UNION CYCLISTE INTERNATIONALE

Anti-Doping Tribunal

UCI Anti-Doping Tribunal

Judgment

case ADT 02.2020

UCI v. Fabian Hernando Puerta Zapata

Single Judge:

Prof. Ulrich Haas (Germany)

Aigle, 16 December 2020

I. INTRODUCTION

1. The present Judgment is issued by the UCI Anti-Doping Tribunal (hereinafter referred to as "the Tribunal") in application of the UCI Anti-Doping Procedural Rules (hereinafter referred to as "the ADT Rules") in order to decide whether Mr Fabian Hernando Puerta Zapata (hereinafter referred to as "the Rider") has violated the UCI Anti-Doping Rules (hereinafter referred to as "the UCI ADR"), as alleged by the Union Cycliste Internationale (hereinafter referred to as the "UCI" and, together with the Rider, "the Parties").

II. FACTUAL BACKGROUND

2. The circumstances stated below are a summary of the main relevant facts, as submitted by the Parties. Additional facts may be set out, where relevant, in connection with the legal discussion that follows. While the Single Judge has considered all the facts, allegations, legal arguments and evidence submitted by the Parties in the present proceedings, the Judgment refers only to the necessary submissions and evidence to explain its reasoning.

A. The UCI

3. The UCI is the association of national cycling federations and a non-governmental international association with a non-profit-making purpose of international interest, with a legal personality in accordance with Articles 60 et seq. Swiss Civil Code and according to Articles 1.1 and 1.2 of the UCI Constitution.

B. The Rider

4. The Rider is a professional road cyclist of Colombian nationality (category UCI Elite). He was born on 12 July 1992 in Colombia. At the time of the alleged anti-doping rule violation (hereinafter referred to as "ADRV") the Rider was a Colombian track cyclist affiliated to the Federación Colombiana de Ciclismo (hereinafter referred to as "FCC"). He was, thus, a License-Holder within the meaning of the UCI ADR.

C. The alleged anti-doping rule violation

1. The Facts and the Collection of the Sample

5. Between 26 May 2018 and 3 June 2018, the Rider participated in the South American Games, which took place in Cochabamba, Bolivia.

6. On 2 June 2018, during the South American Games, the Rider was subject to an anti-doping test. That anti-doping test was negative.

7. The Rider alleged that from 6 to 10 June 2018, he had participated in the National Track Cycling Elite Championship organized by the FCC (hereinafter referred to as "National Championships").

8. Furthermore, the Rider alleges that after the National Championships he travelled to Medellín on 10 June 2018 to have some time to rest.

9. The Rider claims that on 10 June 2018 he attended a welcome barbeque organised by his family in La Ceja, Antioquia, to celebrate his results at the National Championships. The Rider states that the barbeque started around 6pm on 10 June 2018 and lasted until 12:30am on 11 June 2018. During the barbeque, the Rider consumed various meat products from Colombia, such as approximately 600g of Top Sirloin Cap and approximately 100g of Chorizo. The first servings started at 7:30pm and the last pieces were served around 11:45pm.

10. Moreover, the Rider alleges that during the evening of 10 June 2018, a Doping Control Officer (hereinafter referred to as "the DCO"), Mr Manuel Garzon, came to the Rider's apartment in Medellín in order to perform a doping test. The Rider had recorded in the Anti-Doping Administration & Management System (hereinafter referred to as "ADAMS") that he could be reached at this address. When the DCO tried to contact him over the phone, the Rider informed the DCO that he was not in his apartment but in his country home in La Ceja, Antioquia. The DCO explained to the Rider that he would mark the test as a missed test, because the Rider had failed to notify the change of his location in advance in ADAMS. The Rider advised the DCO that he would meet the DCO at the airport of Rionegro, Antioquia, the next morning in order to provide a sample. The UCI contests the Rider's submissions in that respect and notes that it did not receive any report of an allegedly missed test of the Rider.

11. It is uncontested that on 11 June 2018 approximately at 11am, the Rider provided a urine sample (sample code 4156982) and that such test was carried out as an out-of-competition doping test at the Rider's domicile in Medellín, Colombia. The Rider declared on the Doping Control Form (hereinafter referred to as "DCF") that he had taken "Ketorolaco multivitamínicos" in the days before the sample collection. Furthermore, the Rider confirmed that the sample had been taken in accordance with the applicable regulations.

2. The Analysis of the Sample and further Sample Collections

12. On 19 June 2018, the Rider's urine sample was analysed by the WADA-accredited laboratory named "Sports Medicine Research & Testing Laboratory" in Salt Lake City, USA (hereinafter referred to as "the Laboratory").

13. The Laboratory Report (Lab reference 486621, Test Mission Code M-779785142) states in respect of the A Sample analysis as follows:

> *IRM Details /Détails de SMRI*
> ***S1.1A Exogenous AAS/ The GC/C/IRMS results are consistent with the exogenous origin of Boldenone metabolite(s)***
> ***$\delta^{13}C$ values: Boldenone metabolites = -28.2 ‰, uc = 0.9 ‰; Pregnanediol (PD) = -18.3 ‰, uc = 0.8 ‰.***
>
> *IRMS Comments / Commentaires:* ***N/A***
> ***- S1.1B Endogenous AAS/boldenone metabolite 5ß-androst-1-en-17ß-ol-3-one***

14. As per ADAMS lab results of A Sample (sample code 4156982, lab reference 486621, mission order M-779785142) as of 23 July 2018, the Metabolite 5β-androst-1-en-17β-ol-3-one of substance boldenone had an estimated concentration of 20ng/mL (class S1.1B Endogenous AAS and their Metabolites a).

15. The Rider was subject to other anti-doping controls on 24 June 2018 at the Cottbuser Sprint Cup 2018 in Germany (in competition) and on 11 July 2018 in Medellín (out of competition). Both anti-doping controls were negative.

3. The UCI Results Management Procedure

16. On 13 August 2018, the UCI informed the Rider of an Adverse Analytical Finding (hereinafter referred to as "AAF") for the metabolite of boldenone in his A Sample (sample number: 4156982, date of sample collection: 11 June 2018; event at which the sample was collected: out-of-competition, prohibited substance: Metabolite of boldenone; Wada-accredited laboratory at which the analysis was conducted: Salt Lake City, USA). The Rider was also informed of his mandatory provisional suspension as from the date of notification.

17. On 17 August 2018, Mr Cesar Giraldo informed the UCI of his appointment as the Rider's legal representative and requested information about the date and time of the opening of the B Sample as well as the documentation package of the A and B Sample.

18. On 23 August 2018, the UCI suggested two dates to open and perform the B Sample analysis: 29 August 2018 and 5 September 2018.

19. On 27 August 2018, the Rider's counsel informed the UCI that they could not attend the B Sample opening on the proposed dates but would be available during the week of 9 September 2018.

20. On 31 August 2018, the Rider's counsel requested access to his steroid profile and to the laboratory reports of the samples of the Rider of the following dates: 30 May 2018, 2 June 2018, 24 June 2018 and 11 July 2018.

21. On 4 September 2018, the Parties agreed that the opening of the Rider's B Sample would take place on 25 September 2018.

22. On 10 September 2018, the Rider's counsel informed the UCI that Mr Buitrago would attend the analysis on behalf of himself.

23. On 18 September 2018, the UCI sent the A Sample 4156982 Laboratory documentation package and the certificate of the analysis of the sample collected on 11 July 2018. With regard to the other requested certificates of analysis of the samples, the UCI informed the Rider that the sample collections had not been initiated and directed by the Cycling Anti-Doping Foundation (hereinafter referred to as "CADF") and could therefore not be provided. Furthermore, the UCI invited the Rider to further substantiate his request for access to his steroid profile.

24. On 25 September 2018, the opining of the B Sample took place in the presence of the Rider's representative (Mr Buitrago). The Laboratory report for the B sample (Lab reference 486621, Test Mission Code M-779785142) confirmed the following:

> *IRM Details /Détails de SMRI*
> ***S1.1A Exogenous AAS/ he GC/C/IR S results are cons stent with the exogenous origin of Boldenone metaboli e(s)***
> ***$\delta^{13}C$ value : Boldenone metabol es = -29.4‰, uc = 0.9 ‰; Pregnanediol (PD) = -17.6 ‰, uc = 0.8 ‰.***
>
> *IRMS Comments / Commentaires:* ***N/A***

25. On 27 September 2018, the Rider's counsel declared that:

> *…The Steroid profile is only for medical reasons. If the sample B is confirmed, we need to study different theories and in other cases that we had with this substance the Steroid profile is very useful…*

26. On 10 October 2018, the UCI informed the Rider of the results of the B Sample analysis and asserted an ADRV against the Rider. Furthermore, the UCI rejected Rider's request to obtain his steroid profile with the following explanation:

> *Based on your email of 27 September 2018, it is our understanding that your request is grounded on your client's alleged need to study different medical theories. In this respect, the UCI wishes to note that the analysis of your client's A and B Samples revealed the presence of Boldenone metabolite of exogenous origin. As the prohibited substance found in your client's sample has not been produced by his body naturally, the UCI understands that "medical reasons" or "health reasons" could not have caused the Adverse Analytical Finding. Consequently, at this stage, in view of your answers to our email of 18 September 2018 and based on the information in our possession to date, the UCI does not see any basis to disclose the information and, in particular, no legitimate, let alone overriding, interest of your client to have access to the requested information.*

27. By letter of 22 October 2018, the UCI sent the B Sample Laboratory documentation package to the Rider. Moreover, the UCI granted the Rider 14 days to provide an explanation and/or substantial assistance.

28. On 16 November 2018, the Rider's counsel submitted his explanation. In summary, the Rider is of the view that the AAF was due to his consumption of boldenone-contaminated meat on the evening before the doping control. He, therefore, requested the UCI:

> *1. To declare that Boldenone entered the Cyclist's body as a consequence of the consumption of meat contaminated with such substance, and thus that the athlete does not bear Fault or Negligence, and that therefore no ineligibility period should be imposed and the case should be dismissed, as the Cyclist demonstrated the two assumptions established in the rules.*
>
> *2. In the alternative, to determine that the Cyclist bore no Significant Fault or Negligence in consuming a contaminated food throughout the country, and to thus dismiss this case and impose a reprimand to the Cyclist.*

29. The Rider's counsel submitted, amongst other attachments, a medical opinion from Dr Luis Eduardo Contreras (hereinafter referred to as "First Contreras Report") dated 13 October 2018 and a scientific opinion from Prof Gonzalo J. Diaz (hereinafter referred to as "First Diaz Report").

30. By email of 7 December 2018, the UCI asked the Rider to supplement his explanation:

> *Re: the barbecue of 10 June 2018:*
> *- The duration of the barbecue (i.e. start/end time)*
> *- The quantity of meat consumed by your client at the barbecue*
> *- The type and pieces of meat consumed by your client at the barbecue*
> *- The time at which your client consumed meat*
> *- Further details on the origin of the meat eaten at the barbecue (i.e. the origin of the meat sold by Mr. Santiago Ramirez Rendon).*
>
> *Re: general meat consumption:*
> *- How often and in which quantity does your client eat meat?*
> *- Apart at the barbecue, did your client consume meat in the week preceding the doping control?*
> *- If yes, in which quantity and which type of meat?*

31. With letter of 17 December 2018, the Rider' counsel provided the following answer to the UCI's questions:

> *1. **The duration of the barbecue:** The barbecue started at 6pm on June 10th, 2018 and it was over around 12:30 am of the other day, it means on June 11th 2018.*
>
> *2**. The quantity of meat consumed by your client at the barbecue:** It is a difficult question because no one check how much meat consumes in their own home. Nevertheless, calculating the meat they bought and the number of people who assist to the Barbecue (6 people), and taking into account that during the barbecues in Colombia you serve food all time long, the Cyclist could have consumed between 600 gr and 700 gr of meat approx.*
>
> *3. **The type and pieces of meat consumed by the Cyclist at the barbecue:** The Cyclist consumed mainly Top Sirloin Cap (in Spanish punta de anca) and Chorizo. From the Cyclist point of view he could have ate 600 Gr of top sirloin cap approx. and 100gr of Chorizo.*
>
> *4. **The time at which the Cyclist consumed meat:** During the entire barbecue he consumed meat, the first servings started at 7:30 pm and last pieces were served around 11:45 pm.*
>
> *5. **Further details on the origin of the meat eaten at the barbecue:** The origin of the meat bought by Carmenza Rendón was in a farm called "La Cejeñita Number 2" located at the municipal of La Ceja, Antioquia as you can see in the Annex 17. Since La Ceja is a very small town, for sure they bought the meat to local farms in Antioquia. Also, the owners of "La Cejeñita" declared that the use of Boldenone is a very usual and legal practice in Colombian's cattle farms.*
>
> *6. **How often and in which quantity does the Cyclist eat meat?** As Annex 1, you can find the nutritional plan of the Cyclist where you can confirm that the Cyclist eats cow meat 2 times on a day, on a regular basis of 3 days at the week. He usually eats 200gr of meat at the lunch and 150gr*

of meat at the dinner. Sometimes he mix the cow meat with chicken and Chorizo. He eats pork occasionally.

