

**IN THE MATTER OF PROCEEDINGS BROUGHT UNDER THE ANTI-DOPING
RULES OF THE INTERNATIONAL ASSOCIATION OF ATHLETICS FEDERATIONS**

Before:

Justice Ahamed Ebrahim (Chair)

Mr Steven Bainbridge

Mr Philipp Kotlaba

BETWEEN:

International Association of Athletics Federations (IAAF)

Anti-Doping Organisation

-and-

Mr Cyrus Rutto

Respondent

DECISION OF THE DISCIPLINARY TRIBUNAL

I. THE PARTIES

1. The International Association of Athletics Federations ("**IAAF**" or "**Claimant**") is the world governing body for athletics and is responsible for the regulation of international track and field. The IAAF has its registered seat in Monaco and, pursuant to Article 1.2 of the IAAF Anti-Doping Rules ("**ADR**"), is represented here by the Athletics Integrity Unit ("**AIU**").
2. Mr. Cyrus Rutto ("**Athlete**" or "**Respondent**") is an International-Level Kenyan athlete specializing in long-distance running.

II. BACKGROUND FACTS

3. The present section sets out a summary of relevant facts as advanced by the parties in their written submissions and accompanying exhibits. Additional facts are set out further below, to the extent necessary or relevant, but the present Award refers only to such evidence and arguments where its reasoning so requires.
4. This case concerns certain abnormalities in blood samples collected from the Athlete in May 2018, and for which the Athlete has been charged with violations of the ADR.
5. From 27 July 2017 to 2 December 2018, the Athlete provided eight blood samples (the "**Samples**") to the IAAF for inclusion in his Athlete Biological Passport ("**ABP**") Profile.¹ The ABP functions as a longitudinal logbook of an athlete's biological indicators designed to detect anomalous deviations from that athlete's baseline values which may be indicative of doping. A further sample was collected by the IAAF on 10 October 2019

¹ Laboratory Documentation Packages for Samples 1-3 (Exhibit 5).

("Sample 9"); documentation relating to this sample was tendered to the Tribunal at the hearing.²

6. Each of the eight Samples was analyzed by a WADA-accredited laboratory.³ The results, along with Sample 9, are set out below:

No.	Date of Sample	HGB (g/dL)	RET%	OFF-Score
1.	22 July 2017	16.8	0.92	110.50
2.	7 August 2017	16.9	0.82	115.00
3.	10 May 2018	18.4	0.43	144.66
4.	30 May 2018	18.3	0.71	132.44
5.	12 July 2018	16.6	0.83	111.30
6.	30 July 2018	17.3	0.66	124.26
7.	30 September 2018	17.4	0.32	140.10
8.	2 December 2018	18.5	0.65	136.60
9.	10 October 2019 ⁴	19.2	0.94	133.83

7. The Athlete's eight original Samples were submitted by the IAAF to a panel of experts (the "**Expert Panel**"), for review on an anonymous basis.
8. On 25 January 2019, the Expert Panel produced a joint opinion (the "**First Expert Panel Joint Opinion**"). The First Expert Joint Opinion concluded 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."

² The Tribunal addresses the parties' arguments with respect to Sample 9 below, at paragraphs 101 to 105.

³ To wit: the Norwegian Doping Control Laboratory, the *Institut für Dopinganalytik und Sportbiochemie* Dresden, the National Anti-Doping Laboratory of the China Anti-Doping Agency, the South African Doping Control Laboratory, and Lancet Kenya (PLK).

⁴ See further paragraphs 101 to 105 below.

9. The AIU wrote to the Athlete notifying him of the abnormalities detected in his ABP profile on 19 February 2019. Among other things, the AIU observed that it was considering bringing charges against him and invited the Athlete's comments by no later than 5 March 2019.
10. On 5 March 2019, the Athlete's representative enclosed a copy of the Athlete's explanation, in which the Athlete denied using any Prohibited Substances and suggested a false positive. In addition to providing details of the circumstances in which the samples were collected, the Athlete specifically noted, in relation to Sample 4, an "error in the custody form [...] which makes me doubt the accuracy of the whole procedure."⁵
11. The Expert Panel issued a second report on 30 March 2019 ("**Second Expert Panel Joint Opinion**"). In this report, the Expert Panel rejected the explanations set out in the Athlete's comments of 5 March 2019. It also dismissed the Athlete's conclusions with respect to the chain of custody of Sample 4.
12. The AIU issued the Athlete with a Notice of Charge, pursuant to Article 2 of the IAAF Anti-Doping Rules, on 4 April 2019. The Notice of Charge announced the imposition of a Provisional Suspension upon the Athlete, pending the resolution of the charge against him, and informed the Athlete of his right either to admit the charges and/or to request a hearing before the IAAF Disciplinary Tribunal by 14 April 2019.
13. By e-mail dated 16 April 2019, the Athlete requested a hearing before the Disciplinary Tribunal.

III. THE ARBITRAL PROCEEDINGS

14. On 9 May 2019, Mr. Ahamed Ebrahim, Justice (Ret.) of the Supreme Court of Swaziland and of the Supreme Court of Zimbabwe, was selected to serve as Chair of this Disciplinary Tribunal arbitral panel (the "**Tribunal**").

⁵ Letter dated 5 March 2019 (Exhibit 10), p. 1.

15. On 14 May 2019, a preliminary meeting by conference call took place before the Chair of the Tribunal, in accordance with Article 8.7 of the IAAF Anti-Doping Rules.
16. Directions were issued to the parties on 16 May 2019.
17. On 16 July 2019, the Sport Resolutions secretariat, on behalf of the Chairperson of the Disciplinary Tribunal, confirmed that the Tribunal had been composed as follows:

Chair: Justice Ahamed Ebrahim (Ret.)

Arbitrators: Mr. Steven Bainbridge

Mr. Philipp Kotlaba
18. The IAAF submitted its case-in-chief, together with sixteen exhibits, on 2 July 2019 ("**Statement of Claim**").
19. On 30 July 2019, the Athlete submitted his defense ("**Statement of Defense**"). The Statement of Defense was accompanied by (i) the Athlete's witness statement, (ii) a copy of his passport, and (iii) an expert report by Dr. Douwe de Boer ("**De Boer Expert Opinion**").
20. On 13 August 2019, the IAAF requested an extension of time for the submission of its reply brief. The Tribunal granted an extension until 23 August 2019; following consultations with the parties, the Tribunal additionally fixed a revised hearing date of 24 October 2019.
21. The IAAF submitted its reply on 23 August 2019 ("**Statement of Reply**"), enclosing a third expert opinion ("**Third Expert Panel Joint Opinion**").
22. On 15 October 2019, a list of questions was circulated to the parties in order to assist the Tribunal with respect to certain issues likely to be raised at the hearing.

23. On 24 October 2019, the Tribunal convened an in-person hearing in London. The following individuals were present:

For the Tribunal: Justice Ahamed Ebrahim (Ret.)

Mr. Steven Bainbridge

Mr. Philipp Kotlaba

For the Claimant: Mr. Ross Wenzel

Mr. Tony Jackson

Prof. Giuseppe d’Onofrio

For the Respondent: Mr. Cyrus Rutto

Mr. Andrew Smith

Mr. Michel Boeting

Dr. Douwe de Boer

Secretariat: Ms. Kylie Brackenridge

24. During the hearing, additional documents tendered by the Respondent were accepted by the Tribunal for consideration, namely (i) written responses with respect to certain of the issues previously circulated to the parties on 15 October 2019; (ii) the Doping Control Form for Sample 9; and (iii) a further supplemental report by Dr. de Boer.

IV. POSITIONS OF THE PARTIES

25. This section sets out a summary of the Parties’ respective positions in these proceedings. It serves by way of synopsis only, and does not necessarily include every submission advanced in pleadings and other correspondence. The Tribunal has, however, considered all arguments both written and oral presented to it in rendering the present Award.

A. The Respondent's Position

26. The Athlete submits that he has never used a Prohibited Substance or a Prohibited Method.⁶ Each of the samples on which the IAAF relies, whether viewed together or in isolation, is in his submission inadequate to prove to the necessary legal standard an ADR violation.

(i) *Standard of proof*

27. As a preliminary matter, the Athlete observes that, in order to vindicate the IAAF's claims against him, the Tribunal must be "comfortably satisfied" of the existence of an ADR violation. This standard, he submits, is a strict one. Indeed, having regard to the "incredibly serious" nature of the charge against him, the Athlete takes the position that the applicable standard of proof, as interpreted by certain CAS tribunals, imposes a hurdle not dissimilar from that of criminal law:

*It has been held, in cases where the allegations are of particularly grave misconduct, that the comfortable satisfaction standard may not, in practical terms, be much different from the criminal standard of 'beyond reasonable doubt' [...]*⁷

28. This heightened standard, the Athlete submits, cannot be met here. This is because "the facts and/or particular scientific issues are in dispute, and there is competent and credible evidence on both sides."⁸ In such circumstances, the "standard of proof can and should be decisive" in the

⁶ Witness Statement of Mr. Cyrus Rutto ("**Athlete Witness Statement**"), ¶ 23.

