysis and custodial procedures of ABP samples in accordance with the International Standard for Laboratories and Technical Documents. The Athlete or other person may rebut this presumption by establishing that a departure from the ISL and/or Technical Documents occurred which could reasonably have significantly modified the result.*"

Technical Document TD2018BAR specifically requires that a "blood sample shall be homogenized for a minimum period of 15 minutes using an appropriate mixer (e.g., roller mixer) prior to analysis." WA submits that the Athlete has adduced no concrete evidence of a failure to follow the procedures in TD2018BAR.

71. Second, proper mixing was confirmed by Prof. d'Onofrio's assessment of the sample by reference to the passport (WBC and platelets); by the written and oral testimony of Mr. Bartlett of the King's College Laboratory to the effect that the sample was mixed in accordance with the laboratory's standard operating procedures, both mechanically and manually, and that no other blood samples analyzed that day presented any abnormalities; and by Prof. d'Onofrio's explanation that because the two runs of analysis of the sample showed identical results, this is "the ultimate demonstration that the blood was perfectly mixed."

72. Third, the expert scientific evidence confirms that overfilling is next to impossible, thus ensuring adequate mixing:

- Prof. d'Onofrio and Mr. Bartlett testified that they had never encountered an overfilled tube.

- Dr. Stay-Gundersen accepted that if the tube did contain 3.5 ml (which it evidently did) overfilling is effectively ruled out.

- Dr. te Boekhorst conceded that Vacutainer tubes cannot be overfilled.

- In the Pewarchuk study relied upon by Dr. Stray-Gundersen, the inadequate mixing occurred as a result of the use of a rocker mixer, which is not used in the ABP context.

73. In sum, WA contends that there is no evidence of inadequate mixing and powerful evidence of adequate mixing; the elimination of the inadequate mixing explanation leaves doping, and the Athlete's claims of innocence are unsupported by evidence and cannot lead to acquittal.

74. WA thus concludes that the analytical result of Sample 14 is reliable; no pathological or physiological explanation has been put forward and the Athlete's own experts recognize (as they do) that none is possible.

75. WA also submits that, while the Athlete argues that his data shows that no explanation other than inadequate mixing is possible, the Expert Panel has confirmed, the evidence shows, and reliable studies confirm the perfect consistency of the analytical results in this case with blood manipulation, in particular a transfusion scenario. This is evidenced not only by the extremely high HGB in Sample 14 (when one would expect a lower HGB due to descent from altitude) but also by the low RET% value in Sample 15 (when one would expect a higher RET% upon the Athlete's re-ascent to altitude).

76. As regards to the doping scenario, WA argues that no applicable regulation requires the Expert Panel to posit, much less prove, a doping scenario in a situation where, as here, the analytical results in this case are perfectly compatible with blood doping: "We are dealing with an increased blood cell mass for an endurance athlete on the eve of an international competition. This is exactly what blood doping is seeking to achieve."

77. WA thus relies on the evidence of its Expert Panel and submits that it has demonstrated perfect compatibility of the values of both Sample 14 and Sample 15 with a transfusion scenario and with the values provided in the Damsgaard paper. WA argues that because HGB should have been lower in Sample 14 and RET% should have been higher in Sample 15 (both due to altitude shifts), the analytical results stand out as even more abnormal and all the more indicative of a blood transfusion.

78. Finally, WA adamantly argues that while the Athlete has suggested that a transfusion is unrealistic due to his personal and logistical circumstances, this cannot be sufficient to defeat the charge brought against him, and all the more so in the absence here of any

physiological or pathological explanation for the extremely abnormal values. WA thus concludes that the standard of comfortable satisfaction has been easily reached based on the written and oral evidence presented in this case.

Expert evidence

79. The hearing provided an instructive opportunity for the experts to be examined and to confront each other's analysis and conclusions. The following provides a summary of the most significant submissions tendered, with briefer reference to others of incidental relevance.

On the inadequate mixing theory

80. Dr. Stray-Gundersen has more than three decades of involvement with Olympic level sports and a long list of international governing bodies. As part of his career as an academic sports medicine and clinical physiologist, he was involved in developing the first hematologic passport for the International Skating Union. He has been engaged in many years of anti-blood doping research, including the development of the ABP, work with flow cyclometers, and assignments as an expert consulted in prominent cases by regulators as well as by the accused.

81. Dr. Stray-Gundersen summarized his evidence with regards to the probability of inadequate mixing as follows:

> "*1. Sample 14 reports a very abnormal Hemoglobin value (19.4 gms/dl), which produces an abnormal OFF Score and places the value outside the range for the Adaptive Model.*
>
> *2. The Expert Panel made the following statement after hearing the Athlete's explanation of the high hemoglobin value: "We therefore confirm our previous opinion that it is highly unlikely that this profile is the result of a normal physiological or pathological condition, and it is highly likely that it was caused by the use of prohibited methods, with or without the use of prohibited substances."*
>
> *3. I agree with the first part of the Expert Panel's conclusion, that it is highly unlikely that the profile is a result of a normal physiologic or pathologic condition, but I disagree that that necessarily means the Athlete's profile is the result of the use of a prohibited method or*

> *substance. In my analysis of Sample 14 and in comparison to other Samples from the Athlete, I find that the results are inconsistent with either the use of ESA's or transfusions.*
>
> *4. In my analysis, I find a reasonable explanation for the results and that it is highly likely that the reported values are the result of inadequate mixing of the specimen prior to analysis on the Sysmex XT 2000i. If a specimen is not completely mixed prior to analysis, one can obtain a high hemoglobin concentration, a normal reticulocyte percentage, a low platelet count and low white blood cell count, due to the different densities of the cellular elements in the specimen. These are exactly the results we observe in Sample 14 and inadequate mixing explains the quick "return to normal" in Sample 15.*"

82. Resuming his extensive expert reports, Dr. Stray-Gundersen opined that:

> "*The blood sample from the Athlete in question (Sample 14) reports a high hemoglobin value and a normal percentage of reticulocytes. However, the white blood cell count is severely abnormal, and the platelet count is low. This constellation of findings is consistent with inadequate mixing of the sample prior to analysis. Inadequate mixing can be due to overfilling the specimen tube, inadequate time on mechanical mixers or settling of the sample if the technician does not employ enough manual mixes while waiting for the analyzer to clear.*
>
> *My colleague Dr. te Boekhorst has demonstrated that this constellation of results can occur (see Dr. te Boekhorst's report). The results reported for Sample 14 are markedly different than either Sample 13 (taken 25 days previously) or Sample 15 (taken 4 days later) in that red cells in Sample 14 are markedly higher, while platelets and white cells are markedly lower, adding evidence that the cause of Sample 14's high hemoglobin was the result of inadequate mixing of the sample. Viewed as a whole, there are no pathologic, physiologic or doping scenarios that are consistent with results on Samples 13, 14 and 15. The only reasonable explanation is that there was inadequate mixing of the sample prior to analysis*."