7. ***Apart at the barbecue, did the Cyclist consume meat in the week preceding the doping control?*** *Yes.*

8. ***If yes, in which quantity and which type of meat****? It is not established in the Annex 1 the specific type of meat that the Cyclist consumed during the week preceding the doping control. What is absolutely clear is that meat is fundamental part of his nutritional plan as his primary source of protein. In Colombia it is normal to eat loin, rib and Top Sirloin Cap. As we established in the previous point, he ate about 150-200grs of meat in each meal.*

32. Subsequently, the UCI requested the external scientific experts, Prof Bruno Le Bizec and Prof Martial Saugy, to submit their opinions concerning the possible source of boldenone metabolites in the Rider's urine sample.

33. On 25 December 2018, Prof Le Bizec submitted his report (hereinafter referred to as "First Le Bizec Report").

34. On 25 February 2019, Prof Saugy submitted his answer to the questions of the UCI (hereinafter referred to as "First Saugy Report").

35. With letter of 15 March 2019, the UCI informed the Rider that in its view, and after consultation with the World Anti-Doping Agency (hereinafter referred to as "WADA"), it was not satisfied with the Rider's explanation that meat contamination was the source of the AAF. Subsequently, the UCI proposed an Acceptance of Consequences (hereinafter referred to as "AOC") to the Rider.

36. On 29 April 2019, the Rider's counsel supplemented his explanations and provided the UCI with a second report from Prof Diaz as of 12 April 2019 (hereinafter referred to as "Second Diaz Report"), a second report from Dr Contreras dated 18 April 2019 (hereinafter referred to as "Second Contreras Report") and statements from farmers from the Antioquia region. On this basis, the Rider requested the UCI that the period of ineligibility of 20 months be imposed on him in view of the normal degree of fault.

37. In June 2019, the WADA confirmed that the only accepted boldenone meat contamination cases that it was aware of were the cases of Mr José Alberto Arriaga Gomez and Ms Sara Lopez.

38. With letter of 13 September 2019, the UCI informed the Rider that he had not met the threshold requirement of proving the source of the AAF. Therefore, the UCI considered that the applicable period of ineligibility could not be reduced and thus reiterated its initial AOC. Furthermore, the UCI provided the Rider with the following statement of the WADA:

In substance, it is submitted that:

i) Meat contamination with boldenone cannot be considered as a widespread problem in certain country, such as Colombia.

ii) According to the Colombian Agricultural Institute, the withdrawal time is generally respected in Colombia.

iii) Even assuming that boldenone is often used in cattle farms in Colombia and injection of boldenone are performed in the rear part of the animal rather than in the neck, it cannot be deduced from the two farm managers statements that generally, withdrawal time would not be respected in Colombia. In this regard, one could wonder what the benefits of using such product only a couple of days before slaughtering livestock would be.

iv) In view of all circumstances of the case, in particular taking into account the concentration of boldenone metabolites found in his sample (20ng/mL), Mr. Puerta's explanation is unlikely. In that respect, the case of Ms. Sara Lopez Bueno cannot be used as a precedent.

v) Last but not least, considering the concentration of boldenone metabolites found in your client's sample and boldenone excretion time, an intentional boldenone injection (several days before the test) or an oral intake (1-2 days before the test) cannot be excluded.

39. With email of 30 September 2019, the Rider's counsel asked the UCI to refer the case to the Tribunal.

40. On 2 October 2019, the WADA informed the UCI that the Colombian NADO had held several meetings with the Ministry of Health and the entity that regulates agricultural production in Colombia. The conclusion of this meetings and documents reviewed was that *"no scientific evidence has been found to suspect that there is a systematic and important contamination of the meat with the substance Boldenone"*.

41. By email of 30 October 2019, the Rider's counsel informed the UCI that he had received an award rendered by the Court of Arbitration for Sport (hereinafter referred to as "CAS"). He stated that although both cases were based on similar facts, the boldenone meat contamination explanation was accepted in the latter decision.

42. On 22 January 2020, the Rider's counsel requested the Laboratory the following:

In regards to Laboratory Document Package corresponding to SMRTL ID 186621 we would greatly appreciate if you could please clarify for us the following issue:

On page 14/34 of this package (section 2.5, screen results), Figure 2.2. shows the LC-MS/MS results of boldenone metabolite response for a negative quality control (NQC), a positive quality control (LQC) and the sample of interest. The transitions shown in this figure are as follows: 432.3 > 194.1, 432.3 > 342.2, and 432.3 > 206.1.

We would like to know exactly to which compound correspond the monoisotopic mass of 432.3, since it does not correspond to boldenone (free or epiboldenone), boldenone metabolite BM1, boldenone undecylenate, boldenone sulfate or boldenone glucuronide (please see table below).

We would greatly appreciate if you could please let us know which boldenone metabolite are you analyzing which has this particular monoisotopic mass of 432 m/z units.

43. On 30 January 2020, the Laboratory (Ms Natalie Eich) answered the request as follows:

We received your request for more information. The sample ID stated here appears to be inaccurate so I cannot be certain but I believe this to be a Coldeportes managed sample. I have reached out to Coldeportes to ensure this information is being requested with their knowledge but I have not received a reply from them. Are you representing Coldeportes or the athlete? If it is the later, we do not work directly with the athlete's representation. You will need to work through Coldeportes to request this information through them.

44. On the same day, the Rider's counsel provided the UCI with another report from Prof Diaz as of 25 January 2020 (hereinafter referred to as "Third Diaz Report"). He explained that Prof Diaz had reanalysed the data from the Rider and had gained new insights, which were purportedly able to explain the presence of exogenous boldenone in the Rider's urine sample.

45. On 5 February 2020, the Rider's counsel sent an email to Mr Orlando Reyes Cruz from Coldeportes (the National Anti-Doping Organization of Colombia). The email reads as follows:

Espero que esté bien. El siguiente correo se lo remito (por favor revisar la cadena de correos del laboratorio de Salt Lake City) respecto del caso que estamos representando, adjunto poder para el efecto.

En este proceso que llevamos donde todavía no hay una decisión por parte de UCI y WADA para el efecto, nos ha surgido una duda respecto a la documentación entregada con el "Laboratory Document Package SMRTL ID 186621" por lo que solicito que nos precise lo siguiente:

En la página 14/34 del mencionado documento (sección 2.5 "screen results"), la Figura 2.2. muestra los resultados obtenidos por cromatografía líquida-espectrometría de masas en tándem (LC-MS/MS) para la respuesta al metabolito boldenona para un control de calidad negativo (NQC), un control de calidad positivo (LQC) y la muestra de interés. Las transiciones (fragmentos moleculares) que se muestran en esta figura son las siguientes: 432.3 > 194.1, 432.3 > 342.2, and 432.3 > 206.1.

Quisiéramos saber exactamente a qué compuesto corresponde la masa monoisotópica de 432.3 (de la cual se obtienen las tres transiciones mencionadas) ya que no corresponde ni a boldenona (en forma libre o como epiboldenona), ni al metabolito BM-1 de la boldenona, ni a las formas conjugadas boldenona sulfato o boldenona glucurónido (ver tabla anexa).

Agradeceremos enormemente que nos clarifiquen cuál es el metabolito de la boldenona que Uds. reportan con esta masa particular de 432.3.

46. On the same day, Coldeportes answered as follows:

Por el documento de poder adjunto, veo que es el caso del señor Fabian Puerta, caso donde la autoridad del control no fue la ONAD de Colombia sino la Unión Ciclística Internacional.
Usted puede corroborar esta información si revisa el formato de toma de muestra donde debe decir que la Autoridad del Control (Testing Authority) es la UCI o el CADF.
Por lo anterior le sugiero respetuosamente se dirija a la UCI para las explicaciones correspondientes del paquete documental.

Cualquier otra inquietud no dude en ponerse en contacto con nosotros.

47. On 12 February 2010, the Rider's counsel informed the UCI about a decision rendered by the International Tennis Federation (hereinafter referred to as "ITF") against the Colombian Tennis Player Robert Farah (hereinafter referred to as the "Farah Case").

48. On 19 March 2020, the UCI informed the Rider that they could not accept his explanation for the AAF and that the previous AOC still applied. Furthermore, they informed the Rider that the UCI refers the case to the Tribunal.

49. On the same day, the Rider's counsel confirmed to initiate the proceedings before the Tribunal.

50. On 11 May 2020, the UCI's counsel requested the WADA to provide a formal statement addressing the following questions:

1. *Could you please list all of the cases WADA is aware of in which a boldenone meat contamination scenario was accepted by the relevant hearing body, including the relevant concentration of boldenone detected?*

2. *Could you please list all of the cases WADA is aware of in which a boldenone meat contamination scenario was rejected by the relevant hearing body, including the relevant concentration of boldenone detected?*

3. *Could you please provide us with any statistics WADA has that may be relevant to determining whether there is, or is not, an issue with boldenone meat contamination in Colombia?*

4. *Could you please confirm whether there have been any Atypical Findings (ATFs) reported for boldenone in Colombia/Colombian athletes and if so, could you provide us with further information on these ATFs?*

5. *Could you please provide us with any updates you may have received (if any) from the Colombian NADO with respect to the situation of boldenone in Colombia?*

6. *Could you please provide us with a general update as to whether WADA has received any information indicating that boldenone meat contamination might be an issue in Colombia?*

7. *The 2021 WADA Code suggests that, considering the low concentrations detectable in WADA-accredited labs, possible limits for common contaminants will be investigated. Could you let us know if boldenone has been, or will be, considered in this context?*

8. *Generally, could you please let us know if there is any other relevant factual or scientific elements that WADA is aware of in relation to the possibility of boldenone meat contamination that have not been addressed above.*

51. On 15 May 2020, UCI obtained consolidated and comprehensive reports from Prof Saugy (hereinafter referred to as "Second Saugy Report") and Prof Le Bizec (hereinafter referred to as "Second Le Bizec Report").

III. PROCEDURE BEFORE THE TRIBUNAL

52. In accordance with Article 13.1 of the ADT Rules, the UCI has initiated proceedings before this Tribunal through the filing of a Petition to the Secretariat on 15 May 2020. In its Petition the UCI has filed the following requests:

- *Declaring that Mr. Fabian Hernando Puerta Zapata has committed an Anti- Doping Rule Violation.*
- *Imposing on Mr. Fabian Hernando Puerta Zapata a Period of Ineligibility of 4 years, commencing on the date the Tribunal's decision.*
- *Holding that the period of provisional suspension served by Mr. Fabian Hernando Puerta Zapata since 13 August 2018 shall be deducted from the Period of Ineligibility imposed by the Tribunal.*
- *Condemning Mr. Fabian Hernando Puerta Zapata to pay the costs of results management by the UCI (2'500.- CHF), the costs incurred for Out-of- Competition Testing (1'500.- CHF), the costs of the B Sample analysis (450.- USD) and the costs of the Laboratory Documentation Package (600.- USD).*
- *Condemning Mr. Fabian Hernando Puerta Zapata to pay a contribution towards the UCI's legal costs and other expenses.*

53. On 18 May 2020, the Secretariat of the Tribunal appointed Prof Ulrich Haas to act as Single Judge in the proceedings in application of Article 14.1 of the of the ADT Rules.

54. On 19 May 2020, and in application of Article 14.4 of the ADT Rules, the Secretariat of the Tribunal informed the Rider that disciplinary proceedings had been initiated against him and that Prof Ulrich Haas had been appointed as Single Judge of the Tribunal. Furthermore, the Rider was informed that he would be granted a deadline until 11 June 2020 to submit his answer (hereinafter referred to as the "Answer") in conformity with Articles 16.1 and 18 of the of the ADT Rules.

55. On 27 May 2020, the UCI submitted the WADA statement as of 25 May 2017, which sets out WADA's answers to the questions raised by the UCI. WADA submitted the following:

> *Thank you for your letter dated 11 May 2020 in which you requested WADA for the most recent data on the possibility of meat contamination in Colombia. Please find below WADA's formal response to your queries.*
>
> *1. Could you please list all of the cases WADA is aware of in which a boldenone meat contamination scenario was accepted by the relevant hearing body, including the concentration of boldenone detected?*
>
> *a) Robert Farah (ITF), sample collected on 17 October 2019, 1.2 ng/ml, no period of ineligibility (Code article 10.4);*

b) Santiago Echeverria (Federacion Colombiana de Futbol), sample collected on 1 November 2017 (in Colombia), 8 ng/ml, 2-year period of ineligibility;
c) Sara Lopez Bueno (World Archery), sample collected on 22 June 2016 (in Venezuela), 7.5 ng/ml, decision not to bring the AAF forward as an ADRV (Code article 7.3);
d) José Alberto Arriaga Gomez (FISA), sample collected on 11 December 2014 (in Mexico), 4 ng/ml, no period of ineligibility (Code article 10.4).

In a number of cases where meat contamination has been accepted, a key element has been the fact that the analytical result was not compatible with a voluntary ingestion in light of a negative test very shortly before the test.