⁷ Statement of Defense, ¶ 8 (citing *CAS 2004/O/645 USADA v Montgomery*; *CAS 2004/O/649 USADA v Gaines*; and *CAS 2005/A/884 Hamilton v USADA & UCI*).

⁸ Statement of Defense, ¶ 9 (citing *CAS 2005/A/726, Calle Williams v IOC*; and *CAS 2004/A/651, French v Australian Sports Commission & Cycling Australia*).

Athlete's (indeed any athlete's) favor.⁹ Accordingly, the ADRV charge must be rejected.

(ii) **Assessment of the evidence**

29. The Athlete's submissions on individual aspects of the IAAF's evidence rely upon the findings and analysis in Dr. Douwe de Boer's expert reports.
30. In the first instance, the Athlete submits that the Tribunal need not be convinced that Dr. de Boer's expert reports are the "right (or only conceivable) analysis" in order for his position to be vindicated.¹⁰ Rather, the analysis need only be "credible and competent" so as to raise doubts as to the existence of an ADRV sufficient to dispose of the case.¹¹ This follows, in the Athlete's view, from a stringent application of the IAAF's burden of proof as discussed at paragraphs 27-28.
31. The conclusions from Dr. de Boer's report may be summarized as follows:
- *first*, the Athlete's samples are not "outliers." In other words, the Athlete's results do not constitute statistical abnormalities; and
 - *second*, the results do not in any event constitute proof of blood manipulation: even if the results are abnormal, they do not indicate an ADR violation.¹²
32. In assessing the Athlete's test samples, Dr. de Boer takes into account not only the results reported in the Athlete's ABP, but also certain private test samples, which were supplied to him by the Athlete and are dated

⁹ Statement of Defense, ¶ 9 (citing CAS 2005/A/726, *Calle Williams v IOC*; and CAS 2004/A/651, *French v Australian Sports Commission & Cycling Australia*).

¹⁰ Statement of Defense, ¶ 14.

¹¹ Statement of Defense, ¶ 14.

¹² Statement of Defense, ¶ 11.

between 21 May 2019 and 11 October 2019.¹³ Dr. de Boer explains that consideration of these additional samples is necessary because the IAAF's sample size is "limited, which has consequences for the representative nature of those samples and the robustness of the sample size."¹⁴ The Athlete invites the Tribunal to treat the analytical results from his additional samples—including some obtained from the WADA-approved medical laboratory¹⁵—as admissible.¹⁶

33. Taking into consideration the Athlete's additional samples as well, Dr. de Boer's expert report concludes that none of the IAAF's samples indicates an abnormality. The report does so by calculating the median absolute deviation for each of the alleged abnormal sample results, and comparing the results against what Dr. de Boer terms the "expected maximum variation" (which is given as a range).¹⁷ Values which fall within this range, it is suggested, are to be considered physiologically normal.
34. Applying his approach, Dr. de Boer concludes that each of the Athlete's samples fall within the normal expected range, and therefore do not provide support for the IAAF's position.¹⁸ (In addition to considering the aforementioned private samples, Dr. de Boer also includes in his analysis the IAAF's Sample 7, which was excluded by its experts for alleged non-

¹³ De Boer Expert Report, Appendix 17B. The three most recent private samples, dated 3 August, 11 September, and 11 October 2019, were included in a second, supplemental expert report dated 23 October 2019: De Boer Supplemental Expert Report, Appendix 1B.

¹⁴ De Boer Expert Report, p. 9, conclusion #1.

¹⁵ The laboratory in question, Pathologists Lancet Kenya (PLK), is not WADA-accredited, but appears in WADA's "Approved Laboratories" list: see World Anti-Doping Agency, "Approved Laboratories," <https://www.wada-ama.org/en/what-we-do/science-medical/laboratories/approved-laboratories>.

¹⁶ Statement of Defense, ¶ 12; Dr. de Boer De Boer Expert Report, p. 8.

¹⁷ De Boer Expert Report, p. 6. This range accounts both for the variation "commonly observed in the individual," as well as what the "allowable Total Error (TE) ... according to the Westgard database."

¹⁸ De Boer Expert Report, p. 6 (for Samples 3 and 4).

conformities in pre-analytical and analytical procedures,¹⁹ as well as Sample 9.) His analysis, and the Athlete’s submissions on individual samples, are set out below.

Sample 3

35. The Athlete’s position is that none of the three relevant values for Sample 3—hemoglobin concentration (“**HGB**”), reticulocyte percentage (“**RET%**”), or OFF-Score—are indicative of blood doping. All values are in the normal (expected) range.

36. Dr. de Boer’s conclusion is reflected in the following table:

Data point	Parameter	MAD-score	Observed variation	Common expected maximum variation ⁵ TE [Westgard data] (separate TEs of parameters)
Sample #3	Hemoglobin	1.33	3.0%	6,3%
	Reticulocytes [%]	1.95	22.3%	18.1% (16.8%; 6.7%)
	OFF-score	2.29	5,3%	19.2% (6.7%; 18.1%)

Figure 1: De Boer Expert Report, Table 3, Sample #3.

37. First, hemoglobin concentration is “not an outlier if all data,” that is, the additional samples provided by the Athlete, are “taken into consideration.”²⁰ Dr. de Boer adds that the hemoglobin concentration is “not in an uncommon range according to the overall athlete’s profile.”²¹ This is because the Athlete’s observed variation (3.0%) is smaller than the common expected maximum variation (6.3%).

38. In any event, the approximately nine-month interval between the collection of Samples 2 and 3 may give rise to a “time-based bias,”²² such that any interpretation of Sample 3 must be done with “special care.”²³

¹⁹ Compare De Boer Expert Report, p. 5; with First Expert Panel Joint Opinion, p. 1 & Third Expert Panel Joint Opinion, pp. 2-3.

²⁰ De Boer Expert Report, p. 6.

²¹ De Boer Expert Report, p. 6.

²² De Boer Expert Report, p. 6. See also *id.* at pp. 5 (calling for “special care”) & 9.

39. Dr. de Boer likewise considers the RET% and OFF-Score values for Sample 3 to fall within the normal range. He notes, in this regard, that the RET% and OFF-Score values for Sample 3 are “in line with” those observed for Sample 7.²⁴
40. While Dr. de Boer notes that the Athlete’s observed variation for RET% (22.3%) exceeds the common expected maximum variation (18.1%), in his first expert report, he argues that this may be explained by neocytolysis: the selective destruction of reticulocytes which may occur during travel from high-altitude to low-altitude locations.²⁵ Dr. de Boer withdrew his argument with respect to neocytolysis at the hearing, however.
41. Finally, the Athlete (separately) draws attention to his limited fluid intake over this 32-hour period: approximately “1,5 liter [sic],”²⁶ contending, in essence, that his state of dehydration may also have influenced the sample results.²⁷

Sample 4

42. The Athlete raises a general objection to any reliance on Sample 4, stemming from an apparent inconsistency in the sample’s chain of custody documentation. In any event, according to Dr. de Boer, Sample 4 falls within the normal range and therefore does not indicate an ADR violation.
43. With respect to the chain of custody issue, the Athlete notes that the contemporaneous custody form for Sample 4 (anonymized as 348399)

²³ De Boer Expert Report, p. 5.

²⁴ De Boer Expert Report, p. 6.

²⁵ De Boer Expert Report, p. 7 (“After all, each time when Mr. Rutto is coming from high to low altitude, the hypoxic stimulus due to high altitude will be suppressed. Consequently, his bone marrow will make not only less reticulocytes, but even selectively destroy reticulocytes. This phenomenon has also been described in literature as neocytolysis. Just before the sample collection of Sample #3, Mr. Rutto made such a travel.”).

²⁶ Athlete Witness Statement, ¶ 20.

²⁷ Athlete Witness Statement, ¶ 26.

lists the sample's location as "Iten."²⁸ In reality, however, Mr. Rutto was in Kaptagat—dozens of kilometers away—as is evident from his recorded whereabouts location for 30 May 2018 (the date on which Sample 4 was taken).²⁹

44. The chain of custody form and the Athlete's whereabouts location are extracted below:

I. A/B	348399
TEST LOCATION (COUNTRY)	ITEN

Figure 2: The LDP (chain of custody) form for Sample 4 (ID# 348399).³⁰

Label	Trainingcamp Chirchir
Address	Chirchir-Centre, Kaptagat Kaptagat, Rift Valley KENYA

Figure 3: The Athlete's ADAMS calendar entry for the period of 22 May - 4 June 2018.³¹

45. In the Athlete's view, in order to support the IAAF's conclusions, "it is essential that sample #4 was collected, marked, transported and tested according to the strict procedures that are in place." This did not occur.
46. To the contrary, the Athlete suggests that the irregularity indicates a "clear possibility" of a "mix-up" of his sample with that of another athlete's, or alternatively its contamination.³² In either case, the sample's reliability is open to justifiable doubt.³³ Given such a "serious

²⁸ Laboratory Documentation Package, Doc. 4_ABP_LDP_348399_30052018 (Exhibit 5a), p. 6.