83. Dr. te Boekhurst is a hematologist and transfusion specialist at the Erasmus Medical Academic Center in The Netherlands. Relying on studies he conducted personally, he testified as to the possibility of inadequate mixing having occurred at the time of analysis, which could have resulted in the values of the Athlete's Sample. His conclusion was:

> " *... there are several possible explanations that might (sic) explain the adverse Hb finding. This varies from explanation in the pre-analytical phase of taking the blood sample to the athlete's characteristics. We were able to prove that inadequate mixture of the sample tested can sufficiently explain the abnormalities found in sample 14 of this athlete. Alternative explanation that doping and/or red blood cell transfusions might have caused this single adverse finding are extremely unlikely.*"

84. Dr. Christiaan Bartlett from the WADA Kings College Laboratory appeared before the Panel as a witness of fact and certified that the laboratory result of the Athlete's sample complied with WADA requirements. He was asked whether the sample might have been inadequately mixed due to the overfilling of the tube. He answered that the Athlete's Sample 14 was mixed "for approximately 30 minutes as per the WADA document technical requirements and the laboratory Standard Operating Procedure"; the volume of the sample was "estimated as part of the laboratory receipt process" as 3.5mm in a 5mm tube, which he said, "leaves plenty of room for adequate mixing." He checked and countersigned the report of a trained technician known to (and indeed trained by) himself and was in a position to verify that the "machine was working perfectly well that day." Dr. Bartlett indicated that the laboratory just reported the results; an unusual value would be dealt as necessary later and elsewhere, when reference might be made to the particular individual's historical blood profile. In response to a question from the Panel, he said that he had never seen a tube that was completely full (the usual problem being too little rather than too much) and that between half and two-thirds full, as in this case, left plenty of room for proper mixing.

85. Prof. d'Onofrio explained that the entire premise of the inadequate mixing argument – the low white blood cell and platelet count of Sample 14 compared to sample 13 – was flawed. He opined that the white blood cell count in Sample 14 is comparable with a number of other values in the Athlete's passport and that the reason that the white blood cells are lower in Sample 14 than in Sample 13 was due to the neutrophil fraction alone. Furthermore, low white blood cells and low platelets are not an indication of poor mixing in this case because they are a common feature in the passport.

86. Prof. d'Onofrio affirmed that the repeatability of the results of Sample 14 between the two analytical runs conducted by the Kings College Laboratory proves that the samples must have been adequately mixed. The HGB value of 19.4 g/dL was identical in both runs. This analytical repeatability would not be possible unless the sample has been properly homogenized through mixing because "if you do not have perfectly homogenous blood you

cannot have the same results from the machine because different parts of the blood would contain different concentration of the cells." He described the similarity of the results of the two runs as "positive evidence of perfect mixing of the samples and of the blood in the tube".

On the Doping Scenario

87. Dr. Stray-Gundersen's offered the following opinion, contradicting the doping scenario:

> "*The Expert Panel's final explanation for the high hemoglobin, is that some time after Sample 13 was drawn and analyzed, and prior to the collection of Sample 14 at 07:38 March 9th, the Athlete received a transfusion of several units of blood, resulting in the high hemoglobin reported from Sample 14 (19.4gms/dl).*
>
> *Assuming the Athlete's hemoglobin value was similar to the February 12th result (17.4gms/dl), multiple units of blood would need to be transfused to raise hemoglobin concentration by 2.0 gms/dL.*
>
> *When transfusions are given to an individual with a normal amount of red blood cells, within a day or two, the percentage of reticulocytes in the circulation drops dramatically. If the Athlete had received a large multi-unit transfusion, this would be seen as a greatly reduced percentage of reticulocytes. That is not the case with the Sample 14 results.*
>
> *The percentage of reticulocytes are completely normal in Sample 14 (% reticulocytes -- 1.05% reported as RET. The only way to give a large transfusion and not observe a dramatic reduction in reticulocytes, is to sample blood within 24 hours of the transfusions and possibly out to 48 hours post transfusion.*
>
> *In summary, the possibility of multiunit transfusion within 24 to 48 hours prior to Sample 14 and phlebotomy 24 to 48 hours prior to Sample 15, is highly unlikely. In addition, there is a normal distribution of red cell age and size and the white blood cell count and platelet counts are low when they should be normal. Taken together, these data effectively rule out the possibility of a large transfusion or at best, make it extremely improbable*."

88. Two members of the ABP Expert Panel, Prof. d'Onofrio and Dr. Garvican-Lewis, testified at the hearing. They explained inter alia that Sample 14 was collected on 9 March 2019 in London, two days after the Athlete's descent to sea level from the Kenyan highlands, where he lives and trains at an altitude of 1800-2000 m. After having competed in the London Big Half (half marathon), the Athlete traveled back to altitude, where he was tested again four days later on 13 March 2019 (Sample 15), on his second day after arrival in the highlands. His HB value was then strikingly decreased back to his the previous most frequent value just below 17.0 g/dL. Even in this case, a change of this inordinate rapidity and 10 amplitude (-2.6 g/dL), and in such direction, has neither any physiological nor pathological explanation in the absence of a severe and certified medical condition associated with great loss of blood.

89. For the Expert Panel, the increase of HB from Sample 13 to Sample 14, and its sudden decrease from Sample 14 to Sample 15, cannot be explained by any other cause than blood manipulation. In their opinion, the Athlete's sequence of HB variation could have been achieved, by means of transfusion of blood, likely by reinfusing at least two or more bags of previously stored red blood cells, followed by withdrawal of blood either shortly after the race or after return to the Athlete's own country on 11 or 12 March 2019; in any case before collection of Sample 15.

90. The Expert Panel's conclusions on a "likely doping scenario" reads as follows:

> "*As stated in our previous reports, we confirm that in our opinion, the likeliest doping scenario for the high hemoglobin and OFF score in sample 14, followed by a decrease of both markers in sample 15, when the Athlete was back at his residence altitude, consists of transfusion of at least two bags of blood or fractionated red blood cells, of autologous or homologous origin. This scenario is consistent with the study results published by Damsgaard et al. in 2005 and previously mentioned in several Reports for this case. These authors reinfused 0.8 liters of packed autologous red blood cells (previously collected) to ten volunteers and showed an increase of the mean hemoglobin from 15.4 to 16.0 g/dL (+8%) on the day after reinfusion with a return to 15.4 after three days and to 14.9 after seven days, without a marked reticulocyte change until one-week post-infusion. This quick return in Hb to the pre-transfusion values recalls the variation observed in sample 15 and indicates that the decrease of hemoglobin after return to altitude could represent the natural evolution due to plasma volume increase and re-equilibration, without necessarily involving the further manipulation of blood withdrawal that*

> *we had mentioned in our first ABP Expert Reports. Further, the delayed suppression of reticulocytes observed in sample 15 (not in sample 14) is entirely consistent with Damsgaard's observations.*"

91. Resuming its quantitative and qualitative analysis, the executive Summary from the final Joint Expert Report reads as follows:

> "*1. The fundamental abnormality of the Passport is the highly abnormal hemoglobin value in sample 14 (19.4 g/dL). This value lies in a pathological range and entails severe risks for an athlete's health due to the increased blood viscosity and risk of thrombosis. Reproducibility of the results of the analyses carried out on sample 14 (coded 625360) excludes that the blood in the tube was inadequately mixed.*
>
> *2. The Vacutainer tubes, validated by WADA or WADA-accredited laboratories used to collect blood in the ABP procedures, have a standardized inner vacuum that prevents overfilling and underfilling (ISTI, Blood Sample Collection Guidelines in force, V 5.0, September 2016).*
>
> *3. The London Anti-Doping Laboratory has confirmed in a further signed Documentation Package, signed and dated 8-2-2021, that sample 625360 was analyzed under all relevant ABP WADA Guidelines, Annexes, and Technical Documents.*
>
> *4. The allegedly inappropriate mixing hypothesis is based on the low white blood cell (WBC), and platelet (PLT) counts in sample 14. It is not true that these values are lower for the Athlete than the other samples in the Passport.*
>
> *5. The WBC and PLT count for sample 14 are comparable to most other samples in the Passport. The neutrophil fraction of the circulating WBC is indeed lower than that observed in the two preceding samples, which probably results from a change in physiological conditions. However, if the sample had not been adequately mixed, all WBC subpopulations would have shown parallel changes: this is not the*

case because lymphocyte and monocyte counts are not decreased.