In any event, it should not be inferred that if WADA does not appeal a case, it agrees with the outcome, findings and reasoning; WADA considers a whole range of elements (including practical considerations) before deciding whether to devote resources to appealing a case.

2. Could you please list all of the cases WADA is aware of in which a boldenone meat contamination scenario was rejected by the relevant hearing body, including the concentration of boldenone detected?

a) Yobani Jose Ricardo Garcia (Federacion Colombiana de Futbol), sample collected on 13 July 2016 (in Colombia), 36.7 ng/ml, 4 years (CAS 2017/A/5315);
b) Daniel Londono Castaneda (Federacion Colombiana de Futbol), sample collected on 13 July 2016 (in Colombia), 51.9 ng/ml, 4 years (CAS 2017/A/5316);
c) Andres Mauricio Caicedo Piedrahita (IWF), sample collected on 24 September 2018 (in Colombia), concentration not available, 4 years
d) Yeison Lopez Lopez (IWF), sample collected on 24 September 2018 (in Colombia), concentration not available, 4 years.

3. Could you please provide us with any statistics WADA has that may be relevant to determining whether there is, or is not, an issue with boldenone meat contamination in Colombia?

a) Testing capacity of the Bogota Laboratory pre-2017 (i.e. between 2010 – nothing received in 2009 – and 1 Jan. 2017): 24.818 samples analyzed;
b) Number of tests conducted by the Colombian Anti-Doping Authorities since 2010: 8.675 tests;
c) Number of tests conducted on Colombian athletes since 2010: 16.009 tests;
d) Since 2007, of the 324 AAFs involving Colombian athletes, 20 cases were positive for boldenone.

4. Could you please confirm whether there have been any Atypical Findings (ATFs) reported for boldenone in Colombia/Colombian athletes and if so, could you provide us with further information on these ATFs?

Since 2009, two Atypical Findings for boldenone related to samples collected on Colombian athletes have been reported in ADAMS:

a) One sample collected by the Colombian Cycling Federation in April 2009 (1-year period of ineligibility imposed on Robert Plazas Florez);
b) One sample collected in July 2017 by the World Archery Federation.

5. Could you please provide us with any updates you may have received (if any) from the Colombian NADO with respect to the situation of boldenone in Colombia?

The following position from the Colombian Public Authorities and Anti-Doping Organization has not changed in so far as WADA is aware:

'In the different meetings and documents reviewed, no scientific evidence has been found to suspect that there is a systematic and important contamination of the meat with the substance Boldenone [In Colombia]. [Enclosed is] the latest statement from these entities at the request of the Ministry of Sports'.

6. Could you please provide us with a general update as to whether WADA has received any information indicating that boldenone meat contamination might be an issue in Colombia?

On 5 March 2020, WADA sent a letter to all Latin American countries requesting information regarding local regulations on the use of prohibited substances in cattle farms and potential illegal use of such substances for cattle fattening purposes. WADA is waiting for answers from its stakeholders on this matter.

7. The 2021 WADA Code suggests that, considering the low concentrations detectable in WADA-accredited labs, possible limits for common contaminants will be investigated. Could you let us know if boldenone has been, or will be, considered in this context?

Implementation of a threshold or a reporting limit for boldenone, among other substances, will be discussed in the coming months by WADA Working Group on Contaminants.

However, there is no current proposal.

8. Generally, could you please let us know if there is any other relevant factual or scientific elements that WADA is aware of in relation to the possibility of boldenone meat contamination that have not been addressed above.

56. On 8 June 2020, the Secretariat of the Tribunal acknowledged receipt of UCI's letter as well as WADA's formal statement.

57. On 10 June 2020, the Rider's counsel submitted his Answer and asked the Tribunal:

> *1. To declare that Boldenone entered into the Cyclist's body as a consequence of the consumption of meat contaminated with such substance, and thus that the athlete does not bear Fault or Negligence, or even no significant fault or negligence, and that therefore no ineligibility period should be imposed.2. In the alternative, to determine that the Cyclist bore no intention on cheat, hence would be sanctioned with maximum 2 years of suspension.*

58. On 16 June 2020, the Secretariat of the Tribunal acknowledged receipt of the Rider's Answer. In addition, it informed the Parties that the Single Judge decided to grant, at the request of both Parties, a second round of written submissions. Furthermore, it invited the UCI to provide its comments as well as any exhibits in relation to the argumentation and expert reports regarding the Rider until 29 June 2020. The Rider was asked to provide his final written comments on the UCI's submissions until 10 July 2020. Moreover, the Rider was invited to clarify his intention regarding the holding of a hearing.

59. On 17 June 2020, the UCI, after obtaining the agreement of the Rider's counsel, requested an extension of the deadline until 3 July 2020.

60. On the same day, the Secretariat of the Tribunal acknowledged receipt of UCI's letter of 17 June 2020 and informed the Parties that the Single Judge decided to grant the requested extension of the deadline until 3 July 2020. Consequently, the Rider was also granted an extension of his deadline until 14 July 2020.

61. With letter of 3 July 2020, the UCI submitted its reply to the Rider's Answer and upheld its prayers for relief.

62. On 7 July 2020, the Secretariat of the Tribunal invited the Rider to provide his final written comments on the UCI's submission until 14 July 2020. Furthermore, the Single Judge reminded the Rider to clarify his intention regarding the holding of a hearing.

63. With email of 10 July 2020, Rider's counsel requested an extension of the deadline until 24 July 2020.

64. By letter of 13 July 2020, the Single Judge granted the requested deadline until 24 July 2020 and informed the Parties that the costs for a hearing held in persona amounted to CHF 2,000.00, and that an advance of costs would have to be paid until 26 July 2020.

65. By letter of 24 July 2020, the Rider submitted his written comments on the UCI's submission.

66. On 25 July 2020, Rider's counsel confirmed that the Rider lacked the money to pay for an oral hearing and therefore asked for a formal decision.

67. On 27 July 2020, Rider's counsel submitted via email a document issued by the Colombia National Food and Drug Surveillance Institute (*Instituto Nacional de Vigilancia de Medicamentos y Alimentos*, hereinafter referred to as "INVIMA").

68. On 31 July 2020, the Secretariat of the Tribunal acknowledged receipt of the Rider's document issued by INVIMA. It further noted that the document was submitted after the expiry of the deadline and, therefore, invited the UCI to comment on the admissibility of said document until 10 August 2020.

69. On 10 August 2020, the UCI stated that despite the fact that the document had been submitted in Spanish without being accompanied by an English translation, it did not object to the admissibility of the document.

70. On 2 September 2020, the Rider's counsel inquired when the formal decision would be issued.

71. With letter dated 3 September 2020, the UCI informed the Secretariat of the Tribunal that it was not in a position to procure a copy of the statement produced by the ICA General Manager in the case of Mr Robert Farah as requested by the Rider. The UCI requested the Single Judge to issue procedural directions as to whether the WADA (through the ITF) should continue to try to contact Ms Barrero León in order to obtain her consent to the production of her statement.

72. On 16 September 2020, the Rider's counsel requested once more to be informed about the estimated date for a formal decision.

73. On 25 September 2020, the Secretariat of the Tribunal informed the Parties that the Single Judge would like to hear expert testimony and invited the Parties to confirm their availability for a videoconference evidentiary hearing on 27 October 2020.

74. With letter of 30 September 2020, the Rider's counsel confirmed the availability of his experts for the hearing. Furthermore, he asked to provide him with a list of questions.

75. On the same date, the UCI informed that they were not yet able to confirm the availability of their expert for the suggested hearing date.

76. On 2 October 2020, the UCI confirmed that Prof Saugy would attend the hearing.

77. On 15 October 2020, the Secretariat of the Tribunal provided the Parties with the following list of questions for the hearing:

    1. *What is the importance of the Wu et al study for the case at hand?*

    2. *What conclusions (if any) can be drawn from the analysis results of the Rider's sample for the route of intake and the amount of boldenone received?*

    3. *What conclusions (if any) can be drawn from the analysis results of the Rider if viewed in the context of the other doping tests (performed on 2 June, 24 June and 11 July)?*

    4. *Are the boldenone concentrations found in the Rider's urine compatible with meat contamination, if the cattle was treated according to best veterinary practices?*

5. *Suppose the meat was contaminated with boldenone (because best veterinary practices were not followed), would the concentrations found in the Rider's sample be compatible with:*

i. consumption of the part of the meat that was not injected with boldenone?

ii. consumption of the part of the meat that was injected with boldenone?

6. *In case question 5 ii. above is answered in the affirmative, how likely is such scenario considering the amount (and the part) of the beef consumed by the Rider?*

78. With letter of 22 October 2020, the Secretariat of the Tribunal invited the Parties to submit additional questions to the experts until 26 October 2020. Furthermore, it invited the Rider's counsel to confirm their availability for the hearing.

79. On 26 October 2020, the Secretariat of the Tribunal informed that it did not receive any additional questions to be added to the list of questions for the experts.

80. Later that day, the Rider's counsel submitted the following question: *"In which part of the cattle treated with Boldenone is possible to find a higher concentration of the substance, in the muscle or in the liver?"* Furthermore, he informed that the Rider would attend the hearing.

81. On 27 October 2020, the Secretariat of the Tribunal informed that the Rider's counsel provided an additional question and that the Single Judge had accepted to add the question to the list. Furthermore, it informed the Parties that the hearing would only deal with evidentiary issues, as the remaining issues had already been sufficiently presented by the Parties.

82. On the same date, the hearing by videoconference was held. The Single Judge was assisted by Ms Amrei Keller. The hearing was attended by the following:

On behalf of the UCI:

Ms Brianna Quinn, attorney-at-law, Lévy Kaufmann-Kohler, Geneva
Ms Charlotte Frey, attorney-at-law, Lévy Kaufmann-Kohler, Geneva

On behalf of the Rider:

Mr Fabian Hernando Puerta Zapata, the Rider
Mr Cesar Giraldo, attorney-at-law, Gher Sports, Bogotá
Mr Carlos Alberto Buitrago, attorney-at-law, Gher Sports, Bogotá
Mr Felipe Cardenas, attorney-at-law, Playlegal, Bogotá
Mr Juan Sebastian Torres Novoa, attorney-at-law, Bogotá.

83. During the hearing the following experts were heard by the Tribunal:

Prof Gonzalo J. Diaz (called by the Rider)
Prof Martial Saugy (called by the UCI).

84. At the hearing Prof Diaz made reference to a scientific paper by Morales-Perez et al (Study of residues of boldenona in beef from cattle slaughtered in the Quito's slaughterhouse, the "Ecuador-Study") that has been recently published and that he thought to be pertinent to the case. The Single Judge ordered the Rider to submit an English translation of the Ecuador-Study and to provide any comments thereto as it deemed fit.

85. On 5 November 2020, the Rider's counsel submitted an English translation of Ecuador-Study together with additional comments.

86. On the same date, Secretariat of the Tribunal invited the UCI to submit its observations on the aforementioned studies by 16 November 2020.

87. On 16 November 2020, the UCI submitted Prof Le Bizec and Prof Saugy's comments in relation to the Ecuador-Study.

88. With letter of the same date, the Secretariat of the Tribunal acknowledged UCI's written observations on the publication. Moreover, it declared, that the proceedings shall be closed.

IV. JURISDICTION

89. The jurisdiction of the Tribunal follows from Article 8.2 of the UCI ADR and Article 3.1 of the ADT Rules according to which "*the Tribunal shall have jurisdiction over all matters in which an anti-doping rule violation is asserted by the UCI based on a results management or investigation process under Article 7 ADR; […]*".

90. Furthermore, Article 3.2 of the ADT Rules provides the following:

> *Any objection to the jurisdiction of the Tribunal shall be brought to the Tribunal's attention within 7 days upon notification of the initiation of the proceedings. If no objection is filed within this time limit, the Parties are deemed to have accepted the Tribunal's jurisdiction.*

91. Neither party objected to the jurisdiction of the Tribunal, thus the Single Judge confirms the jurisdiction of the Tribunal.

92. Part C of the Introduction of the UCI ADR addresses its scope of application as follows:

> *These Anti-Doping Rules shall apply to the UCI and to each of its National Federations. They shall apply to the following Riders, Rider Support personnel and other Persons: a) any License Holder,…*

93. Said conditions are fulfilled in the case at hand. The Rider was a UCI cycling license-holder in 2018 within the meaning of the UCI ADR and, thus, bound by the UCI ADR.

94. Finally, the Tribunal notes that the Rider's counsel in his email dated 30 September 2019 asked *"to send all the information for the UCI Tribunal"* and declared to *"wait for [UCI's] confirmation to start in front of the UCI's Tribunal"*. Consequently, the Rider did not challenge the jurisdiction of the Tribunal.

95. Therefore, the Single Judge has jurisdiction to decide the present matter.

V. THE FINDINGS OF THE SINGLE JUDGE

96. The main issues for the Single Judge to decide are:

A) Did the UCI establish that the Rider committed an ADRV within the meaning of Articles 2.1 and 2.2 of the UCI ADR? and, if so,

B) Did the Rider act intentionally?