²⁹ Athlete Witness Statement, ¶ 25; Whereabouts information in ADAMS for May 2018 (Exhibit 16). Iten and Kaptagat are towns in the Rift Valley region of Kenya.

³⁰ Laboratory Documentation Package, Doc. 4_ABP_LDP_348399_30052018 (Exhibit 5a), p. 6.

³¹ Whereabouts information in ADAMS for May 2018 (Exhibit 16).

³² Athlete Witness Statement, ¶ 25. See also Statement of Defense, ¶ 17.

³³ Athlete Witness Statement, ¶ 25 (e.g., "If [the authorities] can't handle samples correctly while having them in their possession, how can I or other athletes trust the system to be [fool]-proof?").

discrepancy,”³⁴ the Tribunal should not “place any (or any significant) reliance” on Sample 4.³⁵

47. Notably, the Athlete maintains his position even if the true location at which the sample was collected can later be ascertained, or retroactively justified, by reference to other documents. For example, a Supplementary Report Form, produced by the Doping Control Officer (“**DCO**”) for the IAAF on 6 April 2019 (i.e., nearly one year after the fact), states that Sample 4 was collected in Kaptagat, and that the irregularity stems from a clerical error made by the DCO.³⁶ Mr. Rutto’s position appears to be that the IAAF must remain accountable for, and accept the procedural consequences of, material errors in the course of testing its athletes, including, in this case, the exclusion of what is said to be tainted evidence.³⁷
48. In any event, on its merits Sample 4 does not indicate an ADR violation, and Dr. de Boer suggests that “concentration [of] hemoglobin and percentage of reticulocytes are very normal according to the overall Athlete’s profile.”³⁸ As with Sample 3,³⁹ this conclusion is based on an analysis which deems the Athlete to fall within a “common expected maximum variation,” pictured in the table below:

³⁴ Statement of Defense, ¶ 18.

³⁵ Statement of Defense, ¶ 18.

³⁶ E-mail dated 8 April 2019 (forwarding e-mail dated 6 April 2019 and attaching DCO’s supplementary report) (Exhibit 14) (“**DCO Supplementary Report**”).

³⁷ Athlete Witness Statement, ¶ 25 (“If mistakes are made by the AIU, or one of their sub-contractors, then I believe the AIU should be held accountable for that. Attempting to brush this away as an irrelevant issue is, I think, wrong. The Supplementary Report Form explaining their side was produced [sic] the error was reported by me. It shows that procedures are not scrutinized. [...] If athletes can be penalized if they make errors in terms of their whereabouts, I think it is clear that authorities should be held accountable as well. If they can’t handle samples correctly while having them in their possession, how can I or other athletes trust the system to be [fool]-proof?”).

³⁸ De Boer Expert Report, p. 6.

³⁹ See paragraphs 33 to 35.

Sample #4	Hemoglobin	1.14	3.0%	6,3%
	Reticulocytes [%]	1.00	22.3%	18.1% (16.8%; 6.7%)
	OFF-score	0.24	5,3%	19.2% (6.7%; 18.1%)

Figure 4: De Boer Expert Report, Table 3, Sample #4.

49. According to this table, the Athlete’s observed hemoglobin variation falls within the common expected variation of 6.3%. This range is based in part on samples in the ABP Profile as well as additional private samples supplied by the Athlete.

(iii) **Conclusion**

50. In light of the foregoing, the Athlete invites the Tribunal to “find the ADRV charge against Mr Rutto not proven.”⁴⁰

B. The Claimant’s Position

51. The IAAF submits that certain abnormalities detected in the Athlete’s blood samples, collected in May 2018, indicate blood manipulation.

52. It makes two preliminary submissions in this regard. First, the IAAF explains that there are three widely known substances or methods used for blood doping, namely:

- administering, by injection, recombinant human erythropoietin (“**rEPO**”) (in order to trigger erythropoiesis, i.e., the stimulation of red blood cells);
- introducing synthetic oxygen carriers (i.e., infusing blood substitutes, such as hemoglobin-based oxygen carrier or perfluorocarbons, in order to increase hemoglobin above normal levels); and

⁴⁰ Statement of Defense, ¶ 21.

- blood transfusions (i.e., infusing a matching donor’s—or the athlete’s own, previously extracted—red blood cells in order to increase hemoglobin levels above normal levels).⁴¹

In this connection, the IAAF notes that the World Anti-Doping Code Prohibited List includes synthetic oxygen carriers and blood transfusions as Prohibited Methods in class “M1. Enhancement of oxygen transfer,” and rEPO as a Prohibited Substance in class “S2. Hormones and related substances.”

53. Second, the IAAF submits that the ABP, which it introduced into its athlete testing program in 2009, has been consistently accepted in cases heard by the Court of Arbitration for Sport as a “reliable means” of establishing the use of a Prohibited Substance or Prohibited Method.⁴² The Tribunal should therefore accept the ABP Profile as a “reliable means,” in accordance with Article 3.2 of the 2018 IAAF Anti-Doping Rules, of establishing the existence of an ADR violation.⁴³
54. The Tribunal should not, however, consider the Athlete’s submission of additional, private test samples which do not appear in the Athlete’s ABP Profile. Private tests “should not be considered acceptable,” inter alia because: (i) the pre-analytical and analytical procedures of such samples is unknown, (ii) possible cherry-picking of results in the Athlete’s favor, (iii) lack of evidence about the identification of the blood samples, and (iv) possible manipulation.⁴⁴ The IAAF draws specific attention to *CAS 2017/A/5045 Maria Farnasova v. IAAF & ARAF*, in which a tribunal of the Court of Arbitration for Sport denied a similar request by Dr. de Boer to introduce private test samples for these reasons.⁴⁵ At the hearing, counsel

⁴¹ Statement of Claim, ¶¶ 7-8.

⁴² Statement of Claim, ¶ 19.

⁴³ Statement of Claim, ¶ 64.

⁴⁴ Statement of Reply, ¶ 3(c); Third Expert Panel Joint Opinion, pp. 2-3.

⁴⁵ *CAS 2017/A/5045 Maria Farnasova v. IAAF & ARAF*, para. 91.

for the Claimant added that an athlete is able to anticipate the collection of his private sample. It thus lacks the element of surprise, which can be critical in official (unannounced) testing.

(i) **Standard of proof**

55. With respect to the standard of proof, the IAAF refers to Article 3.1 of the 2018 IAAF Anti-Doping Rules.⁴⁶ That article states as follows:

The IAAF [...] shall have the burden of establishing that an Anti-Doping Rule Violation has been committed. The standard of proof shall be whether the IAAF has established the commission of the alleged Anti-Doping Rule Violation to the comfortable satisfaction of the hearing panel, bearing in mind the seriousness of the allegation that is made. This standard of proof in all cases is greater than a mere balance of probability but less than proof beyond a reasonable doubt.

56. In this case, the IAAF submits that the Tribunal can be comfortably satisfied of a blood doping violation, on the basis of analysis documentation for the Athlete's ABP profile, and in particular Samples 3 and 4. Moreover, while the Athlete's private samples should not be admitted, the IAAF adds that even these include a "series of abnormally high [hemoglobin]."⁴⁷ The Tribunal sets out the IAAF's submissions with respect to Samples 3 and 4 below.

(ii) **Assessment of the evidence**

Sample 3

57. With respect to Sample 3, the First Expert Panel Joint Opinion considered the high hemoglobin value of 18.4 g/dL to be markedly higher than that in

⁴⁶ Statement of Claim, ¶ 63.

⁴⁷ Third Expert Panel Joint Opinion, p. 3.

Sample 2.⁴⁸ The opinion also noted an apparent suppression of bone marrow, evidenced by an RET% of 0.43% and explained below:

Sample 3 shows a very high Hb of 18.4 g/dL being 1.5 g/dL higher than the previous (sample 2). In addition, the bone marrow is markedly suppressed, as evidenced by a low percentage of reticulocytes (%ret) of 0.43% resulting in an OFFscore of 144.7 points. This sample is collected few days before two competitions; two days before a Diamond League competition in Shanghai and 9 days before the 'Adidas Boost Boston'.⁴⁹

58. This timing, the expert opinion suggests, increases the likelihood that the Athlete engaged in an ADR violation by administering a Prohibited Substance. Indeed, as noted below in relation to Sample 4,⁵⁰ the Athlete retained an elevated HGB of 18.3 g/dL even 20 days later, along with a recovering RET% of 0.71%. This scenario is "typical of previous blood manipulation."⁵¹ On the other hand, the relatively long interval between Samples 2 and 3 does not diminish the latter's probative value, since hemoglobin concentration and RET% vary little over time.⁵²
59. In analyzing Sample 3, the IAAF's experts note that they rely upon the lower of two possible RET% readings. They justify this by arguing that the lower RET% value (0.43%) was selected in accordance with applicable protocols.⁵³ Even if the higher RET% value (0.54%) had been used,

⁴⁸ Statement of Claim, ¶ 26; First Expert Panel Joint Opinion, p. 2.