6. *The experiment described by Dr. te Boekhorst does not reflect the real sample conditions and does not add any useful information. The strict controlled standard operating procedures in the London Anti-Doping Laboratory make any possible formal or pre-analytical error extremely unlikely. Dr. te Boekhorst's list of possible physiological causes repeats what has been dealt with in our previous reports.*

7. *We confirm that the likeliest doping scenario for the atypical results of sample 14 collected in London on 9.3.2019 was blood reinfusion before the Athlete's flight from Africa to London. This sequence of events is fully compatible with the experimental results published by Damsgaard et al. in 2006*."

IX. THE MERITS

(a) Is the ABP a "Reliable Means"?

92. Pursuant to Article 3.2 of the WADC, an ADRV may be established by "any reliable means". The Comment to WADC Article 3.2 reads that an ADRV may be established by "conclusions drawn from the profile of a series of the Athlete's blood or urine Samples, such as data from the Athlete Biological Passport."

93. It is now well-settled in CAS cases that the ABP model is a reliable means of establishing blood doping, i.e. the use of a Prohibited Substance or Prohibited Method. As the Panel in CAS 2012/A/2773 concluded: "Systems which make use of these longitudinal profiles have evolved to become widespread and highly effective means of detecting EPO doping."

94. The Panel in CAS 2014/A/3614 & 3561 stated that it was "convinced that the ABP Model is a reliable and a valid mean of establishing an ADRV" and added that "numerous peer-reviewed publications have confirmed the ABP's reliability". The same conclusion was confirmed by CAS 2016/O/4464, CAS 2016/O/4463, CAS 2016/O/4469 & CAS 2016/O/4481, as well as in numerous recent WA Disciplinary Tribunal awards.

95. Subsequently, the Panel in CAS 2018/O/5822 found "that the ABP is a reliable and accepted means of evidence to assist in establishing an anti-doping rule violation and feels comforted in this conclusion by CAS jurisprudence."

96. Yet an ABP finding is not in and of itself sufficient to decide that an Athlete should be charged with an ADRV. The abnormal ABP finding must also be thoroughly analysed by a Joint Expert Panel on at least two occasions in order to reach both quantitative and qualitative conclusions. An athlete will be charged with an ADRV only if the Expert Panel is unanimously satisfied, having heard and assessed an athlete's explanations in reaction to the ABP finding, that "it is likely that a Prohibited Substance or Prohibited Method had been used, and highly unlikely that the biological profile is the result of any other (physiological or pathological) cause." Then, should the Athlete contest the ADRV with which he or she has been charged, in making its determination, a hearing Panel will consider all the evidence before it and accept the evidence brought forward by the Athlete's ABP as being reliable although not conclusive.

97. In sum, the Panel finds that the ABP is a reliable means that may assist in establishing an ADRV, and although not definitive, it is highly convincing when supported by Joint Expert Reports such as those presented in this case.

(b) The Burden of proof in ABP cases

98. The burden of proof raises specific issues in cases like this, where the Athlete denies wrong-doing and where no physical paraphernalia of doping is in evidence, nor even traces of a prohibited substance detected by testing. Instead, the positive finding is based on an abnormal hemoglobin value said to establish the unlikelihood of innocence as scientifically sufficient to justify disqualification from competition. Nevertheless, in favor of the athlete concerned, there may be cases where mishandling of the relevant sample could have led to the abnormality in question (in the WA ADR, an Atypical Passport Finding).

99. This Panel, comprised of lawyers, cannot claim scientific certainty, but neither scientific nor legal certainty is required. Its members must reach a conclusion on a principled basis in accordance with an assessment of the *likelihood* of a violation. That assessment requires higher proof than a mere balance of probabilities, i.e. that the violation is *more likely than not*. But it does not require such higher proof as would satisfy the familiar test for culpability for crimes: *beyond a reasonable doubt*. In doping matters, the standard is an intermediate one, namely the "comfortable satisfaction" of the Panel, which is another way of saying that an innocent explanation of a positive result is sufficiently remote to be excluded in the interest of fair competition for the entire sports community.

100. In this case, the line between the high standard (beyond reasonable doubt) and the intermediate one (comfortable satisfaction) was elucidated by the debate among the experts who appeared before the Panel. Their courtesy and mutual respect was commendable and made their contributions all the more valuable.

101. As finally emerged in the written and oral phases of the debate between the Parties, the Athlete's defense centered on two categories of contentions. The first related to the statistical improbability of the "aberrantly high value" measured for HGB (hemoglobin) in

what turned out to be the critical Sample 14, taken on 9 March 2019, which was 19.4 g/D. Sample 13, taken only 4 days later, was 16.8 g/Dl. The scientists on both sides agreed that this was a rare anomaly.

102. The Athlete stressed that values of this magnitude are highly unexpected. WA does not disagree. The recording of such a value serves as a "flag" indicating the need for more probing ascertainment. Such analysis and assessment were indeed made prior to (and as the basis of) the WA finding of a doping violation. It was conducted by the three experts who made a joint report on this second – and decisive – issue, which in these proceedings has been referred to in shorthand as of "the ABP": shorthand for *the assessment of the data entered into the Appellant's Athlete Biological Passport*.

103. One broad principle favors the accused, the other favors officials charged with enforcement of the rules. The first is the requirement of strict compliance with protocols that regulate matters like the safe keeping of samples; failures in this respect will usually be fatal to the accusation and not rescued by attempts, for example, to demonstrate that the protocol included double protections and that failure to ensure one of them made no difference. The second is the presumption of accuracy of the results produced by accredited laboratories; it would be impossible to require all technicians to prove that they did not, despite all safeguards and standard operating procedures ('SOPs'), confuse two samples or that they did not read an instrument accurately, and for all supervisors to prove that they actively verified compliance in every case.

104. With respect to the critical ABP data, was it sufficient, under the applicable standard of proof, to exclude a hypothesis of innocence? The dividing line between opposing experts was crystallized in an extended, respectful, and illuminating exchange between Dr. Stray-Gundersen, called by the Athlete, and Prof. Giuseppe d'Onofrio, one of the three authors of the Expert Report that served as a basis for the adverse passport finding and of the three subsequent Joint Expert Reports submitted in response to the Athlete's contentions. These two senior experts, evidently familiar with each other and willing fully to consider each other's position although in ultimate disagreement, and who in the view of the Panel expressed sincerely held views, made a valuable contribution to the Panel's deliberation (as did Dr. Garvican-Lewis, another of the co-authors, on particular points of importance).