C) What are the appropriate consequences of such an ADRV?

A. Did the UCI establish that the Rider committed an ADRV within the meaning of Articles 2.1 and 2.2 of the UCI ADR?

1. The applicable provisions

97. Article 25 of the ADT Rules provides that *"[…] the Single Judge shall apply the* [UCI] *ADR and the standards referenced therein as well as the UCI Constitution, the UCI Regulations and, subsidiarily, Swiss law"*.

98. The relevant urine sample of the Rider (sample number 4156982) was collected on 11 June 2018 during an out-of-competition doping control at his domicile in Medellín, Colombia. Article 25.1 provides that the effective date of the UCI ADR 2015 edition is 1 January 2015. Since the relevant doping control was carried out after this date, the Tribunal applies the 2015 edition of the UCI ADR.

99. Article 2.1 of the UCI ADR defines the relevant ADRV as follows:

> *2.1 Presence of a Prohibited Substance or its Metabolites or Markers in a Rider's Sample*
>
> *2.1.1 It is each Rider's personal duty to ensure that no Prohibited Substance enters his or her body. Riders are responsible for any Prohibited Substance or its Metabolites or Markers found to be present in their Samples. Accordingly, it is not necessary that intent, Fault, Negligence or knowing Use on the Rider's part be demonstrated in order to establish an anti-doping rule violation under Article 2.1.*
>
> *[Comment to Article 2.1.1: An anti-doping rule violation is committed under this Article without regard to a Rider's Fault. This rule has been referred to in various CAS decisions as "Strict Liability". A Rider's Fault is taken into consideration in determining the Consequences of this anti-doping rule violation under Article 10. This principle has consistently been upheld by CAS.]*
>
> *2.1.2 Sufficient proof of an anti-doping rule violation under Article 2.1 is established by any of the following: presence of a Prohibited Substance or its Metabolites or Markers in the Rider's A Sample where the Rider waives analysis of the B Sample and the B Sample is not analyzed; or, where the Rider's B Sample is analyzed and the analysis of the Rider's B Sample confirms the presence of the Prohibited Substance or its Metabolites or Markers found in the Rider's A Sample; or, where the Rider's B Sample is split into two bottles and the analysis of the second bottle confirms the presence of the Prohibited Substance or its Metabolites or Markers found in the first bottle.*
>
> *[Comment to Article 2.1.2: The Anti-Doping Organization with results management responsibility may, at its discretion, choose to have the B Sample analyzed even if the Rider does not request the analysis of the B Sample.]*
>
> *2.1.3 Excepting those substances for which a quantitative threshold is specifically identified in the Prohibited List, the presence of any quantity of a Prohibited Substance or its Metabolites or Markers in a Rider's Sample shall constitute an anti-doping rule violation.*
>
> *2.1.4 As an exception to the general rule of Article 2.1, the Prohibited List or other International Standards or UCI Regulations incorporated in these Anti-Doping Rules may establish special criteria for the evaluation of Prohibited Substances that can also be produced endogenously.*

100. As to the burden and standard of proof, Article 3.1 of the UCI ADR reads as follows:

> *The UCI shall have the burden of establishing that an anti-doping rule violation has occurred. The standard of proof shall be whether the UCI has established an anti-doping rule violation to the comfortable satisfaction of the hearing panel, bearing in mind the seriousness of the allegation which 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. Where these Anti-Doping Rules place the burden of proof upon the Rider or other Person alleged to have committed an anti-doping rule violation to rebut a presumption or establish specified facts or circumstances, the standard of proof shall be by a balance of probability.*

101. As to the methods of establishing facts and presumptions, Article 3.2 of the UCI ADR provides:

> *Facts related to anti-doping rule violations may be established by any reliable means, including admissions. The following rules of proof shall be applicable in doping cases:*
>
> > *[Comment to Article 3.2: For example, the UCI may establish an anti-doping rule violation under Article 2.2 based on the Rider's admissions, the credible testimony of third Persons, reliable documentary evidence, reliable analytical data from either an A or B Sample as*

provided in the Comments to Article 2.2, or conclusions drawn from the profile of a series of the Rider's blood or urine Samples, such as data from the Athlete Biological Passport.]

3.2.1 Analytical methods or decision limits approved by WADA after consultation within the relevant scientific community and which have been the subject of peer review are presumed to be scientifically valid. Any Rider or other Person seeking to rebut this presumption of scientific validity shall, as a condition precedent to any such challenge, first notify WADA of the challenge and the basis of the challenge.

CAS on its own initiative may also inform WADA of any such challenge. At WADA's request, the CAS panel shall appoint an appropriate scientific expert to assist the panel in its evaluation of the challenge. Within 10 days of WADA's receipt of such notice, and WADA's receipt of the CAS file, WADA shall also have the right to intervene as a party, appear amicus curiae, or otherwise provide evidence in such proceeding.

3.2.2 WADA-accredited laboratories, and other laboratories approved by WADA, are presumed to have conducted Sample analysis and custodial procedures in accordance with the International Standard for Laboratories. The Rider or other Person may rebut this presumption by establishing that a departure from the International Standard for Laboratories occurred which could reasonably have caused the Adverse Analytical Finding.

If the Rider or other Person rebuts the preceding presumption by showing that a departure from the International Standard for Laboratories occurred which could reasonably have caused the Adverse Analytical Finding, then the UCI shall have the burden to establish that such departure did not cause the Adverse Analytical Finding.

[Comment to Article 3.2.2: The burden is on the Rider or other Person to establish, by a balance of probability, a departure from the International Standard for Laboratories that could reasonably have caused the Adverse Analytical Finding. If the Rider or other Person does so, the burden shifts to the UCI to prove to the comfortable satisfaction of the hearing panel that the departure did not cause the Adverse Analytical Finding.]

3.2.3 Departures from any other rule set forth in these Anti-Doping Rules, or any International Standard or UCI Regulation incorporated in these Anti-Doping Rules which did not cause an Adverse Analytical Finding or other anti-doping rule violation shall not invalidate such evidence or results. If the Rider or other Person establishes a departure from any other rule set forth in these Anti-Doping Rules, or any International Standard or UCI Regulation incorporated in these Anti-Doping Rules which could reasonably have caused an anti-doping rule violation based on an Adverse Analytical Finding or other anti-doping rule violation, then the UCI shall have the burden to establish that such departure did not cause the Adverse Analytical Finding or the factual basis for the anti-doping rule violation.

2. The burden of proof

102. It follows from Article 3.1 of the UCI ADR that the UCI bears the burden of proof to establish that the Rider committed a violation under Article 2.1 and 2.2 of the UCI ADR. The ADRV of the Rider must be established to the "comfortable satisfaction", bearing in mind the seriousness of the allegation, which is made. This standard of proof in all cases is greater than a mere balance of probability but less than proof "beyond any reasonable doubt".

3. Presence of prohibited substance

103. Article 2.1 of the UCI ADR incorporates the principle of strict liability. According thereto (Appendix 1 of the UCI ADR) *"it is not necessary that intent, Fault, Negligence, or knowing Use on the Rider's part be demonstrated by the Anti- Doping Organization in order to establish an anti-doping rule violation"*. In

particular, Article 2.1.2 of the UCI ADR provides that sufficient proof of an anti-doping rule violation is established – *inter alia* – by the "*presence of a Prohibited Substance or its Metabolites or Markers in the Rider's A Sample where the Rider waives the analysis of the B sample and the B Sample is not analysed; or, where the Rider's B Sample is analysed and the analysis of the Rider's B Sample confirms the presence of the Prohibited Substance or its Metabolites or Markers found in the Rider's A Sample*". The analysis must be conducted by a WADA-accredited Laboratory (or a Laboratory otherwise approved by WADA, see Article 6.1 of the UCI ADR).

104. In the case at hand, the Samples A and B collected from the Rider on 11 June 2018 were analyzed by a WADA-accredited Laboratory and revealed the presence of the substance boldenone (Metabolite 5 β-androst-1-en-17β-ol-3-one). Boldenone is an anabolic androgenic steroid (hereinafter referred to as "AAS") and listed as such on the Prohibited List. It is a non-specified Prohibited Substance. It is a performance-enhancing substance, which stimulates muscle growth and assists the recovery of athletes after strenuous effort.

105. According to the WADA Technical Document (TD2016IRMS), which was in force at the time of the ADRV, samples with a concentration of the boldenone metabolite below 30 ng/ml (low concentrations) must undergo GC/C/IRMS analysis to determine the origin of the substance (i.e. whether it is exogenous or endogenous). In the present case, the concentration of boldenone metabolites in the A Sample was estimated at 20 ng/ml. Thus, as recorded in the analysis report for the A Sample, the Laboratory performed a GC/C/IRMS analysis, which confirmed the exogenous origin of boldenone metabolites [*"S1.1A Exogenous AAS/ The GC/C/IRMS results are consistent with the exogenous origin of Boldenone metabolite(s)*"].

106. In the case at hand, the analysis of the B Sample was requested by the Rider. The B Sample analysis was performed and confirmed the presence of boldenone metabolites ["*S1.1A Exogenous AAS/ he GC/C/IR S results are consistent with the exogenous origin of Boldenone metaboli e(s) δ^{13}C value : Boldenone metabol es = -29.4‰, uc = 0.9 ‰; Pregnanediol (PD) = -17.6 ‰, uc = 0.8 ‰"*]. Thus, the Single Judge holds that – at least at first sight – the UCI successfully established that the Rider committed a violation of Article 2.1 of the UCI ADR.

4. Challenge of the analytical findings

a) The position of the Rider

107. The Rider argues that the findings of the Laboratory should not be taken into account, because they are not reliable, and the findings are inconsistent with the Laboratory documentation package (hereinafter referred to as "dossier") of the Rider. The Rider in particular submits that the accreditation of the Laboratory has been partially suspended between 5 September 2019 and 20 May 2020. The Rider also refers to an article published on the WADA website which states – *inter alia* – as follows:

> *On 5 September 2019, the World Anti-Doping Agency (WADA) partially suspended the accreditation of the Sports Medicine Research and Testing Laboratory (SMRTL) in Salt Lake City, Utah, USA, limited to the laboratory's isotope ratio mass spectrometry (IRMS) analytical method, due to non-conformities with the relevant technical document (TD2016IRMS).*
>
> *On 6 September 2019, SMRTL challenged the partial suspension before the Court of Arbitration for Sport (CAS) and requested an order that it be kept confidential pending resolution of the CAS appeal.*
>
> *Further to implementation of certain key corrective actions by SMRTL and based on a recommendation of the WADA Laboratory Expert Group (LabEG), the Chairman of the WADA Executive Committee lifted the partial suspension on 7 October 2019, subject to certain conditions, including a laboratory on-site assessment by WADA and satisfaction of all remaining recommendations of the WADA LabEG.*

SMRTL has met all the conditions and satisfied all recommendations of the WADA LabEG. As such, SMRTL's accreditation has been fully reinstated.

WADA can confirm that SMRTL cooperated fully in making the corrective actions recommended by the WADA LabEG and athletes can be confident that the laboratory is operating at the high standards required by WADA and the global anti-doping program. By mutual agreement, the CAS case is no longer moving forward, enabling WADA to publish both the partial suspension and its subsequent lifting.

In accordance with the International Standard for Laboratories, WADA is responsible for accrediting and re-accrediting anti-doping laboratories, thereby ensuring they maintain the highest quality standards. This monitoring process is conducted in conjunction with the International Organization for Standardization assessment by independent national accreditation bodies that are full members of the International Laboratory Accreditation Cooperation.

108. Furthermore, the Rider claims that his expert in veterinary matters, Prof Diaz, detected an inconsistency in the dossier provided by the Laboratory. The Rider submits that he pointed the Laboratory to this inconsistency in an email that reads as follows:

On page 14/34 of this package (section 2.5, screen results), Figure 2.2. shows the LC-MS/MS results of boldenone metabolite response for a negative quality control (NQC), a positive quality control (LQC) and the sample of interest. The transitions shown in this figure are as follows: 432.3 > 194.1, 432.3 > 342.2, and 432.3 > 206.1.

We would like to know exactly to which compound correspond the monoisotopic mass of 432.3, since it does not correspond to boldenone (free or epiboldenone), boldenone metabolite BM1, boldenone undecylenate, boldenone sulfate or boldenone glucuronide (please see table below).

109. Prof Saugy – upon request of the UCI – responded to the Rider as follows:

It should first be clarified that the screening results on page 14/34 of the A-Sample LDP have been obtained by GC-MSMS (Gas Chromatography-MSMS, in the present case, more specifically, the GC-QQQ technique was used) analysis and not LC-MSMS (Liquid Chromatography-MSMS) analysis. This is relevant because in most of the WADA accredited laboratories, the method to screen the steroids is based on the use of GC-MSMS. It is a very sensitive and specific method.