⁴⁹ First Expert Panel Joint Opinion, p. 2.

⁵⁰ See paragraph 66 below.

⁵¹ First Expert Panel Joint Opinion, p. 2.

⁵² Third Expert Panel Joint Opinion, p. 3.

⁵³ Second Expert Panel Joint Opinion, p. 2 & fn. 3 (citing WADA Athlete Biological Passport Operating Guidelines, version 6.1, July 2018). Specifically, the World Anti-Doping Agency ("**WADA**") Athlete Biological Passport Operating Guidelines provide that, where the difference between the results of two RET% analyses is within a certain range, "then only the first injection data is reported" and used in ADAMS. The IAAF's experts note that, in this case, the absolute difference between the two RET% values is 0.11 (i.e., the difference between 0.43% and 0.54%).

however, this would “still be the lowest” such result in the Athlete’s ABP Profile, and would still be “very suspicious of blood manipulation.”⁵⁴

60. In this respect, the IAAF rejects that Sample 3 may have been distorted,⁵⁵ either by Mr. Rutto’s rapid shift in altitude exposure or by his alleged state of dehydration. In the IAAF’s view, neither altitude nor dehydration adequately explains the abnormalities detected in Sample 3.

*

61. On the issue of altitude exposure, the IAAF’s experts suggest that changes in hemoglobin levels following long-haul flights are “minimal or absent.”⁵⁶ In other words the mere fact that the Athlete undertook a lengthy flight is unlikely to have (significantly) altered his hemoglobin score. Samples 1, 2, and 5 were collected “after similar altitude exposure,” yet do not indicate the same abnormal results.⁵⁷

62. The flight is also unlikely to have altered the Athlete’s RET% score. The IAAF does not consider that neocytolysis furnishes an explanation for the Athlete’s RET% score in this case,⁵⁸ and in any event the Tribunal takes note that Dr. de Boer withdrew this explanation at the hearing. The IAAF accordingly considers that the Athlete has failed to provide any explanation of his abnormal RET% score.

*

63. With respect to dehydration, the IAAF’s rejoinder is twofold: (i) first, it is unlikely that the Athlete’s dehydration was so severe so as to alter his

This falls within the range of 0.15 set by WADA. Consequently, the laboratory analysis correctly reported only the first RET% result.

⁵⁴ Second Expert Panel Joint Opinion, p. 2.

⁵⁵ See paragraphs 39 and 41 above.

⁵⁶ Second Expert Panel Joint Opinion, p. 1 (internal citations omitted).

⁵⁷ First Expert Panel Joint Opinion, p. 2.

⁵⁸ Statement of Reply, ¶¶ 2(f) & 6.

hemoglobin concentration at the time that Sample 3 was collected; and (ii) second, even if dehydration did alter the Athlete's hemoglobin concentration, it could not in any event account for his abnormal RET% (0.43%).⁵⁹

64. With respect to the first of these propositions, the IAAF's experts contend that, based on the Athlete's own description of his fluid intake, it is unlikely that he was dehydrated upon arrival in Shanghai. This would have required a "severe restriction in fluid intake" both during and after the Athlete's flight from Dubai to Shanghai on 10 May 2018—something which "is not mentioned by the Athlete and would not be in line with an athlete's usual behavior."⁶⁰ Moreover, the Athlete's (urine) sample, taken on the same day as (blood) Sample 3, provides no evidence of dehydration, since its specific gravity (1.014) fell within the normal range (between 1.013 and 1.029 g/mL).⁶¹
65. With respect to the second proposition, the IAAF's experts argue that reticulocyte percentages are a concentration-independent parameter.⁶² Consequently, low reticulocyte levels cannot be explained by changes to hemoconcentration (and regardless of any dehydration). Rather, the Athlete's RET% is "indicative of bone marrow suppression," a "typical scenario after administration of an erythropoiesis-stimulating agent."⁶³

Sample 4

66. Sample 4, the IAAF submits, provides further evidence that the Athlete engaged in blood manipulation. This is most apparent when Sample 4 is considered in conjunction with Sample 3:

⁵⁹ Statement of Claim, ¶ 69.

⁶⁰ Second Expert Panel Joint Opinion, p. 1. See also Statement of Claim, ¶ 36.

⁶¹ Second Expert Panel Joint Opinion, p. 2; Third Expert Panel Joint Opinion, pp. 3-4.

⁶² Second Expert Panel Joint Opinion, pp. 1-2 (internal citations omitted). See also Statement of Claim, ¶ 37.

⁶³ Second Expert Panel Joint Opinion, pp. 1-2 (internal citations omitted).

*The next sample (Sample 4) collected 20 days later still shows an elevated Hb of 18.3 g/dL but with a recovering %ret of 0.71%. Such a scenario is typical of previous blood manipulation e.g. administration of an erythropoiesis-stimulating agent.*⁶⁴


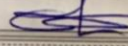

67. The Athlete's threshold criticism with respect to Sample 4 concerns a discrepancy in labelling the test's location, which in his view may suggest problems in the chain of custody.⁶⁵ The IAAF, for its part, does not consider this discrepancy material to the admissibility or probative value of Sample 4.
68. The IAAF refers to the World Anti-Doping Agency's Athlete Biological Passport Operating Guidelines, which govern requirements such as those relating to sample collection, transport and analysis. According to Guideline L.2.1.6.2, a sample result "which is not affected by the non-conformity can still be considered" in the ABP.⁶⁶ In this case, Sample 4 is "not affected" by the non-conformity with respect to the test location recorded on the chain of custody form; therefore it should be given full weight as stipulated in the Operating Guidelines.
69. Specifically, the IAAF submits that Sample 4 is "not affected" by any non-conformity on the chain of custody form because other evidence clearly links Sample 4 to the Athlete. The Notification section of the Doping Control Form for Sample 4⁶⁷ provides that the location was "Kaptagat"—and includes the identifying number for Sample 4 along with the Athlete's signature (and other, uncontested details, such as the date and time of the test):

⁶⁴ First Expert Panel Joint Opinion, p. 2. See also Statement of Claim, ¶ 67(i).

⁶⁵ See paragraphs 49 to 47 above.

⁶⁶ WADA ABP Operating Guidelines, version 7.0 dated March 2019 (Exhibit 4), p. 57, at L.2.1.6.2.

⁶⁷ Doping Control Form dated 30 May 2018 (Exhibit 13), p. 1.

PIU OF TEST REQUIRED PIU DE CONTRÔLE REQUIS	<input checked="" type="checkbox"/>	DATE 30 05 2018	COUNTRY KENYA	CITY KAPTAGAT	TIME 08:20
I HEREBY ACKNOWLEDGE THAT I HAVE RECEIVED AND READ THIS NOTICE, INCLUDING THE ATHLETE RIGHTS AND RESPONSIBILITIES TEXT ON THE OVERLEAF OF COPY 1, AND I CONSENT TO PROVIDE SAMPLE(S) AS REQUESTED (I UNDERSTAND THAT FAILURE OR REFUSAL TO PROVIDE A SAMPLE MAY CONSTITUTE AN ANTI-DOPING RULE VIOLATION). JE RECONNAIS AVOIR REÇU LIU CET AVEU, Y COMPRIS LES DROITS ET LES RESPONSABILITÉS DU SPORTIF FIGURANT AU VERSO DE LA COPIE 1, ET JE CONSENS À FOURNIR L(ES) ÉCHANTILLON(S) TEL(S)QUE REQUIS (JE COMPRENDS QUE LE REFUS OU LE FAIT DE ME SOUSTRARE À FOURNIR UN ÉCHANTILLON CONSTITUE UNE VIOLATION DES RÈGLES ANTI-DOPAGE).		90 MIN SLOT PLAGE DE TEST D'UNE HEURE <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>		PHONE CALLS TO ATHLETE <input type="checkbox"/> <input checked="" type="checkbox"/>	
ATHLETE'S SIGNATURE - SIGNATURE DU SPORTIF 		DCO - CHAPERONE NAME NOM DE L'ACQ-ESCORTE S. OTIENO DCO - CHAPERONE SIGNATURE SIGNATURE DE L'ACQ-ESCORTE 			
3. INFORMATION FOR ANALYSIS • INFORMATIONS CONCERNANT L'ANALYSE					
DOC	<input checked="" type="checkbox"/>	08:20	DATE OF TEST DATE DE CONTRÔLE 30 05 2018	GENDER SEX <input checked="" type="checkbox"/> <input type="checkbox"/>	M-781353586
SAMPLE 1 - ÉCHANTILLON 1 BLOOD/SANG	A/B		348399	09:40	SAMPLE 2 - ÉCHANTILLON 2 A/B

70. The IAAF also submits a Supplementary Report Form, provided by the Doping Control Officer to the IAAF on 6 April 2019. In this document, the DCO wrote as follows:

The same day I also had a collection in Iten [...] [after which] I combined all the samples card number[s] on one COCF [chain of custody form]. This might have been a mixup while filing the COC.⁶⁸

71. According to the DCO's account, the mis-labelling of Sample 4's location stems from a clerical error, the DCO allegedly having included two samples on a single chain of custody form—the Athlete's (collected in Kaptagat), and a different athlete's (in Iten). But *both* samples were (mistakenly) recorded as having been collected in Iten.