105. The Panel thus concludes that the burden of proof lies with WA, and the evidence of its experts, to establish to the Panel's comfortable satisfaction that an ADRV occurred. A hypothesis of innocence would need to be significantly and objectively convincing to overcome the charges and their scientific foundation.

(c) Was there a departure from any applicable International Standard or Technical Document?

106. Departures from applicable International Standards and Technical Documents have been raised as possible causes of the adverse passport finding in Sample 14. Should any of these

departures have reasonably caused the HGB finding of 19.4.d/ml, pursuant to Article 5.4.5 WA AD Regulations, the burden would shift to WA to establish that the departure could not reasonably have caused the adverse finding.

(d) Should the Laboratory have retested the second collected sample pursuant to the recommendation at Article 1.2 WA ADR and 4.5.4 WA AD Regulations?

107. On 11 March 2019, the Athlete's samples were received and analysed by the laboratory in London. This included 2 EDTA tubes collected for Sample 14. Only one of the collected blood samples was analysed.

108. The Athlete argues an analysis of his second sample could have confirmed the results in the first sample or confirmed that the results were indeed an error. The Athlete argues that this should have been done, as recommended in Paragraph 1.2 in Appendix D to the WA AD Regs in reaction to abnormal HGB results. "It is recommended however whenever Testing blood Samples for ABP purposes to collect two (2) or more EDTA tubes (x 3ml) to allow for simultaneous Testing for the detection of Prohibited Substances or Methods e.g., in cases of abnormal results for the blood variables included in the ABP."

109. In response, WA relies on Article 4.5.4 WA AD Regs (reproduced above) which provides that there is a presumption that all ABP custodial procedures were respected by the laboratory. WA rejects the Athlete's argument that there was any deficiency in the procedure followed. WA's position is that paragraph 1.2 does no more than *recommend* that a second EDTA should be collected (which was done in this case, but it was later discarded as no longer needed); and that the test results on the first EDTA tube were sufficient without requiring testing of the contents of a second EDTA tube.

110. WA also explains that pursuant to paragraph 1.2, the second tube is not used to repeat the ABP analysis of the first tube, as a B sample would be in a regular urine or blood analysis. If the second was to be analysed, it would be for the purposes of direct detection of a Prohibited Substance – not as confirmation of the finding on the first tube. As Prof. d'Onofrio explained at the hearing: "*There are recommendations in which the collection of a second sample is recommended, but* ***it's not for the passport***." (Emphasis added.)

111. WA argues that even assuming that the failure to analyse the second sample was somehow a departure from proper procedure, the Athlete has not demonstrated how such a departure caused or could have caused the abnormal HGB result.

112. On this point the Panel finds that the Athlete fails to establish, pursuant to Article 4.5.4 WA AD Regs, that the non-analysis of the second collected EDTA sample, as recommended by Article 2.1 WA AD Regs, was a departure from applicable regulations, or (in any event) that it could have caused, or did cast, any doubt as to the high HGB level in Sample 14.

(e) Was the Sample tube overfilled?

113. The Athlete's theory that his blood tube was inadequately mixed supposes that the tube was overfilled, as Dr. te Boekhurst's study concludes is possible.

114. The Panel accepts the Expert Panel's assessment of Dr. te Boekhorst's study in the sense that it does not reflect the real sample conditions or the now established impossibility of overfilling the tube (thereby resulting in inadequate mixing).

115. The evidence given by all WA experts, and eventually conceded by Dr. Stray- Gundersen, is that the blood in the tubes cannot exceed 3.5 ml as they all contain an air vacuum that prevents it.

116. The Panel is therefore comfortably satisfied that the Athlete's blood sample tubes were not overfilled.

(f) Was the sample inadequately mixed?

117. The results reported for Sample 14 are markedly different than either Sample 13 (taken 25 days previously) or Sample 15 (taken 4 days later) in that red cells in Sample 14 are markedly higher, while platelets and white cells are markedly lower, which Dr. Stray-Gundersen considered added evidence that the cause of Sample 14's high hemoglobin was the result of inadequate mixing of Sample 14.

118. The Athlete submits, relying on Dr. Stray-Gundersen's evidence, that no pathologic, physiological, or doping scenarios are consistent with the results of Samples 13, 14 and 15. WA agrees. Dr Stray-Gundersen goes on to conclude that the only reasonable explanation is that there was inadequate mixing of the sample prior to analysis. Here WA does not agree.

119. After the abnormally high HGB results of Sample 14, there was a rapid return to normal in Sample 15.

120. Sample 14 reports a high hemoglobin value and a normal reticulocyte percentage. However, the white blood cell count is severely abnormal, and the platelet count is low. Dr. Stray-Gundersen's considers that his constellation of findings is consistent with inadequate mixing of the sample prior to analysis.

121. Nevertheless, the strict controlled standard operating procedures that were shown to have been followed in the London Anti-Doping Laboratory make any possible formal or pre-analytical error extremely unlikely. WA insists that the inadequate mixing explanation cannot be correct. Beyond the presumption that adequate mixing occurred (as per the ISL

and Article 3 of the WA ADR), the factual and scientific evidence shows that there was proper mixing.

122. Prof. d'Onofrio testified that the repeatability of the results between the two analytical runs proves that the sample has been adequately mixed. In this case, the HGB value of 19.4 g/dL and the reticulocyte percentage were almost identical in both runs. Prof. d'Onofrio referred to this as "the ultimate demonstration that the blood was perfectly mixed", because analytical repeatability would be impossible unless the samples had been homogenized through proper mixing, as envisaged byTD2018BAR. This point fully persuades the Panel.

123. Prof. d'Onofrio added at the hearing that "low white blood cells and low platelets" (as evidenced in Sample 14) did not indicate poor mixing in this case because they are a common feature in this Athlete's passport. This reflected the opinion of the Expert Panel in its report dated 10 February 2021, where they explained that inadequate mixing would have simultaneously affected all five white cell populations (including lymphocytes, monocytes, basophils and eosinophils) in a way not seen from Sample 14 and the Athlete's other blood samples. The Panel accepts this evidence; the WBC and platelet levels indeed appear to be a recurring feature in the Athlete's passport.

124. On all the evidence, the Panel is convinced, certainly to a standard of comfortable satisfaction, that the Athlete's blood sample was properly mixed. There is nothing in the expert evidence or on any of the evidence relating to the sampling and testing procedures which leaves the Panel with any significant doubt on the accuracy of the test results of HGB (g/dL) 19.4 and RET% 1.05 for the Athlete's Sample 14.

(g) Was there a false positive?

125. The Athlete finally argues that errors may occur in the course of analysis as a matter of statistical probability, and that the doping scenario presented by WA is sufficiently implausible to suggest that the alleged ADRV was the result of a false positive, i.e. a Sample 14 test result that wrongly indicated that the Athlete had been blood-doping.