When using gas chromatography (GC), the boldenone and its metabolites need to be derivatized and the derivatives are boldenone -bis-O-Trimethyl-Silyl (bis-O-TMS) and/or boldenone M1-bis-O-TMS. The derivatization process is necessary for the analyses of the steroids by gas chromatography. This process of derivatization allows to attach small molecules to the steroid in order to make it more suitable (more volatile) for gas chromatography. In this particular case, two molecules of Trimethyl- Silyl (TMS) are added to the boldenone metabolite in order to produce the boldenone M1-bis-O-TMS molecule.

The GC-MSMS will then not detect the intact molecule of boldenone metabolite, but the derivatized molecule boldenone-bis-O-TMS molecule.

The transitions shown in Figure 2.2 on page 14 of the A-Sample LDP are as follows:

432.3 > 194.1, 432.3 > 342.2, and 432.3 > 206.1. These are transitions coming from the molecular ion of the boldenone M1-bis-O-TMS derivative, as it can be seen by the molecular development in this Figure below.

[…]

I believe this answers the cyclist's specific question however I am of course willing to elaborate of need be. I also confirm that this has no impact on the validity of the analysis in this case.

Regarding the validity of the sample analysis generally, I confirm that I have carefully reviewed both the A- and B-sample Documentation Packages and did not identify any departure from the

International Standard for Laboratories (ISL), or the relevant Technical Document TD2016IRMS in the analysis of the cyclist's sample.

b) The position of the Single Judge

110. According to Article 3.2.2 of the UCI ADR "*WADA-accredited Laboratories…are presumed to have conducted sample analysis and custodial procedures in accordance with the International Standard for Laboratories*". The Rider or other person may rebut this presumption by establishing – on a balance of probability – that a deviation from the International Standard for Laboratories (hereinafter referred to as "ISL") occurred which could reasonably have caused the AAF. If the Rider or other person rebuts the preceding presumption by showing that a departure from the ISL occurred which could reasonably have caused the AAF, then the UCI shall have the burden to establish that such departure did not cause the AAF.

111. The Single Judge notes that the Rider did not point to a single provision in the ISL that has been allegedly breached by the Laboratory. The Single Judge further notes that the Rider does not contest that the Laboratory was accredited at the relevant time(s), i.e. when the A and B Samples were analyzed. In addition, WADA confirmed that the Laboratory met all requirements and recommendations at the relevant time and was fully reinstated.

112. To conclude, the Single Judge finds that the Rider has not substantiated the Laboratory's lack of reliability in order to rebut the presumption enshrined in Article 3.2.2 of the UCI ADR.

113. The same is true for the alleged inconsistencies of the dossier. Again, the Rider fails to point at any provision in the ISL that was allegedly breached. In the absence of any convincing evidence, the Single Judge concludes that the Rider failed to rebut the presumption enshrined in Article 3.2.2 of the UCI ADR. This is true irrespective of the principle *iura novit curia* or *iura novit arbiter,* since it is commonly accepted that the Rider is under the obligation to substantiate his submissions, i.e. that he *"must fulfill some minimum conditions when presenting the facts of the case.*"[1] It is clear to the Single Judge that this (low) threshold has not been met in the case at hand.

114. In conclusion, the Single Judge finds to his comfortable satisfaction that the UCI has discharged its burden of proof to establish that the Rider has committed an ADRV pursuant to Article 2.1 of the UCI ADR. Therefore, the Single Judge accepts that the Rider committed an ADRV within the meaning of Article 2.1 of the UCI ADR.

B. Did the Rider commit the ADR intentionally?

115. In case of a first violation Article 10.2 of the UCI ADR differentiates between intentionally and non-intentionally committed ADRVs. The provision reads as follows:

> *10.2.1 The period of Ineligibility shall be four years where:*
>
> *10.2.1.1 The anti-doping rule violation does not involve a Specified Substance, unless the Rider or other Person can establish that the anti-doping rule violation was not intentional.*
>
> *10.2.1.2 The anti-doping rule violation involves a Specified Substance and the UCI can establish that the anti-doping rule violation was intentional.*
>
> *10.2.2 If Article 10.2.1 does not apply, the period of Ineligibility shall be two years.*

116. In the case at hand, boldenone is a non-specified substance. Accordingly, Article 10.2.1.1 UCI ARD provides that the standard period of ineligibility is four years, if the Rider cannot establish that the

[1] See ADT 05.2016 and 02.2017, *UCI v. Kocjan*, judgment of 28 June 2017, para. 73; ADT 05.2017*, UCI v. Pinho*, judgement of 15 August 2017, para. 88.

ADRV was not intentionally committed. It is undisputed that the substance detected in the case at hand is a non-specified substance.

1. The term "intentional"

117. The term "intentional" is defined in Article 10.2.3 of the UCI ADR. The provision provides as follows:

> *As used in Articles 10.2 and 10.3, the term "intentional" is meant to identify those Riders who cheat. The term therefore requires that the Rider or other Person engaged in conduct which he or she knew constituted an anti-doping rule violation or knew that there was a significant risk that the conduct might constitute or result in an anti-doping rule violation and manifestly disregarded that risk. An anti-doping rule violation resulting from an Adverse Analytical Finding for a substance which is only prohibited In-Competition shall be reputably presumed to be not intentional if the Substance is a Specified Substance and the Rider can establish that the Prohibited Substance was Used Out-of-Competition. An anti-doping rule violation resulting from an Adverse Analytical Finding for a substance which is only prohibited In-Competition shall not be considered intentional if the substance is not a Specified Substance and the Rider can establish that the Prohibited Substance was Used Out-of-Competition in a context unrelated to sport performance.*

2. The burden of proof and the standard of proof

118. In the case at hand, the Rider tested positive for boldenone, which is a prohibited substance when administered exogenously and which is not a Specified Substance pursuant to the Prohibited List. Therefore, it is for the Rider to prove that the violation was not intentional pursuant to Article 10.2.1.1 of the UCI ADR.

119. The applicable standard of proof in relation to whether or not the ADRV (involving a non-specified substance) was intentional with no fault and negligence (hereinafter referred to as "NF") according to Article 10.4 of the UCI ADR or no significant fault or negligence (hereinafter referred to as "NSF") in the context of Article 10.5 of the UCI ADR is the balance of probability (Article 3.1 of the UCI ADR). Accordingly, the Rider must convince the Single Judge that the version of events presented by him appears more likely than not.[2] The Single Judge will accept the Rider's version of events, if he is persuaded by more than 50%.[3]

120. The above percentages, however, are not to be mistaken with objective probabilities. Instead, it is the subjective conviction of the Single Judge that is relevant when applying the standard of proof. This is not to say that the Single Judge will not take into account objective probabilities or the general likelihood of the occurrence of a given fact. Instead, it is widely accepted that general experience is an important factor when assessing the evidence and determining the facts of a case. Consequently, the Single Judge will – as a general rule – need more cogent evidence to establish a certain event the more unlikely the general occurrence of the latter is.[4]

a) The object of the evidence: route of ingestion

121. In order to determine whether or not the ADRV was committed non-intentionally, the Rider – different from Articles 10.4, 10.5 of the UCI ADR[5] – does not need to establish how the substance entered his

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[2] Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (158).

[3] CAS 2009/A/1926 & 1930, *ITF v. Richard Gasquet & WADA v. ITF & Richard Gasquet*, para. 31; CAS 2011/A/2384 & CAS 2011/A/2386, *UCI v. Alberto Contador & RFEC / WADA v. Alberto Contador & RFEC*, para. 55 et seq; Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (158).

[4] Contrary to CAS 2019/A/6313*, Jarrion Lawson v International Association of Athletics Federation,* para. 86.

[5] As defined in the UCI ADR, APPENDIX 1: DEFINITIONS: *No Fault or Negligence: The Rider or other Person's establishing that he or she did not know or suspect, and could not reasonably have known or suspected even with the exercise of utmost caution, that he or she had Used or been administered the Prohibited Substance or Prohibited Method or otherwise violated an anti-doping rule. Except in the case of a Minor, for any violation of Article 2.1, the Rider must also establish how the Prohibited Substance entered his or her system; No Significant Fault or Negligence: The Rider or other Person's establishing that his or her Fault or Negligence, when viewed in the totality of the circumstances and taking into account the criteria for No Fault or*

system.[6] It is true that the route of ingestion is an important factor when determining the athlete's degree of fault. However, the Single Judge must consider all objective and subjective circumstances of the case when determining the Rider's degree of fault within the meaning of Article 10.2 of the UCI ADR and therefore may also conclude that the ADRV was committed non-intentionally even absent any clear evidence as to how the prohibited substance entered the Rider's system.[7] The latter is, however, the exception to the rule. As a CAS panel rightly pointed out, if "*an athlete cannot prove the source it leaves the narrowest of corridors through which such athlete must pass to discharge the burden which lies upon him*".[8]

122. In the case at hand, however, the facts submitted by the Rider (meat contamination) do not only serve to explain that he did not act intentionally. In addition, these facts are also presented by the Rider in view of showing that he acted either with NF or NSF. Thus, the facts presented by the Rider are – so to speak – doubly relevant. Since it would be contradictory to accept a particular route of ingestion in the ambit of Article 10.2.3 of the UCI ADR and reject the same in the context of Articles 10.4 and 10.5 of the UCI ADR, the question arises what prerequisites shall apply in cases of double relevancy, i.e. whether the Rider must establish the route of ingestion on a balance of probabilities.

123. In the case CAS 2019/A/6313 the CAS panel was confronted with this question (in the context of a case of meat contamination) and decided that the standard in Article 10.2.3 of the UCI ADR takes precedence, i.e. that it is not mandatory to establish how the substance entered the athlete's system. The CAS panel, thus, accepted a case of NF even though the route of ingestion of the prohibited substance could not be established. The reasoning of the CAS panel is difficult to follow. At one point, the CAS panel states that it is tasked "*with examining this strict liability principle on balance against the Athlete's thorough, documented and diligent attempts to establish the source of the prohibited substance present in his sample*"[9]. This explanation is simply incorrect, since the strict liability principle does not apply to periods of ineligibility in the context of Article 10 of the UCI ADR (or the World Anti-Doping Code, hereinafter referred to as "WADC"). As a matter of fact the strict liability principle has nothing to do with the question at hand, i.e. the level of fault.[10] At another point the above CAS panel states in its decision "*that it cannot say with scientific certainty the extent to which the portion of beef in question was or was not actually contaminated*"[11], but – nevertheless – applied Article 10.4 of the WADC. This statement is misleading in two ways. First of all, it does not provide any explanation why in case of double relevancy the prerequisite of establishing how the prohibited substance entered the athlete's system is waived. Secondly, it is simply wrong to state that the standard of proof is "scientific certainty". The latter can – practically never – be achieved when assessing the evidence. It is for this very reason that an athlete only needs to prove on a balance of probabilities how the prohibited substance entered his or her system when claiming NF or NSF. However, no such proper analysis was undertaken by the CAS panel in CAS 2019/A/6313.

124. In view of the above, the Single Judge is not prepared to follow the above approach of the CAS panel. Instead, in cases where a Rider submits a version of events that qualifies for fault-related reductions of periods of ineligibility both under Article 10.2.3 of the UCI ADR and Articles 10.4, 10.5 of the UCI ADR the more stringent requirements must apply, i.e. the Rider must establish how the prohibited

Negligence, was not significant in relationship to the anti-doping rule violation. Except in the case of a Minor, for any violation of Article 2.1, the Rider must also establish how the Prohibited Substance entered his or her system.

[6] CAS 2019/A/6443 and CAS 2019/A/6593 *CCES v. Dominika Jamnicky & Dominika Jamnicky v. CCES*, para. 132; ADT 05.2017, *UCI v. Pinho*, judgement of 15 August 2017, para.112; Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (158).

[7] Antonio Rigozzi / Ulrich Haas / Emily Wisnosky / Marjolaine Viret, «Breaking down the process for determining a basic sanction under the 2015 World Anti-Doping Code», International Sports Law Journal, 2015, 27 et seq.; Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (159).

[8] CAS 2016/A/4534, *Maurico Fiol Villanueva v. FINA*, para. 37; see also CAS 2019/A/6313, *Jarrion Lawson v. IAAF*, para. 72; Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (159).

[9] CAS 2019/A/6313, *Jarrion Lawson v. IAAF*, para. 70.

[10] Björn Hessert, «Fehlleistung des CAS im Dopingverfahren Jarrion Lawson», Causa Sport, 2020, 155 (156).

[11] CAS 2019/A/6313, *Jarrion Lawson v. IAAF*, para. 86.

substance entered into his system. This in fact is the only reading that is in line with the wording and the definitions of the of the UCI ADR.

125. Consequently, the Single Judge finds that in the case at hand the Rider must establish on a balance of probability how the prohibited substance entered his system, if he wants to claim any fault-related reductions based on meat contamination.

b) Problems in relation to the means of evidence

126. From the question what needs to be established (object of the evidence) one must distinguish the means of evidence available to a party to persuade the adjudicatory body from the occurrence of the event. It is a common phenomenon that a party may run into difficulties when trying to prove its case. In principle, "normal difficulties" in presenting evidence are dealt with by the onus of proof. The latter shifts the risk of not being able to prove a certain fact to the party bearing the onus of proof. This risk shifting is a political decision by the legislator that must be respected in the absence of particular circumstances. The question, however, arises what to do with evidentiary problems that exceed a certain threshold.