72. To bolster the DCO's explanation, and to remove the possibility of a mix-up of samples, the IAAF has submitted a redacted copy of the Doping Control Form for what is alleged to be the Iten-based sample which was collected and recorded together with Sample 4. This form shows that a sample (362734) was collected by the DCO in Iten. By implication, Mr. Rutto's sample (348399) was not collected in Iten, nor switched or otherwise confused with the actual Iten-based sample.⁶⁹ See below:

⁶⁸ DCO Supplementary Report, p. 2.

⁶⁹ Doping Control Form dated 30 May 2018 (Exhibit 15), p. 1.

73. All in all, the evidence is said to remove any doubt that Sample 4 was collected in Kaptagat, Kenya, and belongs to the Athlete. The evidence also is said to rule out the possibility that the Athlete's sample was manipulated or accidentally swapped.⁷⁰
74. The Tribunal should therefore regard Sample 4 as reliable and valid evidence which is indicative of blood manipulation.

(iii) **Conclusion**

75. Based on the foregoing, the IAAF submits that the Tribunal may be comfortably satisfied of an ADR violation, namely Use of a Prohibited Substance or Prohibited Method, and should impose appropriate consequences in accordance with Rule 10.2 of the 2018 IAAF Anti-Doping Rules.
76. The IAAF notes that, in circumstances where the ADR violation is intentional and constitutes an athlete's first violation of the anti-doping rules, a mandatory period of Ineligibility of four years must be imposed in accordance with Rule 10.2.1(a) of the Rules. Because the Athlete has "failed to meet his burden" to establish that the ADR violation was not intentional, the standard four-year period of Ineligibility should be

⁷⁰ Statement of Claim, ¶ 73. See also Second Expert Panel Joint Opinion, p. 2.

applied.⁷¹ The period of Ineligibility should begin on the date of this Award, albeit with “credit” granted for any period of Provisional Suspension effectively served by the Athlete, in this case, the period since 4 April 2019.⁷²

77. In sum, the IAAF requests the following relief:

- (i) to rule that the Tribunal has jurisdiction to decide on the subject matter of this dispute;
- (ii) to find that the Athlete has committed an anti-doping rule violation pursuant to Article 2.2 of the 2018 IAAF Rules;
- (iii) to impose a period of Ineligibility of four (4) years upon the Athlete for this anti-doping rule violation, commencing on the date of the Tribunal’s Award;
- (iv) to give credit for the period of Provisional Suspension imposed on the Athlete from 4 April 2019 until the date of the Tribunal’s Award against the total period of Ineligibility, provided that it has been effectively served by the Athlete;
- (v) to order the disqualification of any results obtained by the Athlete between 10 May 2018 and 4 April 2019 with all resulting consequences including the forfeiture of any titles, awards, medals, points and prize and appearance money pursuant to Article 10.8 of the 2018 IAAF Rules; and
- (vi) to award the IAAF a contribution to its legal costs.⁷³

⁷¹ Statement of Claim, ¶¶ 78-79.

⁷² Statement of Claim, ¶ 80.

⁷³ Statement of Claim, ¶ 86.

V. The Tribunal's Analysis

A. Applicable Law

78. The IAAF Anti-Doping Rules currently in force, effective from 1 January 2019, provide in Article 21.3 as follows:

Any case pending prior to the Effective Date, or brought after the Effective Date but based on an Anti-Doping Rule Violation that occurred before the Effective Date, shall be governed, with respect to substantive matters, by the predecessor version of the anti-doping rules in force at the time the Anti-Doping Rule Violation occurred and, with respect to procedural matters by (i) for Anti-Doping Rule Violations committed on or after 3 April 2017, these Anti-Doping Rules and (ii) for Anti-Doping Rule Violations committed prior to 3 April 2017, the 2016-2017 IAAF Competition Rules.

79. Accordingly, substantive matters are governed by the anti-doping rules in force at the time the anti-doping rule violation occurred. The charge against Mr. Rutto is premised on an alleged anti-doping rule violation in May 2018 (i.e., for Samples 3 and 4). The relevant IAAF Anti-Doping Rules in force at this time were the IAAF Anti-Doping Rules effective from 6 March 2018, and these accordingly govern matters of substance.
80. As for procedure, the current (2019) IAAF Rules govern. For ease of reference the Tribunal shall refer to these as the "**ADR**."

B. Jurisdiction

81. Article 1.4 of the ADR establishes a "Disciplinary Tribunal to hear Anti-Doping Rule Violations" thereunder. Article 8.1(a), for its part, sets out that the Tribunal "shall have jurisdiction over all matters" in which:

An Anti-Doping Rule Violation is asserted by the Integrity Unit against an International-Level Athlete or Athlete Support Person in accordance with these Anti-Doping Rules [...]

82. Article 1.8 of the ADR defines which athletes are to be deemed International-Level Athletes under the Rules, and therefore subject to the Tribunal's jurisdiction. It reads as follows:

Within the overall pool of Athletes set out above who are bound by and required to comply with these Anti-Doping Rules, each of the following Athletes shall be considered to be an International-Level Athlete ("International-Level Athlete") for the purposes of these Anti-Doping Rules and therefore the specific provisions in these Anti-Doping Rules applicable to International-Level Athletes shall apply to such Athletes:

(a) An Athlete who is in the International Registered Testing Pool;

[...]

(c) Any other Athlete whose asserted Anti-Doping Rule Violation results from (i) Testing conducted under the Testing Authority of the IAAF; (ii) an investigation conducted by the IAAF or (iii) any of the other circumstances in which the IAAF has results management responsibility under Article 7.

83. The Athlete was in the International Registered Testing Pool from 1 October 2017.⁷⁴ He therefore satisfies Article 1.8(a). The IAAF additionally argues, and the Athlete does not dispute, that Mr. Rutto qualifies as an International-Level Athlete under the criteria enumerated separately in Article 1.8(c).

⁷⁴ See the Athlete's first whereabouts submission to the IAAF in ADAMS for Q4 2017 (Exhibit 2).

84. The Tribunal is satisfied that Mr. Rutto qualifies as an International-Level Athlete. In consequence, the Tribunal has the requisite jurisdiction to hear and determine Anti-Doping Rule Violation alleged against the Athlete pursuant to Article 8.1(a) of the ADR.

C. Merits

85. In the present section the Tribunal sets out the grounds for its decision.

a. Standard of Proof

86. As a preliminary matter, the Tribunal addresses the applicable burden of proof. This matter is readily addressed by the 2018 IAAF Anti-Doping Rules, Article 3.1 of which states in relevant part as follows:

The IAAF [...] shall have the burden of establishing that an Anti-Doping Rule Violation has been committed. The standard of proof shall be whether the IAAF has established the commission of the alleged Anti-Doping Rule Violation to the comfortable satisfaction of the hearing panel, bearing in mind the seriousness of the allegation that is made. This standard of proof in all cases is greater than a mere balance of probability but less than proof beyond a reasonable doubt.

87. The Claimant has argued that the applicable standard lies somewhere between a simple balance of probabilities and the criminal law standard of “beyond reasonable doubt.” The Respondent, however, submits that the applicable standard is—in effect if not in name—equivalent to the criminal standard.

88. The underlined portion of Article 3.1 leaves little doubt as to the position of the “comfortable satisfaction” standard relative to the ordinary standards of proof in civil and criminal matters. The existence of this clause also distinguishes IAAF Disciplinary Tribunal cases from those proffered by the Respondent in support of a higher standard.

89. The *Hamilton* decision, cited by the Athlete as representative of the “beyond a reasonable doubt” school of thought, was premised on a set of anti-doping rules whose wording omitted the clarifying language highlighted above. In *Hamilton*, the tribunal was left to construe the “comfortable satisfaction” standard—one which it admitted was “relatively new” at the time—as a matter of first impression and without clarifying language in the rules as to the standard’s precise contours. Given the lack of guidance, the tribunal took note that the “continued livelihood of a dedicated athlete” was at stake, thus invoking language inviting it to “bear[sic] in mind the seriousness of the allegation that is made.” (This language also appears in Article 3.1 ADR.)
90. Yet the *Hamilton* case is inapposite for at least three reasons. First, on the facts, that decision did not deal with any finding of an anti-doping rule violation.⁷⁵ Second, and more importantly, in the decade and a half since *Hamilton* and its progeny were decided, the “comfortable satisfaction” standard has become well established: although not entirely uniform,⁷⁶ successive CAS case law considers that “comfortable satisfaction” occupies an intermediate position between the usual civil and criminal law standards, and modern anti-doping rules, including the 2018 IAAF Rules, state this position expressly. In other words, whereas the *Hamilton* tribunal’s reading may be understood as interpretation of an issue of first impression, the circumstances differ today. Finally, while the Tribunal has no hesitation in accepting that the stakes are high for athletes accused of doping, this factor alone cannot provide cause for elevating the standard of proof to a criminal standard.⁷⁷ Such an exception would swallow the rule, since almost all anti-doping disciplinary proceedings affect, or

⁷⁵ *Hamilton* concerned the question of whether a test had been conducted in accordance with scientific standards and best practices.