126. WA contended that there was only a 1 in 10,000 chance that this sample – highly abnormal as readily agreed by the experts for both parties – could have been the result of a false positive.

127. The Athlete responded that WA has misrepresented the probability, relying on the expert report of Prof. Berry dated 14 December 2020 (a further report by Prof. Berry produced after the 19 May 2021 hearing is disregarded as outside the permitted scope of written questions put to the Parties by the Panel on 3 June 2021). Prof. Berry's evidence and report are grounded on the Bayes Rules of inference and opines that the false positive rate put forward by WA is not credible because it is not based on solid empirical evidence.

128. WA argues that all custodial procedures have been followed, that all the Athlete's other theories have been refuted, and that on the evidence so too must this one. It adds that the doping scenario is plausible, the scientific literature supports it, and the Joint Expert Panel have confirmed that the atypical finding of Sample 14 cannot statistically be considered a false positive.

129. Prof. Berry submitted that the false positive rate put forward by WADA, which tends not to divulge its methodology or details of their results, and which WA relies upon, "bears no resemblance to good science." Dr. Stray-Gundersen echoed this opinion at the hearing. These two experts adopt conservative sets of assumptions according to which the probability that the Athlete was doping in relation to the results of his Sample 14 was not compelling, and according to which the false positive rate of 1 in 10,000 was grossly misleading.

130. Confronted with this conflicting evidence, the Panel can neither find with certainty that a false positive could have occurred, nor that it could not have occurred. Although it is possible at some remote degree of probability, it remains conjectural and cannot reverse the convincing effect of the scientific evidence brought to bear on the issues in this case. Given that no departure from any custodial procedures has been established, the only correct inference this Panel can draw is that a false positive did not occur.

(h) Has WA established a doping scenario to the comfortable satisfaction of the Panel?

131. This is not a "presence" case where positive A and B sample result in an unequivocal conclusion that an ADRV has been committed pursuant to Article 2.1.2 ADR.

132. Pursuant to Article 3.2 of the WA ADR, "Use" is determined by the ascertainment of "reliable means" of evidence. Although the ABP has been confirmed to be "reliable means" by numerous CAS Panels, this is not in itself conclusive – especially when there is conflicting factual and scientific evidence.

133. The Athlete argues that the Expert Panel solely relied on the one Hb value of Sample 14 and interpreted that as "doping". His experts concluded that the Expert Panel/WA failed to establish that he committed an ADRV by any means, because the presented doping scenarios do not match the data.

134. While WA adamantly argued that to find in favor of the Athlete would serve a blow to the ABP, this is simply not a reason for a Panel to favor an anti-doping organization. The fight against doping is meant to protect the clean athlete, but by punishing dopers only on solid evidence after a fair and rigorous process and not by prosecuting competitors at all costs.

135. The Athlete argues that an abnormal ABP value is necessary but not, in and of itself, sufficient evidence for the finding an ADRV and the 4-year suspension it entails:

> "*from the mere fact that an athlete cannot provide a credible explanation for the deviations in his or her ABP it cannot automatically be deduced that an anti-doping rule violation has been committed. Rather, the deviations in the ABP are to be interpreted by experts called to put into the balance various hypotheses that could explain the abnormality in the profile values, i.e., a distinction made between a 'quantitative' and a 'qualitative' assessment of the evidence.*"[3]

136. At first instance, the Disciplinary Tribunal concluded that there was no alternative explanation to blood manipulation and accepted the ADRV. Here the Athlete has put forward an alternative explanation of improper mixing, which this Panel has rejected. Yet, "in the logic that underlies the ABP as an evidentiary tool, it is indeed perfectly possible that an abnormality must remain unexplained."[4]

137. It has also been said that: "It should be remembered that that Bayesian and forensic logic behind the ABP always supposed that it would be combined with other evidence."[5] The Athlete submits that if WA is not able to produce a doping scenario with a minimum degree of credibility ("density"), the burden of proof enters into play and the case must be dismissed, since there is no evidence pleading in favor of the hypothesis of "doping" any more than for another cause[6].

138. Given all the posited expert opinions, WA simply submits this:

- the Athlete's results are highly abnormal,
- they are consistent with blood manipulation, and
- they are not consistent with any other (even theoretical) explanation.

139. Relying on the evidence of the Expert Panel as supported by scientific literature, WA thus submits that the analytical result of Samples 14 and 15 are perfectly compatible with a transfusion scenario. Therefore, for WA, the "irresistible" conclusion is blood doping.

140. WA adds that neither the WADA ABP Guidelines, the WA ADR or ADRegs nor any other applicable document require an Expert Panel to conceive of, still less to prove, a doping

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3 CAS 2016/A/4463 *IAAF v ARAF & Kristina Ugarova* (paragraph 95).

4 Sottas 2010, p.121. Sottas P-E 2010 (On the evaluation of doping evidence.)

5 Rigozzi A, Bernasconi M (eds) CAS jurisprudence and new developments in international sports law, 3rd edn. CAS& SAV/FAS conference Lausanne, pp. 103-126, p.123.

6 M . Viret. Evidence in Anti-Doping at the Intersection of Science and Law, The Hague, TMC Asser Press 2016, p. 774.

scenario. Moreover, WA is not taking this extreme position since it has in any event developed a such a scenario before the Panel in this case.

141. The Panel accepts that the Expert Panel is not required to identify the specific facts of the blood manipulation, e.g. exactly when it occurred, how it occurred, what dose/volume was transfused or who else was involved. It is obvious to the Panel that this could hardly ever, if ever, be possible. However, in this case, given the compelling arguments brought forward by the Athlete, the Panel must nonetheless be satisfied that, on the evidence, there is a doping scenario, as explained in the next section below, sufficient to support the alleged ADRV to its comfortable satisfaction.

X. THE DOPING SCENARIO AND ITS SIGNIFICANCE IN ABP CASES

142. It is useful for this Panel to briefly state its understanding of the meaning of the expression "doping scenario" and its relevance to its decision in this case. It is a concept developed in a number of CAS awards and perhaps most usefully summarised in CAS 2017/A/5045. At paragraphs 119-120 that Panel referred to a thread of CAS cases according to which an anti-doping organization was required to establish, in addition to the testing results, a "doping scenario" and stated:

> "*This Panel understands this CAS jurisprudence to mean the following: even if all scenarios other than doping can be excluded (on a balance of probability), this does not suffice for the Panel to be comfortably satisfied that the Athlete committed blood manipulation. Instead, the use of a prohibited substance or method must – in addition – be a plausible and likely explanation of the values obtained for the Panel to positively assume that the Athlete doped. Such assessment must be made based on all evidence before the Panel.*"

143. This Panel shares this view (with only the qualification noted in Paragraph 145 below). The word "scenario" ordinarily carries a connotation of a sequence of events in the nature of a narrative. As explained in paragraph 141 above, that is not required here; and it is not what it meant by the phrase "doping scenario" in the CAS jurisprudence. The crucial point is that, as stated in the passage just cited from CAS 2017/A/5045, the prosecuting anti-doping organisation must produce evidence (in practice, mainly or entirely expert evidence) that the test results can be plausibly and likely be explained by the use of one or other prohibited methods or a combination of prohibited methods. How the CAS Panel then evaluates that evidence in the light of the overall evidence in the case is another matter. But that is all that is required to be presented as a "doping scenario".