127. (Serious) evidentiary problems may arise for different reasons. It may be that there is no direct evidence available or that the fact that needs to be proven is – by its very nature – difficult to establish (e.g. proving of negative facts). Evidentiary problems may also be due to the behavior of the opposing party (e.g. frustration of evidence). In all these instances where the threshold of "normal difficulties" is exceeded, the legal order must react in order to ensure procedural fairness. In the case at hand there is – obviously – no direct evidence available to prove that the meat consumed by the Rider was contaminated with boldenone, since the meat is not available as evidence at the time of the proceeding before this Tribunal. However, this does not preclude the Rider from presenting indirect evidence from which one can infer whether the meat was contaminated at the time.

128. In CAS 2016/A/4563 the Sole Arbitrator stated that in "*cases of meat contamination, it must – as a minimum – be a requirement that the Athlete sufficiently demonstrates where the meat originated from. For example, where did the butcher buy the Brazilian meat, how was the Brazilian meat imported into Egypt, has any of the other imports of meat been examined or tested for the presence of …* [the prohibited substance]".[12] It follows from the above that – of course – indirect evidence is admissible to prove how a prohibited substance came into the athlete's system. Furthermore, the lack of direct evidence does not dispense the party (bearing the onus of proof and presentation) to prove on a balance of probability that a possible scenario actually occurred. The Single Judge is not prepared to follows the panel in CAS 2019/A/6313, which faced with the fact that no direct evidence was available simply proceeded by rewriting the rules and deleting the mandatory requirement that an athlete must establish how the prohibited substance entered his or her system. Thus, the Single Judge finds that the Rider must show – in the case at hand – how on a balance of probabilities the prohibited substance entered his system

3. The ingestion of contaminated meat

129. The Parties are in dispute whether the route of ingestion in the case at hand is meat contamination.

a) The position of the Rider

130. The Rider claims that:

> (i) he consumed the meat on the day preceding the doping test on 10 June 2018. The Rider submits that meat is part of his regular diet and that in the evening of 10 June 2018 between

[12] CAS 2016/A/4563, *WADA v. EGY-NADO & Radwa Arafa Abd Elsalam*, para. 57.

7:30pm and 11:45pm he ate around 600g of top sirloin cap and 100g of Chorizo. To this end, the Rider submitted:

- A sworn statement from Mr Andres Felipe Cano Guerra, a friend of the Rider, which reads as follows: *"I declare that in the afternoon of JUNE 10, 2018, I attended a barbecue at the address …, to which I was invited by the relatives of FABIAN PUERTA ZAPATA,… in which we were celebrating the end of the competition of FABIAN PUERTA ZAPATA … Likewise, I testify that the attendees consumed the food offered to us by the dish, i.e., approximately 300 grams of meat, chorizo, arepa, plantains and potatoes, among other products."*

- A sworn statement from Mrs Maria Del Carmen Rendon Alzate, the Rider's mother in law, who confirms that she *"bought two (2) kilos of meat cut punta de anca, 2 kilos of meat cut chata and 15 chorizos"* in the *business establishment "Cejeñita de Carnes número 2"*, … of the Municipality La Ceja, from Santiago Ramirez Rendon, my nephew, for a $99,000.

- A sworn statement from Mr Santiago Ramirez Rendon, the owner of the butcher, who confirmed *"…that on June 10, 2018 , I sold 2 kg of meat cut punta de anca, 2 kg of meat cut chata and 15 chorizos and the rest of the products I may have sold for a cost of $99,000 to Mrs. CARMENZA RENDON ALZATE for having a barbecue to which I was invited that afternoon-evening ... I own a meat business …,[in] Antioquia , and buy meat from LA CEJENITA Nro 2. That afternoon I went to spend time with FABIAN, who is my cousin JULIANA'S husband, in a barbecue organized to celebrate the competition he had just ended. Likewise, I testify that the use of boldenone is common in beef cattle in this region and in Colombia, as it is sold over the counter and no prescription from a veterinarian is required for its purchase. Lastly, I declare that, at this barbecue, we consumed the meat I sold at my establishment."*

(ii) The Rider further submits that boldenone is widely used in farming of beef cattle in Colombia. The latter follows from

- *ICA & INVIMA Report*. According to this report, boldenone is present in urine samples form beef cattle in Colombia. The report *inter alia* states that *"[i]n Colombia, Boldenone and Trenbolone are among the drugs registered with withdrawal periods and usage conditions and indications defined in the product labels. In primary production they are sampled taking positive values above the Limit of Detection of the Analytical Method".*[13]

- The Rider alleges that based on ICA & INVIMA Report "*there is evidence [that] in 23% of the total samples collected, Boldenone is present in unacceptable quantities in the cattle to be slaughtered for meat production and distribution. This allows us to establish that, in approximately 1 in every 4 samples, i.e., that in 1 in every 4 cows, Boldenone is present in the meat, which implies that it is highly probable for a person consuming meat from Colombia to end up ingesting meat contaminated with Boldenone, a situation that it is not possible to control".*[14]

- *Report by European Commission for Health and Consumers. This report is based on a mission carried out in Colombia in 2011 by the European Commission for Health and Consumers (Mission Report). The latter determined the following: "(i) The*

[13] Report of the Results of the National Plan of the Subsector of Surveillance and Control of Veterinary Drugs and Chemical Contaminant Residues in Bonvine Meat 2015-2016, page 17.

[14] Defence of the Rider, para. 1.1.

residue monitoring plan for bovines is very limited in scope, does not test for all relevant substances at slaughter and does not meet the requirements of Article 29 of Council Directive 96/23/EC. In addition, there is no system in place to ensure that bovines intended for the EU market have never been treated with hormonal growth promoters. EU Member States could therefore not import Colombian beef as the requirements of Article 11(2) of Directive 96/22/EC are not met"…[15]; (ii) "In addition, the lack of a system to ensure that bovines treated with veterinary medicinal products are not delivered for slaughter before the end of the withdrawal period undermines the overall control of residues in bovine meat"…[16]; (iii) "there are no provisions in the slaughterhouses for residue sampling of animals, which may show signs of having been recently treated with medicines (in the EU this is referred to as "suspect sampling")".[17] Based on the above, the European Commission for Health and Consumers concluded that: "The authorised use of several EU-banned substances (hormonal growth promotants) in bovines means that bovine meat cannot be placed on the EU market until an official system is in place which ensures that those animals from which meat is exported have never been treated with such substances…"[18]

- The Rider acknowledges that the Mission Report was carried out in 2011. However, the Rider also submits that the situation in Colombia has not changed since then. There are – according to the Rider – still no controls by laboratories and by the testing entities. It, thus, does not come as a surprise that selling Colombian beef in the European Union is still not allowed.

- *Academic article of the Pontificia Universidad Javeriana*. This article indicates that many anabolic substances can be found in Colombian cattle. The article states in particular that "*the lack of surveillance and control leaves open the possibility that the use of allowed substances exceed the minimum limits recommended by the Codex Alimentarius, in addition to the use of banned substances*".[19]

- *Boldenone is easily accessible in Colombia.* From a legal perspective boldenone can only be obtained through veterinary prescription. In reality, however, the selling of boldenone is not controlled. In order to back this allegation, the Rider submitted a video that supposedly shows that boldenone can be bought in Colombia without a veterinary prescription. Furthermore, the Rider submitted a sworn statement from Mr Carlos Buitrago, who confirmed the following: *"I declare under penalty of perjury, that today, October 18, 2018, I bought in store concentrados del Norte the product BOLDENONA 50 in its 10-ML presentation for a price of $38,475 pesos for which no veterinary prescription was requested, I also declare that the product BOLDENONA is displayed freely in veterinary stores and that its sales are not restricted in any way"*.[20] In addition, the Rider submitted a letter from the Secretería de Agricultura y Desarrollo Rural dated 4 September 2018, which *"certifies that the use of Boldenone Undecylate is a frequent practice in cattle ranching and in other practices concerning animal handling... It is sold over-the-counter on crop and livestock stores, with recommendations concerning*

[15] European Commission Health and Consumers Directorate- General (2011). Final Report of a Mission Carried Out in Colombia from 19 to 27 January 2011 In order to Evaluate the Monitoring of Residues and Contaminants in Live Animals and Animal Products, Including Controls on Veterinary Medicinal Products, DG(SANCO) 2011-6144, page 5.

[16] Idem, page 17.

[17] Idem, page 7.

[18] Idem, page 14.

[19] Pontificia Universidad Javeriana, Residuos de fármacos anabolizantes en carnes destinadasal consumo humano, http://www.redalyc.org/articulo.oa?id=49917579007.

[20] Sworn statement of Carlos Alberto Buitrago Londono.

withdrawal period, dosage according to the drug chart and the health of the animals".

The Rider also submitted a declaration of the Colombian Olympic Committee (hereinafter referred to as "COC"), that advises athletes of the danger of the presence of boldenone in Colombian meat. The declaration reads as follows: *"The Colombian Olympic Committee (COC) in respect of the recent studies and documents emitted by the Colombian Farming Institute (ICA), gave warning about the presence of the prohibited substance by the World Anti- Doping Agency (AMA) ¨Boldenone¨, in the beef cattle in the country. Such substance is sold freely in Colombia under veterinary prescription and is frequently used in beef cattle, which afterwards is sacrificed for its processing, selling and distribution. In such study, is identified that in 1 of 4 waste samples of beef cattle, such substance is found, in addition according to the ICA, it exists 59 products were Boldenone is used for its veterinary use in Colombia, which is a very significant number. Being Colombia, one of the few countries in the region that legally authorizes the distribution of anabolic agents such as Boldenone, according to article 9, numeral 5 of the Resolution 1167 of 2010 issued by the ICA, is obligation of the COC to warn and prevent the athletes, professional or amateurs, to have the most diligent care with the aliments they consume in Colombian territory, especially with beef cattle. This release is done with the means of informing this event to the athletes, bearing in mind that penalties stablished by the World Anti- Doping Code in case, a prohibited substance is found in their body, such as Boldenone, leads to a penalty of four years according to current regulations."*

(iii) The Rider admits that the typical recommended dose for the use of boldenone in cattle is 50mg/90 kg. However, he further states that when Colombian farmers use boldenone they often disregard best veterinary practice. Colombian farmers tend to inject boldenone in the rear part of the animal and do not respect the withdrawal period of 30 days before slaughtering the animals. Furthermore, the Rider submits that the Colombian farmers do not follow the recommended dosage. In support of his allegations, the Rider submits two statements:

- Sworn statement of Mr Juan Jose Cadavid Arango, Manager of the estate Masada located in the Municipality of Gomez Plata, Antioquia. The latter reads – inter alia – as follows:

  […] we use Boldenone Undecylenate in the rear part of the cows and more specifically, directly in the round, as the use of the aforementioned product yields better results in the achievement of our goals in terms of weight, development and growth of our animals. Furthermore, I certify that we acquire Boldenone Undecylenate under no restriction in recognised and high-quality agricultural supplies establishments that are widely known in the industry and whose employees indicate, when asked about how it should be used, that it should be used in the round of the animal to obtain better results. The amount of such product administered to our cattle is 50 ML per 90kg of each animal's weight, every four to five months according to the expected progress. I have no knowledge of whether the Colombian authorities control the withdrawal period, which is not detailed in the instructions for using the product nor indicated or informed as warning in agricultural supplies stores

  […]

- Sworn statement of Mr Carlos Alberto Ortega Restrepo, owner and manager of the farm el grano, located in the Municipality of Amalfi – Antioquia. The latter reads – inter alia – as follows:

  [..] I certify that in the procedures conducted in the farm we use Boldenone Undecylenate as a method to increase the muscle mass and weight of our cattle. […] Following our veterinarian's indications, we apply the substance directly in the cow's round, where there is higher certainty of the efficacy of the substance, in the body of the animals in the rear, as opposed to the front part of the animal, which is evidenced in past results. Moreover, I certify that Boldenone sales are unrestricted and legal in Colombia, and that it can be bought in veterinary stores or in agricultural supplies establishment […]. In such establishment no information is provided regarding the withdrawal period of the substance. However, they do recommend to use the dose suggested on the back of the animal for better results. The products do not inform about the withdrawal period of the substance either and I have no knowledge about whether national authorities actually control the withdrawal period of the substance in the cattle before slaughter. We use a dose that it is close to the recommended one, using 55 Mg per each 90Kg in the weight of the animal, every three or four months, depending of the progress of the animal, and it can be more or less depending on its condition. This practice of injecting and controlling the substances administered to the cattle is conducted by a professional and in compliance with the sanitary requirements indicated by the Colombian government.