⁷⁶ See CAS Bulletin dated January 2014, p. 17.

⁷⁷ Cf. CAS 2010/A/2266 *Mészáros & Poleksic v. UEFA*, ¶¶ 67-68 (“the existence of serious allegations as such does not automatically raise the standard to the level of the criminal law standard of ‘beyond any reasonable doubt’”).

threaten to affect, the continued livelihood of athletes. To proceed in this way would render the underlined portion of Article 3.1 without effect.

91. Clearly the text of the relevant anti-doping rules must be taken into account. Various anti-doping rules have adopted different approaches to defining the scope of "comfortable satisfaction." Some, like the authorities relied upon by the Respondent, did not contain any language clarifying how the standard was to be construed. Others, such as previous versions of the International Cricket Council's Anti-Corruption Code,⁷⁸ explicitly defined the concept as a "sliding scale," ranging from a minimum corresponding to a balance of probabilities, "up to proof beyond a reasonable doubt" for the most serious offenses. Yet others, as in Article 3.1 of the ADR, make clear that the "comfortable satisfaction" standard is not to be equated with either end of the spectrum, but falls in the middle.
92. Accordingly, the IAAF need not eliminate all reasonable doubt in order to prevail. It is equally true, however, that a mere balance of probabilities is insufficient for the Tribunal to be comfortably satisfied of an anti-doping rule violation. In that sense, the Tribunal accepts the Respondent's contention that it is not for Dr. de Boer to prove that his analysis is the right or only conceivable one. Without the IAAF's conclusions clearly outweighing those of the other side, the IAAF's burden would be unmet.

b. Reliability of the ABP

93. The ABP consists of an electronic record that compiles and collates a specific athlete's test results and other data over time, and is unique to that particular athlete. The values collected and recorded include hemoglobin concentration ("**HGB**") and the percentage of immature red blood cells, i.e., reticulocytes ("**RET%**"). The ratio of the HGB and RET% values is also used to calculate yet another value, known as the OFF-score,

⁷⁸ See generally Court of Arbitration for Sport Bulletin dated January 2014, p. 10 et seq. See also, e.g., Sri Lanka Cricket, Anti-Corruption Code for Players and Player Support Personnel effective as of 1 August 2012, Article 3.1.

which is sensitive to changes in erythropoiesis or other forms of blood manipulation.

94. The values collected in the ABP are fed into a statistical model known as the "Adaptive Model," which relies on an algorithm which takes into account the variability of such values within the general population, as well as factors affecting the variability of the Athlete's individual values (for example, gender, ethnic origin, age, altitude, and type of sport). Over a period of time, a longitudinal profile is created which establishes the Athlete's upper and lower limits within which the Athlete's values would be expected to fall, assuming normal physiological conditions (i.e., that the athlete is healthy and has not been doping).
95. The Adaptive Model also calculates the probability of abnormality, as it were, of the sequence of values in the ABP profiles. At the outset, the Adaptive Model compares the individual tested against a larger population of similarly situated athletes. Over time, however, the Athlete becomes his or her own point of reference; each time his or her blood sample is recorded, the Adaptive Model recalibrates the Athlete's distribution of HGB, RET% and OFF-score. After each new test, the range of expected results for the athlete is refined.⁷⁹
96. The ABP has long been accepted and relied upon in anti-doping legal proceedings; its use finds widespread support among IAAF disciplinary panels and in the jurisprudence of the CAS.⁸⁰ The Tribunal is satisfied that the ABP is a reliable means of establishing potential blood manipulation.

⁷⁹ See paragraph 9.8 of *De Bonis*.

⁸⁰ *CAS 2010/A/2235 UCI v Tadej Valjavec & Olympic Committee of Slovenia*. Many other CAS cases have affirmed the reliability of the ABP and the Adaptive Model as reliable: see, for example, *CAS 2014/A/3614 & 3561, IAAF & WADA v RFEA & Ms. Marta Dominguez*; *CAS 2016/O/4464, IAAF v ARAF & Sharmina*; *CAS 2016/O/4463, IAAF v ARAF & Ugarova*; *CAS 2016/O/4469 IAAF v ARAF*, *CAS 2016/O/4481, Chernova & IAAF v ARAF & Savinova-Farnosova* and *CAS 2018/O/5822, IAAF v RUSAF & Mariya Ponomareva*. For an example of an IAAF Disciplinary Tribunal accepting the same, see *IAAF v. Medvedeva-Ryzhova*, SR/Adhocsport/82/2019.

c. Analysis of the ABP

97. Together, Samples 3 and 4 provide support for blood doping as to comfortably satisfy the Tribunal of an ADR violation.

Sample 3

98. The hemoglobin concentration and reticulocyte percentage recorded for Sample 3 are, in the Tribunal's view, typical of blood manipulation and accordingly weigh in favor of an ADR violation as alleged by the IAAF. The Athlete has advanced no alternative, credible explanation to demonstrate that these results are innocuous. The Tribunal addresses each aspect of Sample 3 in turn below.

(1) With respect to hemoglobin concentration

99. The hemoglobin level in Sample 3 (18.4 g/dL) stands out both in relative and absolute terms. In relative terms, the reading is markedly higher than that of Sample 2 (by 1.5 g/dL). The timing of the increase is also notable, given that Sample 3 was collected a mere two days before a Diamond League competition. As noted further at paragraph 116 below, the Athlete also maintained an elevated hemoglobin concentration weeks later, when Sample 4 was collected, a scenario typical of previous blood manipulation.
100. In absolute terms, the Athlete has sought to argue that he has a naturally occurring, if highly unusual, baseline hemoglobin concentration of around 18 g/dL (or perhaps even higher). This argument, however, was unsubstantiated. Neither counsel for the Respondent nor Dr. de Boer was able to point to evidence suggesting that high-level, long-distance runners from Kenya (or even a broader group, such as athletes from the African highlands writ large) exhibit natural, baseline HGB concentrations of over 18 g/dL. Even on Dr. de Boer's terms—that is, looking only at the Athlete's personal, historical sample results, and disregarding those of the relevant population—it is clear that elevated HGB levels of 18 g/dL or higher are far

from the norm; elevated HGB concentrations were detected in only three of his eight original Samples.⁸¹

101. The Athlete’s argument that he has a naturally high HGB “plateau” came to place particular reliance on Sample 9, collected in October 2019, which—along with one or more of his private samples from that period—indicated an extraordinarily high HGB of 19 g/dL. This reading considerably exceeds even the highest of the HGB levels recorded in the original eight Samples, as pictured below.⁸²

No.	Date of Sample	HGB (g/dL)	RET%	OFF-Score
1.	22 July 2017	16.8	0.92	110.50
2.	7 August 2017	16.9	0.82	115.00
3.	10 May 2018	18.4	0.43	144.66
4.	30 May 2018	18.3	0.71	132.44
5.	12 July 2018	16.6	0.83	111.30
6.	30 July 2018	17.3	0.66	124.26
7.	30 September 2018	17.4	0.32	140.10
8.	2 December 2018	18.5	0.65	136.60
9.	10 October 2019	19.2	0.94	133.83

102. At least three explanations for the HGB reading in Sample 9 were offered to the Tribunal. Counsel for the Respondent, together with Dr. de Boer, suggested that it cannot be excluded that the Athlete may be

⁸¹ Indeed, two of these three samples are precisely those which the IAAF argues are typical of blood manipulation: Samples 3 and 4. The final sample exhibiting this pattern (Sample 8) was excluded from consideration by both parties’ experts; in the absence of expert analysis, it cannot, in the Tribunal’s view, be considered as proof of any proposition whatever, whether in the Athlete’s favor or to his detriment.

⁸² Sample 8, which was excluded from analysis by the IAAF’s experts, had a HGB of 18.5 g/dL. The second- and third-highest HGB were recorded in Samples 3 and 4 (18.4 and 18.3 g/dL, respectively).

physiologically exceptional, with a naturally high HGB concentration far in excess of that typically expected considering relevant ethnic, geographical, and other factors. For his part, Professor d’Onofrio observed that there was precedent in the practice of some long-distance runners to suggest that the Athlete might have continued to manipulate his blood into the autumn, in support of his ongoing training regimen. Third, counsel for the Claimant noted (albeit without drawing conclusions one way or the other) that Sample 9 could reflect a pattern of intentional blood manipulation undertaken in anticipation of these proceedings—i.e., with a view toward “normalizing” the Athlete’s high HGB values in his earlier samples.