144. The Panel sees no need to add citations of further CAS decisions on the meaning of "doping scenario". Different panels express the concept in different ways and no extra clarity would be achieved.

145. The Panel notes WA's contention that it is not an absolute requirement in an ABP case that the anti-doping organisation puts forward a doping scenario at all. Although that may be the strict effect of the relevant rules (and the Panel can see a coherent basis for that argument), the Panel also see difficulties in that position. Yet it is not necessary to address or decide that issue in the present case. WA has plainly presented a sufficiently plausible and likely doping scenario, which therefore requires to be scrutinised and evaluated in the light of all the other expert and factual evidence.

146. Useful guidance on that scrutiny and evaluation is found in CAS 2019/A/6226, paras 136-138:

> "*136. The Panel acknowledges as undisputed that the ABP profile is a method of proving blood doping and not an ADRV in and of itself under the WADC.*
>
> *137. However, the Panel is convinced that, as has been well-established under the comments of Article 3.2 WADC (see supra at para. 42) and CAS jurisprudence (ex multis: CAS 2010/A/2174, para. 9.8; CAS 2010/A/2235 at para. 81, CAS 2012/A/2773 at para.13, CAS 2014/A/3614 & 3561 at para. 278 and 279, CAS 2016/O/4469 at para. 137), an ABP profile is a reliable and accepted means of evidence in establishing an ADRV. As such, if, in interpreting abnormal values in an ABP and any other evidence from a quantitative and qualitative standpoint, a panel is convinced that the abnormal values were caused by a "doping scenario", an ADRV can thereby be properly established, even without establishing a specific reason for the blood manipulation (CAS 2016/O/4464, CAS 2016/O/4469, CAS 2016/O/4481). The inference drawn from abnormal blood values is enhanced where the ascertainment of such values occurred at a time when the athlete in question could benefit from blood doping (i.e., if the levels coincide with the athlete's racing schedule)*
>
> *138. The Panel further finds that a request for an athlete to provide an alternative explanation to the abnormal values in his or her ABP does not create a presumption of guilt nor a shift in the burden of proof; the burden continually remains on the anti-doping agency pursuant to Article 3.1*

> *WADC to prove that the abnormal values in the ABP were caused by a "doping scenario" as opposed to any of the hypothesis put forward by the athlete. This is in full keeping with the legal principle of the presumption of innocence. Indeed, if an athlete submits explanations for abnormal results, it is the anti-doping agency's burden to establish that those explanations do not rebut the high likelihood of an ADRV established through the assessment of the ABP*."

147. This Panel fully endorses and adopts that approach, adding only that the evidence required from the Athlete need only be enough to reduce the Panel's confidence that there was an ADRV to a level below that of comfortable satisfaction. Athletes may achieve that, and therefore be acquitted, without showing that their alternative explanations are *probable*, if they are enough for the Panel *not to be comfortably satisfied* that a prohibited method was used.

XI. TRANSFUSION AS THE LIKELY DOPING SCENARIO

148. Two possible doping scenarios of blood manipulation were brought forward by the Expert Panel in its first joint Opinion:

> *i. By means of transfusion of blood, likely by reinfusing, before leaving altitude, at least two or more bags of previously stored red blood cells on 8 March 2019, followed by withdrawal of blood either shortly after the race or after return to the Athlete's own country on 12 March 2019; in any case before collection of Sample 15.*
>
> *ii. By a course of Erythropoiesis Stimulating Agent ('ESA') injections a few weeks before the London Big Half (which took place on 10 March 2019).*

149. WA submits that the Expert Panel has demonstrated that the values of Sample 14 and 15 are perfectly compatible with a transfusion scenario. Relying on the Damsgaard et al paper, the increase in HGB in Sample 14 followed by a normalisation of HGB and decrease in RET% in Sample 15 is precisely what one would expect if a transfusion had been administered 2-3 days before 10 March, the date Sample 14 was collected.

150. The Panel accepts WA's premise that "the prosecuting anti-doping organisation need not identify and provide the specific manipulation done to the athlete's blood, whether intake of an erythropoiesis-stimulating product, an autologous blood transfusion or a combination of both." Still, on the evidence of all experts, the Panel concludes that a blood transfusion

is the only possible scenario in question (and not the use of prohibited substances alone) and shall only assess the doping scenario on that basis.

151. According to the Damsgaard paper:

- HGB values will normalize approximately 5-7 days after a blood transfusion. This WA says is precisely the case with Sample 15.

- Material reduction in the RET% will not occur until around 7 days after a transfusion. WA says the values in Sample 14 and 15 fit squarely with a transfusion 2-3 days before Sample 14 and approx. 7 days before Sample 15. In fact, the RET% value of Sample 15 is the lowest of the passport.

152. This table reports the finding for the three samples which are relevant to the experts' analysis of the likely doping scenario.

Sample 13 - 12 February 2019	HGB (17.4)	RET% (1.05)	OFF score (111.40)
Sample 14 - 9 March 2019	HGB (19.4)	RET% (1.05)	OFF score (132.50)
Sample 15 – 13 March 2019	HGB (16.8)	RET% (0.85)	OFF score (112.70)

153. The following observations made by Dr. Garvican-Lewis have informed WA's conclusion that the analytical result makes sense from a doping perspective (high HGB on eve of competition) and is consistent with a transfusion scenario: (i) the Athlete's HGB values should have decreased when he descended from Kenya to London sea-level prior to collection of Sample 14, but they increased dramatically to 19.4; (ii) the Athlete's return to altitude in Kenya 2-3 days before Sample 15 was collected (he returned to Kenya on 11 March) should have resulted in an increased RET% value, not the lowest on the passport; (iii) the Athlete's other sample (Sample 16) in the passport after returning to Kenyan altitude showed increased RET%; and (iv) the reasons the RET% is low in Sample 15 when it should be elevated is because of the suppression of reticulocytes consequent on the increased red cell mass resulting from the transfusion.

154. WA rejects the Athlete's contention that a transfusion was not feasible because it would have had to be administered at the airport in Kenya, or on the plane to London. Consistently with the test results, it could have been administered on the morning of 7 March 2019 or after arrival in London (which was early in the morning of 8 March 2019). Thus, the analytical results are perfectly consistent with blood manipulation, in particular a transfusion scenario. This is evidenced by two of the points made by Dr. Garvican-Lewis as noted in the previous paragraph: the extremely high HGB in Sample 14 when one would expect a lower HGB due to descent from altitude and the lower RET% value in Sample 15 when one would expect a higher RET% due to the recent re-ascent to altitude.

155. The only possible blood doping scenario which WA originally considered to be credible involves transfusion of multiple units (either homologous or autologous blood) in the two

days prior to Sample 14 and then withdrawal of an equal amount in the two days prior to Sample 15. That withdrawal reflected the views express by the Expert Panel in their earlier reports, but in their 10 February 2021 report they explain how the decrease of hemoglobin in Sample 15 after return to altitude could represent the natural evolution due to plasma volume increase and re-equilibration, without necessarily involving the further manipulation of blood withdrawal mentioned in those earlier reports.