(iv) The Rider also submits that meat from slaughtered animals that have been administered boldenone show traces of said substance.

b) The position of the UCI

131. The UCI does not contest that the Rider ate meet the evening before the sample collection. The UCI, however, submits that:

(i) the Rider has failed to establish that the meat he ate in the evening of 10 June 2018 was contaminated with boldenone. The Rider has neither submitted any evidence of the origin of that meat, nor that the meat supplier effectively used boldenone or failed to comply with the veterinary best practices. He only submitted where the meat was purchased and that the purchaser claims that *"the use of boldenone is common in beef cattle in this region and in Colombia"*. The fact that La Ceja (i.e. the town in which the meat was purchased) is a very small town is no proof that the owner of the butcher shop must have bought the meat from local farms in Antioquia.

(ii) The UCI (by reference to the First Le Bizec Report) agrees that *"boldenone-based preparations are in circulation on the national market"* in Colombia and that "*State intervention remains vague".* Boldenone *"is not, therefore, forbidden*". The First Le Bizec Report also mentions that the *"veterinary notice accompanying these preparations, all in boldenone undecylenate form, recommends a dosage of 0.56 mg/kg of body weight for bovine animals (50 mg for 90 kg, Ed.), a waiting time of 30 days before the slaughter of the animal."* Furthermore, the First Le Bizec Report states that "*Intramuscular injections of bovine animals are undertaken as a priority in the muscles of the animal's neck, in a triangle defined by the spine, the neck ligament and the shoulder bone. Best veterinary practices advise against injecting in the rump or the tight, particularly as these pieces of meat are among the prime cuts."*

(iii) The UCI further contends that there is not a widespread or significant problem of boldenone meat contamination in Colombia. In support of the above, the UCI submits the following:

- WADA confirmed in its Statement of 25 May 2020 that there is no data available to indicate that there is a significant or widespread issue with boldenone meat contamination in Colombia.

- The ICA & INVIMA Report does not contradict the above finding. The reference population in the study was bovines for beef production in Colombia in livestock farms (live animals) and slaughterhouses (slaughtered animals). Prof Le Bizec in his first report noted that the results of the ICA & INVIA Report must be interpreted with care, because the *"samples were analysed by the ICA and INVIMA National Reference laboratories, and by two external laboratories. The detection limits for the methods used are 1 ng.mL^{-1} of urine; the technique used is ELISA. Out of 111 samples analysed, the assessment reveals 25 cases of non-compliance, namely 23% on the basis of values over the detection limit. No confirmation by chromatography-mass spectrometry was undertaken; the results must therefore be viewed with great caution and may only, at most, be considered as suspicions of the presence of Boldenone"*.[21] The latter follows from the following quote in the ICA & INVIMA Report, where it is stated that *"[t]he non-conformities observed in primary production did not undergo confirmation test, meaning that they could have been false positives"*.[22]

- Furthermore, according to the UCI little can be deduced from the findings of the presence of boldenone in livestock cattle for the case at hand. The authors of the ICA & INVIMA Report acknowledge that "[t]*he withdrawal period and the use of exceeding the recommended dosage leads to the presence of residue when the animal is slaughtered prior to the expiration of said period. Since these* results [i.e. the findings that 23% of the analysed livestock samples were non-conform] *are representative in animal at the farms, it does not mean that they are also present upon the animals' slaughter if the withdrawal period are observed"*.[23] Hence, the fact that traces of boldenone were found in the samples collected in living animals does not automatically mean that the substance will still be present in the animal once it has been slaughtered. On the contrary, the ICA & INVIMA Report shows that none of the 294 samples taken from slaughter animals and analyzed for steroids was positive. Although boldenone was not specifically tested, the fact that no steroids were found in these 294 samples may indicate that withdrawal periods are generally adhered to.

- The fact that there is no issue of widespread meat contamination with boldenone is further backed by a recent communication from the ICA to the Colombian NADO dated July 2019. According to the latter *"[s]ince 2015, INVIMA has analysed a total of 677 samples for Boldenone, of which, during the study carried out during the period corresponding to the years 2016-2017, only two (2) samples (0.3%) presented confirmatory results for residues of this substance, with values of 2.2 µg and 3.0 µg of Boldenone per Kg of meat"*.

- With respect to the Article of Pontifica Universidad Javeriana, the UCI submits that it dates back to 2011 and that the Colombian authorities (e.g. ICA and INVIMA)

[21] First Le Bizec Report, para 4.1.2.

[22] ICA INVIMA Report, see "Conclusion".

[23] Ibid, see A3: Steroids (Trenbolone, Boldenone)

have implemented monitoring and controls since then. Furthermore, the article only concludes – according to the UCI – that there exists a potential risk that anabolic drugs are used in animals intended for human consumption. However, it cannot be concluded from the article that there is an issue with meat contamination.

- The UCI concludes that in light of the above *"it could be said that the probability in Colombia to eat contaminated meat with boldenone at a level higher than 0.5 ng/g of meat is extremely low."* (see First Saugy Report)

(iv) The UCI submits that there is no evidence that Colombian farmers do not follow best veterinary practice.

- The farmers that submitted the sworn statement (see below) and who confirmed using boldenone in their cattle are located over 120km and 170km from La Ceja (the city where the butcher shop is located) respectively. There is no evidence that the meat stems from cattle reared in these farms.

- Sworn statement of Mr Juan Jose Cadavid Arango and Mr Carlos Alberto Ortega Restrepo (both submitted by the Rider) do not prove that farmers do not follow best veterinary practice. It follows from the statements that some farmers might inject boldenone in the back of their cows. However, these Statements do not indicate that the veterinary instructions on the dosage and the frequency of injections are not followed.

- Furthermore, the statements cannot be interpreted such that cattle would, most of the time, be slaughtered less than one month after the (last) injection of boldenone. An injection of boldenone into an animal shortly before slaughtering would not make any sense, because it would have no significant effect. It would simply constitute a waste of time and money for the farmers.

- According to the UCI also the ICA & INVIMA Report confirms that the withdrawal times of products such as boldenone are generally respected. The report states insofar as follows: "*In general, the IVC visits showed that growth promoters are being used in fattening farms nationwide, but is meaningful that none of these substances showed up in the analysis of samples taken from slaughterhouses, which could mean that the withdrawal period are being observed*"[24].

- The UCI acknowledges, however, that in the "Farah decision" a sworn statement from the General Manager of the ICA was submitted, which confirmed that *"it may be possible that, even with the monitoring that the authorities conduct and the issuance of transversal protocols of good practices, some farmers do not comply with the withdrawal times (minimum of 30 days) before slaughter, creating the risk that meat with steroid residues reach the final consumer"*[25].

(v) Finally, there is no evidence that the farmer, from which the butcher bought the cattle/meat (consumed by the Rider) used boldenone and – furthermore – even if this was the case in which part the farmer injected his cattle with boldenone.

[24] ICA INVIMA Report, see "Interventions".

[25] Decision of the International Tennis Federation pursuant to Article 8.1.4 of the 2019 Tennis Anti-Doping Programme, para 16.9.

c) The position of the Single Judge

132. The Single Judge accepts that the Rider ate around 700g of meat on the day preceding the doping test on 10 June 2018. However, there is little evidence on file that the meat the Rider ate was contaminated with boldenone. The Rider did not submit evidence that traces of boldenone can be commonly found in meat from La Ceja, Antioquia (where the party was held) or Colombia in general. Instead, the Rider submits that boldenone is easily available and frequently used in cattle rearing. This, however, does not establish a link to whether or not residues of boldenone can be found in slaughtered cattle, even less in cattle slaughtered in Le Ceja in Antioquia, where the meat was bought. Whether or not residues of boldenone can be found in slaughtered meat – primarily – depends on whether or not the withdrawal periods are observed before slaughtering the animal. The Rider did not present any cogent evidence that farmers would – in principle – not observe the withdrawal periods. The Single Judge notes that withdrawal periods are recommended by the distributors of boldenone. Furthermore, the non-respect of withdrawal periods cannot be followed from the sworn statements of Mr Juan Jose Cadavid Arango or Mr Carlos Alberto Ortega Restrepo. As the UCI rightly pointed out an injection of boldenone into an animal shortly before slaughtering would not make any economic sense. It would have no significant effect on muscle growth of the animal, but merely constitute a waste of time and money for the farmers. Furthermore, there is no sufficient evidence that farmers commonly use higher dosage of boldenone as recommended. Also, the Rider has not submitted any research that concludes that residues of boldenone are commonly found in Colombian meat. The finding here is backed by WADA's letter to the UCI dated 2 October 2019 according to which the Colombian NADO, the Ministry of Health and the entity that regulates agricultural production in Colombia concluded that *"no scientific evidence has been found to suspect that there is a systematic and important contamination of the meat with the substance Boldenone"*. Furthermore, if the contamination of meat in Colombia would be a widespread phenomenon one would expect to find many more AAF for boldenone among Colombian athletes (which is not the case).

133. To sum up, the Single Judge concludes that it is possible that despite the (rather poor) monitoring by public authorities and existing protocols of good practices, farmers in Colombia fail to comply with the withdrawal times (minimum of 30 days) before slaughter, creating thereby the risk that meat with steroid residues reach the final consumer. However, this does not appear to be systematic and widespread. Thus, there needs to be further evidence for the Single Judge to turn the hypothesis of the Rider (meat contamination) into a concrete scenario, i.e. to be persuaded on a balance of probabilities that the meat the Rider consumed was actually contaminated. As the Single Judge of the CAS in the matter CAS 2016/A/4563 explained in a comparable case:

> *The presentation of the hypothesis that the prohibited substance originated from imported contaminated meat from various countries appears therefore to be mere speculation, which is not based on evidence. Had the problem of food contamination with the prohibited substance of Ractopamine been a widespread problem, as claimed by Respondents, why has not one single other case of food contamination with this particular substance been reported to the relevant Egyptian authorities? According to the information of WADA, no other Egyptian athletes have tested positive for Ractopamine, which also suggests that the hypothesis of the Respondents of wide spread contamination of imported meats is not supported by other cases of doping violations in Egypt.*[26]

134. The Single Judge is aware that the Rider – at least partially – traced the meat he supposedly consumed. According thereto the meat was bought *"in a farm called 'La Cejeñita Number 2' located at the municipal of La Ceja, Antioquia … Since La Ceja is a very small town, for sure they bought the meat to local farms in Antioquia."* However, no evidence was provided that meat sold at La Cejeñita Number 2 (frequently or sporadically) contains residues of boldenone.

135. The Single Judge has also taken note of the Ecuador-Study. The Rider submits hat the situation in Ecuador is similar to the one in Colombia and that good veterinary practices are not observed in cattle rearing in Ecuador, which "*is presumably the situation also in Colombia*". The Single Judge notes that

[26] CAS 2016/A/4563 WADA v. EGY-NADO & Radwa Arafa Abd Elsalam, para. 57.

the Rider only presumes that the situation in Ecuador and Colombia are similar. The UCI also submitted that the Ecuador-Study relied on data based on immunological methods (ELISA) and that some precautions must be taken when evaluating the data produced by such techniques, since there is a risk of generating false positives. Be it as it may, the Single Judge is prepared to accept the Ecuador-Study as further evidence that there is a possibility that meat in Colombia contains residues of boldenone, but not that meat in Colombia systematically is contaminated with residues of boldenone. Thus, the Single Judge requires more cogent evidence to be persuaded that the AAF of the Rider's sample was caused by contaminated meat.

4. Are the concentrations found in the Rider's sample compatible with a meat contamination scenario?

a) The position of the Rider

136. The Rider is of the view that:

(i) in case the meat is contaminated with boldenone, the substance can be transmitted to the body of humans who eat it. The Third Diaz Report states in this respect as follows:

> *No studies have been conducted to determine how much boldenone can be transferred from contaminated beef to a human being, but studies conducted with the closely related compound testosterone show that it has an oral bioavailability of 7% in humans (Muchow et al., 2011). Even if the oral bioavailability of boldenone from beef were only 1%, it would mean that just 0.8% of the total dose given to the cow would have been needed to be ingested by Mr. Puerta in order to excrete 20 µg of boldenone and/or its metabolite in 1 liter of urine. This reassessment of the information clearly reveals the Colombian beef that the athlete ate before his urine sample was taken is most likely the source of the exogenous boldenone found in his urine.*

(ii) The Rider (relying *inter alia* on the First Contreras Report) submits that the concentrations detected in his sample speak for an oral intake of boldenone (e.g. via consumption of contaminated meat). In support of the above, the Rider claims

- that the elimination of the boldenone metabolites after an oral intake is very fast. Studies show that the concentration of the boldenone and its metabolite in a urine sample after 71 hours following an oral intake is minimal or absent. In the case at hand the Sample was taken approx. 62 hours after the intake of boldenone. The levels of the boldenone metabolite detected in the Rider's sample are compatible with such an excretion tail.

- The Rider submits he was tested one week before the Sample (June 2), one week after the Sample (June 24), and one month after the Sample (July 11). All these samples resulted negative. This – according to the Rider – is further proof of an oral ingestion (via meat contamination). The First Contreras Report clarifies that no boldenone nor any of its metabolites are present in the urine of a human male 111 hours after an oral intake of boldenone.