103. On inspection, all three explanations appear to suffer from a degree of speculation. Whether or not Sample 9 supports or in fact undermines the Athlete’s defense is a question which is impossible to answer conclusively on the evidence tendered before the Tribunal.
104. Nevertheless, a careful examination of the Athlete’s reliance on Sample 9 in this respect uncovers serious concerns. To treat Sample 9 as proof that the Athlete has a naturally occurring HGB of 18 or even 19 g/dL would require the Tribunal to ignore that none of the Athlete’s prior ABP samples have HGB as high as that in Sample 9 (see table above). Nor do any of the prior samples combine a high HGB with a normal (i.e., not artificially suppressed) RET%. The Tribunal would likewise have to draw conclusions while overlooking the dearth of any information as to the Athlete’s lifestyle in the period between Samples 8 and 9; whether he continued training; what, if any, medications or supplements he took; his state of health; and so on. Mr. Rutto, on examination before the Tribunal, did not address these matters. That is not all. On cross-examination, counsel for the Respondent asked Professor d’Onofrio whether Sample 9 could plausibly be said to support that the Athlete has unusually high, baseline HGB. Significantly, in reply, Professor d’Onofrio categorically stated that such HGB levels were “not compatible with the physiology” and could only be explained by “pathological or exogenous” causes. Counsel for the

Respondent did not pursue the matter further in the cross-examination, and made no reference to the issue in his closing address.

105. Against this background, the Tribunal is skeptical that the readings indicated in Sample 9 are naturally occurring, but in any event does not afford Sample 9 evidentiary weight.

106. Having declined to deem the Athlete's high HGB as a reflection of a natural (if exceptional) physiology, the Tribunal now turns to assess the Athlete's remaining explanations for his abnormal HGB result. These related, as recounted above, to alleged dehydration or a change in altitude.

107. Here the Tribunal may be brief. The IAAF has demonstrated that neither dehydration nor a change in altitude could produce such significant deviations from normal HGB levels, conceding, at most, the possibility of a marginal effect:

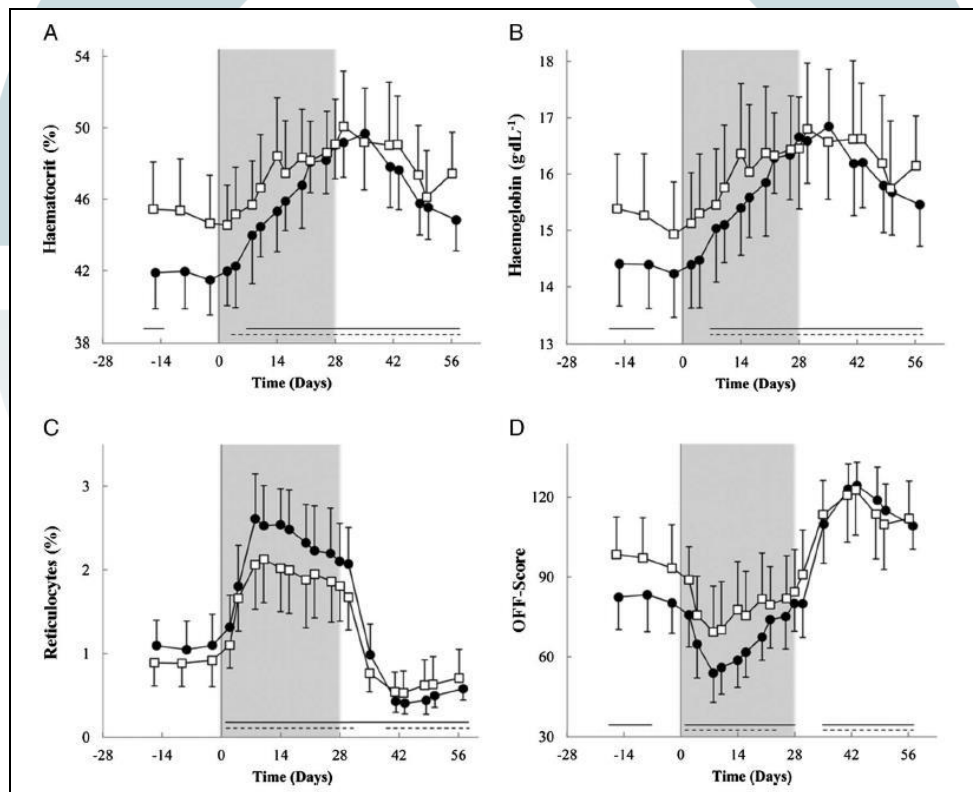
- With respect to dehydration, there is no evidence that the Athlete was dehydrated; if anything, his urine sample from the same period indicates normal hydration.⁸³ In any event, dehydration has little influence on hemoglobin concentration (and none at all on reticulocyte percentages).
- With respect to altitude, the Athlete failed to explain why other samples following on a major descent from altitude (from long-haul flights), such as Samples 2 and 5, did not exhibit the same abnormally high HGB levels as Sample 3. In any event, changes to hemoglobin from air travel are relatively minor. As Professor d'Onofrio explained, with no rebuttal from the Respondent, major changes to HGB attributable to altitude are typically associated with descents from space orbit, not commercial flights.

⁸³ See paragraph 64 above.

108. Having considered the submissions of both parties with respect to this issue, the Tribunal is comfortably satisfied that the hemoglobin reading for Sample 3 is highly indicative of blood manipulation.

(2) With respect to the reticulocyte percentage

109. The reticulocyte percentage for Sample 3 is, in the Tribunal's consideration, similarly suspect. Particularly when paired with a continued high level of hemoglobin, an abnormally low RET% is symptomatic of artificial, exogenous blood manipulation. This was substantiated by a 2018 study by Haile et al.,⁸⁴ as discussed at length during the hearing and extracted below:



110. Graphs B and C track the hemoglobin and reticulocytes, respectively, of a group of long-distance runners from Scotland and Kenya. The white-

⁸⁴ Haile D., Drussel J, Mekonen W et al., *Effects of EPO on Blood Parameters and Running Performance in Kenyan Athletes*, OFFICIAL JOURNAL OF THE AMERICAN COLLEGE OF SPORTS MEDICINE 299 (2018).

square datapoints were collected from Scottish long-distance runners, whereas the black-circle datapoints comprise Kenyan endurance runners living at approximately 2150 meters above sea level.

111. The study suggests that, following the administration of an agent such as rEPO over a period of two weeks (days 0 to 28), hemoglobin slowly degraded over the ensuing period (days 28 to 56). In contrast, reticulocyte percentages recovered relatively swiftly. The study provides support for the hypothesis that abnormally high hemoglobin, coupled with a normal reticulocyte percentage, fits a pattern of blood manipulation.
112. The reticulocyte values for Sample 3 fit this pattern. Although hemoglobin levels are markedly elevated, at 18.4 g/dL, the RET% is unusually suppressed, at only 0.43%, a decrease of almost 50% relative to the previous sample. This suppression can be and was explained by the IAAF's expert panel as the result of the bone marrow ceasing reticulocyte production in order to restore the body's natural equilibrium, following a period of artificial stimulation of the production of red blood cells through the introduction of a prohibited stimulating agent.
113. In the Tribunal's view, it thus falls upon the Athlete to advance any credible or competent explanation for the RET% values in Sample 3. He has failed to do so. The principal explanation offered by Dr. de Boer in his first expert report, i.e., neocytolysis, was withdrawn. At the hearing, Dr. de Boer additionally suggested—without substantiation—that reticulocyte values are over-sensitive, or too dynamic to be trusted. No other explanation was advanced, and the Tribunal does not, without more, consider that the latter proposition is capable of displacing or even seriously calling into question the IAAF's interpretation of the RET% reading for Sample 3.
114. The RET% in Sample 3 therefore constitutes, to the Tribunal's comfortable satisfaction, an indication of blood manipulation through the Use of a Prohibited Substance or Prohibited Method.

115. The Tribunal notes that the IAAF entered the lower of two possible RET% readings into ADAMS for Sample 3. At the hearing, the IAAF explained that, even if it had used the higher reading, this would still indicate a strong likelihood of blood doping above the requisite 99% confidence level. While the Tribunal agrees with Respondent's counsel that an administrative choice of which reading to use should not prejudice the (qualitative) assessment of whether the sample indicates blood manipulation, in this case it considers the IAAF to have shown that its conclusion would not be changed by adopting the alternative measure.

Sample 4

116. The Athlete's chief criticism of Sample 4 relates to its chain of custody. The IAAF, however, has explained in detail that the irregularity is the result of a clerical error, and not of a mix-up of the Athlete's sample. To the contrary, the sample is both "clearly linked to" the Athlete, and no other discrepancies in the documentation or in the pre-analytical or analytical procedures exist which could call into question the sample's credibility.⁸⁵ As the IAAF's Doping Control Officer has subsequently confirmed, the relevant discrepancies in the documentation stemmed from a clerical error, not a mix-up of samples. An administrative error in recording the sample's location do not diminish its probative value, in accordance with article L.2.1.6.2 of the ABP Operating Guidelines.

117. The Tribunal accepts the IAAF's submissions on the sample's chain of custody, and grants it full evidentiary weight.