156. Conversely, according to Dr. Stray-Gundersen:

> "*The possibility of multiunit transfusion within 24 to 48 hours prior to Sample 14 and phlebotomy 24 to 48 hours prior to Sample 15, is highly unlikely. In addition, there is a normal distribution of red cell age and size and the white blood cell count and platelet counts are low when they should be normal. Taken together, these data effectively rule out the possibility of a large transfusion or at best, make it extremely improbable*."

157. Neither of these plausible but contradictory theories can be dismissed out of hand.

XII. THE PANEL'S CONCLUSIONS FROM THE EVIDENCE OF THE EXPERTS AND DR. BARTLETT

158. The only witness of fact in this case was Dr. Bartlett. As the Laboratory Operations Manager of the laboratory which tested Sample 14, he plainly has expertise, but his testimony was factual: he described the Standard Operating Procedures at the laboratory and how Sample 14 was processed and tested in accordance with those procedures.

159. The Athlete made a brief statement at the end of the hearing and was not examined or cross-examined by counsel.

160. This short section of this Award records several of the Panel's conclusions from the expert evidence, as well from the testimony of Dr. Bartlett and the few matters with respect to which the Parties are agreed. The following section tests those conclusions against particular factual circumstances which have a potential bearing on the final outcome of this case.

161. The Panel is comfortably satisfied on each of the following points:

(1) Sample 14 was the Athlete's blood.

(2) The chain of custody was correctly implemented, and Sample 14 was delivered intact in the proper condition to the testing laboratory.

(3) Sample 14 was processed and tested at the laboratory in accordance with all necessary standards and procedures.

(4) The recorded results of the Sample 14 test are correct, including HGB (g/dL) 19.4 and RET% 1.05.

(5) Those results are not consistent with, so cannot be explained by any pathological or physiological condition of this Athlete.

(6) The results are consistent with, so from a scientific viewpoint can be explained by a prohibited method of blood-doping.

(7) The recorded test results of other blood samples of this Athlete are correct as presented to the Panel, including Samples 13 and 15.

(8) The ABP and the Adaptive Model are a reliable tool as evidence of abnormal blood composition.

162. Those findings are collectively necessary for a finding of an ADRV against the Athlete and nearly all of them are individually essential to such a finding. However, they are not necessarily conclusive in this case, as will now be seen.

XIII. ASSESSMENT OF EVIDENCE VIS A VIS THE TIMELINE

163. The doping scenario must make the Panel comfortably satisfied not just with the scientific rationale but also with the conclusion of actual Use of a prohibited method by the Athlete. Apparently compelling scientific evidence of blood-doping must yield to any significant doubt about the practical feasibility of blood-doping by the methods and at the times which the scientific evidence allows.

164. To be clear: the Athlete bears no burden of proof. The burden of proof in this case lies entirely on WA, to the standard of comfortable satisfaction. To counter the laboratory finding and the inference of blood-doping, the Athlete need only sow sufficient doubt in the minds of the Panel so that it is not comfortably satisfied that there was an ADRV.

165. Nevertheless, in practical terms this does place some evidential burden on the Athlete. The Panel is faced with only two possible conclusions about the test results from Sample 14: they either (i) reveal doping, or (ii) remain unexplained. At that point, it becomes incumbent on the Athlete to show that although the results are consistent with at least one known doping method (as the Panel has found), his Use of such method is sufficiently in doubt for the Panel not to be comfortably satisfied that there was an ADRV.

166. To achieve that result, the Athlete here must show that:

i. although the Test 14 results are *consistent* with such doping method(s), from a scientific point of view there is significant doubt whether such method(s) did cause those results, thus leaving the Panel below the level of comfortable satisfaction; or

ii. in all the circumstances established by all the evidence (including factual matters such as the athlete's personal circumstances, locations, timing) there is sufficient doubt about the actual Use of such doping method(s) to leave the Panel short of the level of comfortable satisfaction.

167. The Panel has rejected contention (i) having found no significant scientific flaw in treating a prohibited blood doping method as the cause of the Sample 14 results. WA's experts have confirmed and meticulously supported their consistent view that the only explanation for those results was a prohibited blood doping method, and that the most likely method was blood transfusion. They firmly rejected the suggestion that there was anything in the data which was inconsistent with their view. Nothing in the evidence given by the Athlete's experts casts significant doubt on those conclusions; the Panel can be comfortably satisfied on that point.

168. Contention (ii) is wider and in principle a legitimate way for an appellant to meet the charge. At the extreme (though this is not the case here) an athlete could establish by unimpeachable evidence that it had been *impossible* for him to employ any relevant doping method at any relevant time. This Athlete contends that the allegation of his Use is so unrealistic that the Panel cannot be comfortably satisfied that it occurred. If he is right on that point, his appeal also succeeds.

169. Expert witnesses have an essential yet somewhat limited role on this issue. They can say what techniques and procedures would have been required for the blood-doping, and when, to produce the results of Samples 14 and 15; and whether or not particular factual situations are compatible with their expert opinions. But questions of motive and of the locations and movements of the Athlete during relevant time periods are factual questions outside the scope of expert evidence (although the expert evidence is to be used by the Panel where relevant to its determination of those factual issues).

170. The Panel has considered the fact that the Expert Panel conceded that there are no known cases of transfusion doping in Kenya. The Panel has equally considered that the Athlete's passport does not indicate a visible withdrawal phase, nor evidence of blood withdrawal (as a preliminary step for autologous transfusion) such as decreasing HB and increasing reticulocytes due to blood loss reaction.

171. The Panel has also considered the Athlete's contention that use of multiple units of autologous blood requires phlebotomy months or years prior to the transfusion, freezer storage of that blood, and then thawing and preparing those units for re-infusion. This, he

submits, would necessarily involve expertise as well as logistics associated with the initial withdrawal and preservation of blood and transport and reinfusion of that blood which is not available in his environment.

172. On the other hand, WA submits that the Athlete had the possibility to transfuse blood in the 24-48 hours prior his test and to extract the same/phlebotomy upon his return to altitude. This is indeed compatible with the academic literature and the Expert Panel's conclusions. The Expert Panel confirmed that the most likely doping scenario for the high hemoglobin and OFF score in Sample 14, followed by a decrease of both markers in Sample 15, when the Athlete was back at his residence in high altitude, consists of transfusion of at least two bags of blood or fractionated red blood cells, of autologous or homologous origin.

173. It appears that: the Athlete likely flew from Kenya to London on 8 March 2019; Sample 14 was taken on the morning of 9 March 2019, showing a strikingly increased HB; he competed in the London half marathon on 10 March 2019; he then returned to Kenya on 11 March 2019; and finally, the follow-up Sample 15 was taken on 13 March 2019, showing an extraordinarily rapid decrease in HB.

174. The Expert Panel found this sequence of events to be "fully compatible with the experimental results published by Damsgaard et al. in 2006."

175. The Athlete on the other hand argues that a blood transfusion was highly improbable and logistically impossible given his itinerary and personal circumstances on 7-9 March 2019. True enough, the Athlete's detailed itinerary, as provided by him in answer the Panel's request, appears to provide very little time for a significant transfusion to have taken place or for the logistical necessities to have come together for such a transfusion to have taken place. It features the Athlete's back and forth travel from Kigari to Kangaia by car (1.5 hours) on 7 March 2019, his documented car accident resulting in an apparently documented visit to the police station, travel from Kigari to Nairobi airport by car, his asserted impossibility to pack anything prior to his flight, the improbability of carrying transfusion material "carry-on" on a plane, his documented direct 9 hour flight, arrival and asserted activities in London, and his asserted presence at his hotel during his 60 minutes Registered Testing Pool time slot. But there are certainly both gaps and issues of proof with regard to this account, which in significant respects cannot be taken at face value as it contains mere assertions.

176. For the scenario proposed by the Expert Panel to be possible, the Panel has concluded that these were the possible times during which the transfusion would have had to be given:

Early morning 7 March 2019 in Kenya: This is the most obvious option, and it is the one posited by WA; the Athlete claims that he was training in the morning and that thereafter he left by car to go to Kangaia.

Late on 7 March 2019 in Kenya: The Athlete has provided evidence in the form of a police report of his automobile accident and visit to the police station on 7 March 2019 before taking his flight for which he was therefore late.

During the overnight flight 7/8 March 2019 from Nairobi to London: Because of the automobile accident, the Athlete says that he ended up not taking any luggage with him on the flight and could hardly have passed customs with bags of blood to transfuse on the plane.

On 8 March 2019 in London upon arrival: An option also put forward by WA, but for this to be true the Athlete must have gone to considerable lengths to organize the transfusion; a colleague's timed messages sending photos to his daughter of the Athlete sharing late breakfast and dinner with colleagues and teammates are apparently consistent with the Athlete's contention that he was not transfusing himself in the morning or early evening in London, but can hardly be considered conclusive evidence. There is also a period of nearly 8 hours on this afternoon where the only activities given on the Athletes' own post-hearing itinerary are his afternoon nap, a shower and relaxing and a mid-afternoon jogging with a colleague.

On the morning of 9 March 2019 in London: a transfusion could hypothetically have been carried out in the very early hours of the morning, since the Athlete was tested was at 7:38 am - but this was not suggested as a hypothesis by WA or its experts and does seem unlikely.

177. In sum: the Athlete's asserted itinerary has some holes in it that cannot be verified and are not supported by evidence presented to the Panel for the hearing, notably in the morning of 7 March 2019 and the afternoon of 8 March 2019. On their face, the time stamps on his tendered police report, flight itinerary and messages sending photographs appear to leave limited opportunity for him to have received a transfusion of significant volume, which would have required some hours. But in the end the Athlete's account is objectively self-serving and cannot be taken at face value to invalidate the high probability of doping inherent in the scientifically established testing data in the light of the overall evidence. If the Athlete wanted to defeat the ADRV charge by instilling serious doubt in the Panel's minds about the practicalities of the alleged blood-doping, it was for him to produce his supporting evidence for the hearing. The Panel finds it telling that he produced only inadequate evidence on that issue. Even together with that post-hearing material, which does not have the status of evidence in any event because it could not be put to cross examination by WA, the Athlete's falls short of shaking the Panel's comfortable satisfaction that the Athlete committed an ADRV.

XIV. CONCLUSION

178. The Panel finds that WA and the experts have provided plausible scenarios, consistent with scientific literature, which support the finding that the Athlete did transfuse himself, most likely on 7 or 8 March 2019. The HGB, RET% and white and red blood cell counts are all

consistent with the Damsgaard paper and have been shown to be plausible by the Expert Panel.

179. Inadequate mixing has been excluded as the cause of the highly elevated HGB levels in Sample 14. The Athlete has not brought forth any alternative explanation for his highly abnormal ABP. His largely unverifiable account of his activity in the course of the relevant time cannot overcome the very high probability inherent in his properly established and recorded testing values. The Panel accepts the Expert Panel's conclusion that it is highly unlikely that this profile is the result of a normal physiological or pathological condition, and it is highly likely that it was caused by the use of prohibited methods, with or without the use of prohibited substances, notably by way of a transfusion.

180. In sum, considering (i) the values detected in Sample 14 of the Athlete's ABP were highly abnormal and indicated a high probability of doping; (ii) the absence of any indication of improper handling of the Sample or failures to follow the laboratory protocol and (iii) the absence of contradictory evidence (i.e. that the Athlete has not provided any objective, physiological or pathological reason or condition to explain the abnormality in the ABP values); the Panel is comfortably satisfied that the abnormal ABP values were caused by a transfusion.

XV. RELIEF

181. The Athlete's appeal is dismissed. Accordingly, his period of ineligibility of 4 years starting on 9 December 2019 and the disqualification of his results from 9 March 2019 stand as ordered by the Disciplinary Tribunal.

XVI. COSTS

182. Article R65.2 of the CAS Code provides as follows:

> "*Subject to Articles R65.2, para. 2 and R65.4, the proceedings shall be free. The fees and costs of the arbitrators, calculated in accordance with the CAS fee scale, together with the costs of CAS are borne by CAS. Upon submission of the statement of appeal, the Appellant shall pay a non-refundable Court Office fee of Swiss francs 1,000 without which CAS shall not proceed and the appeal shall be deemed withdrawn. […]*".

183. Article R65.3 of the CAS Code provides the following:

> "*Each party shall pay for the costs of its own witnesses, experts and interpreters. In the arbitral award and without any specific request from the parties, the Panel has discretion to grant the prevailing party a contribution towards its legal fees and other expenses incurred in connection with the proceedings and, in particular, the costs of witnesses and interpreters. When*

granting such contribution, the Panel shall take into account the complexity and the outcome of the proceedings, as well as the conduct and financial resources of the parties."

184. Since the present appeal is lodged against a decision of an exclusively disciplinary nature rendered on behalf of an international federation, no costs are payable to CAS by the Parties beyond the Court Office fee of CHF 1,000 paid by the Appellant with the filing of his Statement of Appeal, which is in any event retained by CAS.

185. Having considered the outcome of the arbitration, the conduct of the Parties in the arbitration, and their financial resources, the Panel decides that the Appellant shall pay a contribution of CHF 2,000 (two thousand Swiss Francs) towards the legal fees and other expenses incurred by the Respondent in connection with these proceedings.

ON THESE GROUNDS

The Court of Arbitration for Sport rules that:

1. The appeal filed by Mr Daniel Kinyua Wanjiru on 9 November 2020 against the decision rendered by the World Athletics Disciplinary Tribunal on 8 October 2020 is dismissed.

2. This Award is made without costs, except for the Court Office fee of CHF 1,000 paid by Mr Daniel Kinyua Wanjiru, which is retained by CAS.

3. Mr Daniel Kinyua Wanjiru is ordered to pay World Athletics a contribution of CHF 2,000 (two thousand Swiss Francs) towards its legal fees and other expenses incurred in connection with these proceedings.

4. All other and further applications for relief are dismissed.

Seat of arbitration: Lausanne, Switzerland
Date: 1 February 2022

THE COURT OF ARBITRATION FOR SPORT

Prof. Jan Paulsson
President of the Panel

Ms Janie Soublière
Arbitrator

Mr Nicholas Stewart Q. C.
Arbitrator