118. On the merits, Sample 4 reinforces the likelihood of an ADR violation. As noted above, the continued presence of a high hemoglobin concentration even weeks after Sample 3—combined with a recovery of RET%—is a typical symptom of previous administration of a Prohibited Substance.

⁸⁵ Second Expert Panel Joint Opinion, p. 2.

119. This precise pattern is observed in Sample 4. The Athlete's hemoglobin concentration, at 18.3 g/dL, is little changed from the 18.4 g/dL value recorded at the time that Sample 3 was collected, i.e., twenty days earlier. At the same time, however, Sample 4 exhibits an RET% of 0.71, a substantial recovery in the same span of twenty days. As Professor d'Onofrio explained, during a period of exogenous administration of a Prohibited Substance, resulting in an abnormally high count of young red blood cells, the bone marrow all but ceases reticulocyte production—hence the rapid decrease in RET% once exogenous stimulation stops, and the body seeks to re-establish equilibrium. This combination of high HGB and a recovering RET% value closely matches those symptoms typical in Kenyan long-distance runners following a period of artificial blood manipulation, and yielded an OFF-Score of 132.44.
120. The Respondent's arguments with respect to Sample 4 (on the merits, as opposed to as a question of its evidentiary weight or admissibility) are, in all material aspects, identical to his submissions on Sample 3. In particular, Dr. de Boer has sought to suggest that Mr. Rutto's hemoglobin levels are naturally elevated; having abandoned his sole attempt at explaining the reticulocyte levels in Sample 4 (by reference to neocytolysis), he relies instead on the general assertion that none of the values were statistical outliers when extraneous samples are taken into account. For the same reasons as provided in relation to Sample 3 above, the Tribunal is unconvinced by the Respondent's submissions with respect to the HGB or RET% recorded in Sample 4.
121. In the absence of any credible explanation which might qualitatively attribute the extraordinary results to normal physiology or an extraneous health condition, the Tribunal is comfortably satisfied that Sample 4 is indicative of an ADR violation. Considered in context with the previous sample, Sample 4 therefore bolsters the likelihood of the Use of a Prohibited Substance or Prohibited Method.

Remaining Methodological Issues

122. Having addressed the Athlete's official sample results and Mr. Rutto's associated explanations, the Tribunal now turns to address certain remaining methodological issues reflected in Dr. de Boer's expert reports.
123. Dr. de Boer's arguments that the Athlete's results fell within a (for him) normal expected range rely heavily on the inclusion of additional, private test samples. Setting aside for the moment whether such samples could or should be admitted into evidence, the Tribunal considers that Dr. de Boer did not adequately engage with the samples which were included in the ABP.
124. In particular, Dr. de Boer did not undertake the two-step analysis required of experts who assess ABP profiles:⁸⁶ first, to identify discrepant values; and, second, to undertake a *qualitative* assessment of why these values appear out of the ordinary. In the Tribunal's view, although Dr. de Boer addressed the first step (whether or not something should be treated as an "outlier"), he often did not engage with the second question (i.e., whether those values in fact are typical of blood manipulation, or can plausibly be said to stem from innocuous causes, whether physiological or pathological).
125. In his expert reports, Dr. de Boer argues that, when all relevant data are taken into account, the sample results do not constitute abnormalities from a purely quantitative or statistical perspective. Yet little is said in his reports as to why certain patterns detected in the ABP—in particular high HGB combined with a low RET%—should not be qualitatively interpreted, as most such results are, as supporting the finding of an ADRV. On those occasions in which Dr. de Boer did offer an attempted explanation (mostly in respect of hemoglobin), the Tribunal considers that these explanations were scientifically rebutted by the IAAF's expert and not defended further by Dr. de Boer. Given this asymmetry of argument, the Tribunal considers

⁸⁶ See Statement of Reply, para. 3a.

that the IAAF set out strong arguments (and often effectively unrebutted ones, particularly for RET%) interpreting the Athlete's ABP results as highly suspect.

126. On the issue of private test samples, the Tribunal notes that it has been provided no precedent in which private test results have been accepted into evidence in such matters. Arbitral awards have excluded the admissibility of such private results—including one case in which Dr. de Boer himself appeared as an expert witness—on a variety of concerns including possible cherry-picking of data and non-compliance with WADA testing conditions.⁸⁷ At the hearing, counsel for the Claimant also submitted that private test sample results lack the element of surprise: a crucial element in ensuring that samples are collected when athletes are unprepared and have not had an opportunity to manipulate their bloodstreams beforehand.
127. In this case, the Tribunal notes that most of the Athlete's private results were obtained from a reputable, WADA-approved laboratory. On questioning, Dr. de Boer also confirmed that he had used the entire set of private samples provided to him, addressing the possibility of cherry-picking in his expert analysis. At least some of the theoretical risks flagged in prior jurisprudence for rejecting the use of private samples, therefore, may arguably have been mitigated. Nevertheless, the Tribunal cannot depart from the uniform and settled jurisprudence opposing the admission of private samples. Many technical aspects of the testing conditions during which the private samples were collected remain unknown; more important still, the element of surprise which is critical to accurate testing was undeniably absent.

⁸⁷ CAS 2017/A/5045 *Maria Farnasova v. IAAF & ARAF*, para. 91: "[O]nly samples collected for anti-doping purposes from the Athlete and that comply with the respective protocols should be included in the ABP in order to ensure that the data is reliable and reflects the true profile of an athlete. Only standardized sample-taking and quality control ensure fair and comparable testing results Thus, the Panel is not prepared to include private tests results whose origins and conditions in which they were taken are unknown and undocumented."

128. Throughout these proceedings, the Respondent has argued that the IAAF's conclusions are premised on a relatively small sample size. But the ABP system permits for the finding of an ADR violation even with smaller sample sizes. In this case, two sets of results have been flagged by a panel of three independent experts, unanimously and operating on the basis of blind review, as indicative of doping at a confidence level of over 99%. These findings are rare: according to Professor d'Onofrio, perhaps 1 to 2 percent of all ABPs referred to him by the AIU ultimately result in a unanimous expert panel finding of likely doping.
129. The Tribunal is sympathetic to complaints, including those raised repeatedly before it, that the Adaptive Model is unavailable to outside experts for inspection, its algorithms and internal datasets closed off from the wider public. Yet only a careful, qualitative assessment of an athlete's sample results, combined with an effective counter-narrative demonstrating why such results plausibly stem from innocuous causes, will constitute the competent and credible evidence capable of calling into question a unanimous expert finding of a likely ADR violation. With reluctance, the Tribunal does not consider that such a counter-narrative was ultimately tendered to it. In the absence of such evidence, and in consideration of the Claimant's careful exposition and interpretation of the relevant sample results, the Tribunal is bound to find for the Claimant.
130. For the foregoing reasons, the IAAF has succeeded in demonstrating an ADR violation to the Tribunal's comfortable satisfaction.

D. Period of Ineligibility

131. In accordance with Article 10.2.1(a) of the ADR, the Athlete shall be subject to a period of Ineligibility of four years. The period of Ineligibility shall begin on the date of this Award, albeit with "credit" granted for any period of Provisional Suspension effectively served by the Athlete, in this case, the period since 4 April 2019.

132. Article 10.8 of the ADR further stipulates that, in addition to the automatic disqualification of the results in the competition that produced the Adverse Analytical Finding, all other competitive results of the Athlete obtained from the date the samples in question were collected shall be disqualified, with all of the resulting consequences, including forfeiture of any medals, titles, ranking points, and prize and appearance money. Because the Tribunal has accepted that an anti-doping rule violation has been established to the requisite legal standard, it follows that the consequences stipulated in Rule 10.8 of the ADR apply and constitute part of the Tribunal's *dispositif*.

E. Costs

133. Each party shall bear its own costs.

ON THESE GROUNDS

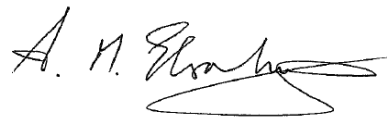
The Disciplinary Tribunal rules that:

1. The Tribunal has jurisdiction to decide on the subject matter of this dispute.
2. The Athlete has committed an anti-doping rule violation under Article 2.2 of the IAAF Anti-Doping Rules.
3. A period of Ineligibility of four years is imposed upon the Athlete commencing on the date of the present Award. The period of Provisional Suspension imposed on the Athlete, from 4 April 2019 until the date of the Tribunal's Award, shall be credited against the total period of Ineligibility.
4. The Athlete's results obtained between 10 May 2018 and 4 April 2019 shall be disqualified, with all resulting consequences including the forfeiture of any titles, awards, medals, points, and prize and appearance money.
5. Each party shall bear its own costs.
6. All other motions or prayers for relief are dismissed.

Date: 7 November 2019


London, UK

THE DISCIPLINARY TRIBUNAL



A. H. Ebrahim

Ahamed Ebrahim
Chair



S. Bainbridge

Steven Bainbridge
Arbitrator



Philipp Kotlaba

Philipp Kotlaba
Arbitrator