- The range of carbon-13 in the athletes' bodies associated with endogenous boldenone production in athletes is between -17‰ and -27‰ in general. Prof Diaz submits that the levels may vary to a certain extent depending on the region where the athlete lives or on his daily diet. Prof Diaz further claims that the boldenone preparations available on the Colombian market have carbon-13 values of -27‰ or even lower. Boldenone and its metabolites were found in Cyclist's A Sample with a carbon-13 value of 28.2‰ (with an "extended uncertainty" of 0.9‰, i.e., potentially - 27.3‰). Moreover, the results of the Rider's B Sample showed a value of -29.4‰ (with "expanded uncertainty" of 0.8‰, i.e. potentially -28.6‰). Both

samples detected a small exogenous deviation of the substance boldenone in the Rider's body, which was just over the normal values of endogenous production of the substance in the human body. Such deviation was determined by ranges of reference that may not be exact or that can vary. The deviation for determining whether the origin of the substance is exogenous or endogenous is only 0.3‰ and 1.6‰ above the standards of endogenous boldenone production. According to the Rider's expert this is proof that the substance entered the body exogenously, but in small amounts, which - on a balance of probability – speaks in favor of oral consumption (in the context of contaminated meat).

(iii) Furthermore, the Rider claims that Prof Saugy erred when he relied on the Wu et al study for the excretion curves of boldenone. The study has been performed on three male and three female volunteers. This, however, is insufficient according to the Rider. Scientific conclusion cannot be drawn from data obtained from six people. The First Contreras Report states (and the Second Contreras Report reiterates) that there is only little information on the pharmacokinetics of oral boldenone use, because the substance is not approved for use in humans.

(iv) According to the Rider the concentrations found in his urine support the meat contamination theory.

- To this end, the Rider refers to the Third Diaz Report. The latter stated that "*[t]he concentration of boldenone found in Mr. Puerta's urine was 20 ng/mL, and the average excretion of urine in an adult human is 1 liter per day. Therefore, the total amount of boldenone in 1 liter (1000 mL) of urine would be 20 µg (20 ng/mL x 1000 mL = 20,000 ng or 20 µg). This total amount of 20 µg of boldenone corresponds to only 1/12,500 of the total dose of boldenone that a cow would receive (20 µg out of 250,000 µg). If Mr. Puerta had a beef serving of 200 g (a conservative amount), this serving of 200 g of beef would need to contain only 20 µg of boldenone to cause an adverse analytical result (20 µg/200 g or 100 µg/kg, that is 100 parts per million). This concentration of boldenone in beef is very low (100 parts per billion) and corresponds to only 0.008% of the total dose that a cow would receive."* Therefore, the Rider concluded that it is more than possible to reach the Rider's boldenone concentration of 20 ng/mL by eating only 200gr of contaminated meat.

(v) Based on the Second Diaz Report and Second Contreras Report the Rider submits that residues of boldenone in meat can well exceed 5 ng/g.

The Second Diaz Report states in particular as follows:

> *The analysis of the documentation corresponding to case UCI 026.18 conducted by professors Le Bizec and Saugy is logical and judicious; however, the quantitative interpretation of the only survey study on anabolic steroid in beef conducted in Colombia ("plan de monitoreo ICA-INVIMA 2015- 2016") is not completely correct. Caution must be used when trying to conclude that those are the one and only results expected. This was just one study and the fact that no samples showed contamination levels above the detection limit of the analytical technique (0.5 ng/g) does not necessarily mean that there are no anabolic steroids above that level in any beef sample in Colombia. It is more than likely that results above this detection limit will occur occasionally. … it is also theoretically possible to conclude that a urine concentration such as that found in the cyclist urine (20 ng/mL) be reached taking into consideration the following facts:*
>
> - *Beef cattle in Colombia is sacrificed in average at a weight of 45 kg.*
> - *The boldenone recommended dose is Colombia is 50 mg/90 kg of body weight, that is, 250 mg boldenone for a 450 kg animal.*

- *Contrary to the situation in first-world countries, it is customary in Colombia not to follow the withdrawal time for veterinary drugs, therefore an animal could be sent to the slaughterhouse prior to the 30-day withdrawal recommended period. In our laboratory we have found residues of veterinary drugs above the maximum residue level in human foods from animal origin.*

- *Boldenone is not necessarily injected in the neck as suggested by professor Le Bizec. In Colombia it is customary to use the muscles corresponding to the "round cut", close to the "sirloin cut"… This information can be substantiated by any large animal practitioner veterinarian.*

- *A human adult produces between 800 and 2000 mL of urine in 24 hours.*

- *In order to reach the urinary boldenone concentration of 20 ng/mL reported by the LC-MS/MS analysis it would be necessary to ingest between 16 and 40 mg, depending on the quantity of urine excreted (16 mg if 800 mL are excreted and 40 mg if 200 mL are excreted).*

- *Taking into consideration that the average boldenone dose administered to cattle is 250 mg, it would be necessary to ingest only between 6.4% (16 mg) and 16% (40 mg, respectively) of this dose in order to achieve a urinary concentration of 20 mg/mL.*

- *Since the boldenone dose administered to a 450 kg bovine is 250 mg it would be needed to ingest only between 6.4 and 16% of this dose in order to achieve a urine boldenone concentration of 20 ng/mL. In the case of a urine volume elimination of 1 liter in 24 h (as suggested by Prof. Le Bizec), the required boldenone dose would be 20 mg, that is 8% of a 250 mg dose.*

The Second Contreras Report states inter alia as follows:

> *On another front, Dr. Le Bizec expresses that the probability that the athlete ate a cut of round that had been contaminated by a trace of an intramuscular injection seems very unlikely, taking into account the best practices in veterinary medicine when it comes to productive animals (page 11). However, and as we have stated above, the best practices in this field are not followed in Colombia.*

In the hearing Prof Diaz stated:

- That it is difficult to draw a conclusion from the Wu et al study because any conclusion cannot be definite with this low number of samples. Moreover, he stated that boldenone is banned in most countries of the world and just a couple of countries allow the use of boldenone (like Ecuador and Colombia). That is why there are no studies that are conducted with respect to boldenone residues. The monitoring in Colombia is negligible. 2.5 million cows were slaughtered in Colombia in 2019 and from those only 367 were sampled. None was analyzed for boldenone in muscle; the 367 samples were only for the liver. There is also no monitoring in the farms.

- That it is not possible to conclude anything from the information at hand. However, all evidences point towards exogenous origin/source. The Delta of Carbon 13 is very low compared to the standard. It usually raises between minus 18 and minus 20 per thousand and in this case, it was minus 30. It is far away from the endogenous standard.

- That it is not possible to rule out the intake of contaminated beef with boldenone with the information available.

- The Ecuador-Study shows that out of 75 carcasses tested, 72 were found to contain residues of boldenone.

- That farmers inject the cows in the haunch even though it does not make any sense. There will be a depot of boldenone and the boldenone will be released slowly into all the fat tissues of the body. Farmers inject their cows every 30 days with boldenone. It does not matter if it is given in the neck or in the back, it will accumulate in the muscle and then be absorbed to stimulate growth of the muscle. Once a cow is injected with the dose that is recommended by the pharmaceutical company, the cow will reach a concentration of 560µg per kilogram. In theory, it only needs 20 µg from that to come up with the result of more or less 20 ng/ml if the bioavailability is 100% and it will be excluded in a period of 24 hour in the urine. He agreed with Prof Saugy that this is a very optimistic scenario for the Rider but it's a possibility that we can rule out, if we take into consideration that there are 560 µg per kilogram beef. So it is possible if you eat a 100g beef serving, you would eat 280 µg of boldenone. These numbers come from pharmaceutical formula that 50 mg of boldenone is for every 90 Kg of weight. The average weight of a cow would be 450Kg. That means that the cow receives 250 mg, which is 250,000 µg. If you divide those 250,000µg by the weight, you get 560µg per kilogram of a cow. But we can only speculate about the bioavailability because there are no studies for boldenone.

- That most of the boldenone is going to fat tissues, where it remains for a long time (a study conducted with horses, 65 days after they were injected with boldenone, there were still boldenone residues). If the withdrawal period of 30 days was followed, the boldenone levels would be much lower.

- There is a possibility that an adverse analytical finding can be associated with the intake of beef and we can't rule out that possibility.

Prof Diaz submitted the publication Morales et al. *"Study of Residues of Boldenona in Beef from Cattle slaughtered in the Quito's Slaughterhouse"* (hereinafter referred to as "Morales et al study"):

> *Results and Discussion*
>
> *The results of this research suggest the presence of boldenone residues in the muscular tissue (meat), since 100% of the samples were positive, by the screening test of competitive ELISA, (72/72); the lowest level found was of 0.2 ug/kg and the highest level found of 35 ug/kg, which could be due to the use of boldenone in bovines coming from the coast, in order tm accelerate growth and production of animals.*
>
> *According to the origin of the animals (provinces 1, 2 and 3), of the 72 bovines sampled, 68% (49/72) come from province 1, 21% (15/72) from province 2, and 11% (08/72) correspond to province 3 ... The lowest concentration was 0.2 ug/kg, found in cattle from province 2 and 1, while the highest value was 35.3 ug/kg from province 3, which being quite high concentration, it is considered that there could have been a pharmacological sequestration, that is, the exaggerated accumulation of the drug in one place of the organism, presumably because administration of boldenone 1 to 2 days before slaughter. Probably due to negligence or ignorance of the operator.*
>
> *Of the 72 positive samples, 87.5% (63/72) correspond to young animals from 1 to 2 years old; the other 12.5% (9/72) correspond to adult cattle from 2 to 3 years old …, Of the 49 animals from the province 1.44 were juveniles and 5 adults; from the province 2.15 bovines of which 14 were juveniles and 1 adult; finally from the province 3 came 8 animals being 5 juveniles and 3 adults. This indicates that the use of boldenone is*

carried out in both age ranges, due to the use of hormone-type substances that accelerate the growth of the cattle, thanks to its anabolic effect; [7] also, due to the amount of residues found in animal tissues, it can be assumed that the animals were exposed for long periods to the active principle [29] and that veterinary pharmacological agents are used repeatedly without adequate technical control. [30]

The values of the present work are extremely high with respect to the study carried out on beef cattle in Manabi, also using the competitive ELISA technique, where it was found that only 14.6% of the samples were positive for boldenone. [31] Likewise, in a study carried out in Colombia, using the same ELISA technique (also not compared through confirmatory tests), 23% (25/111) of the samples were considered non-conforming, being positive for boldenone with values higher than the detection limit of the test, attributed to noncompliance with the withdrawal time, as well as the use of doses higher than those recommended,[32] being also considerably lower values than those found in this research. Due to this, the confirmation of data by confirmatory tests such as High Performance Liquid Chromatography coupled to mass spectrometry (HPLC-MS) it is necessary…

Based on the results obtained in this research, by means of the ELISA screening test, it is warned about the possible presence of boldenone residues in the meat of bovines coming from the Ecuadorian coast and slaughtered in the Camal Metropolitano of Quito, which could indicate its use as a growth promoter in both juvenile and adult animals. These results should be confirmed by using a confirmatory technique such as HPLC-MS, so that the competent authority develops pharmacovigilance programs that guarantee animal origin products and primary need food sources safety…

Furthermore, Prof Diaz submitted the following statement to the publication:

These results bear relevance to the present case for the following reasons:

- *Ecuador is very similar to Colombia in regard to boldenone usage in cattle. The only difference is that only 14 products are registered in Ecuador, whereas in Colombia there are 59 registered products.*
- *Cattle growing practices are very similar in both countries (in fact the two countries are only separated by imaginary political divisions and both share common ecosystems).*
- *Good veterinary practices require that boldenone is not administered to cattle at least 30 days prior to slaughter in both countries.*
- *The results clearly show that good veterinary practices are not being followed and that boldenone-containing beef is reaching the human population in Ecuador, which is presumably the situation occurring in Colombia.*
- *Unfortunately, no studies like the one reported in Ecuador have been conducted in Colombia. However, data from the Colombian Institute for Food and Drug Monitoring (Instituto Nacional de Vigilancia de Medicamentos y Alimentos, INVIMA) revealed that only 367 of the 2,485,536 cattle slaughtered in Colombia in 2019 were tested for boldenone (<0.02%), and in all cases only the liver was tested (no beef was tested in 2019). These figures show the lack of boldenone monitoring in beef, which in turn promotes the lack of observance of withdrawal periods for veterinary drugs.*

b) The position of the UCI

137. The UCI submits that:

(i) the concentration of boldenone in the Rider's sample are incompatible with a meat contamination scenario.

- The UCI refers – inter alia - to the Wu et al study. Prof Saugy submits in this respect as follows:

  > *This study is the most recent and reliable study and peer-reviewed publication, as it uses the same technology of detection than in the anti-doping laboratories, which is now available.*
  >
  > *The study has been performed with 3 male and 3 female volunteers. Even if we cannot fairly generalize the conclusions of this publication to all athletes, it gives a good indication of what can be found in an athlete's urine after Boldenone intake.*[27]

- In this Wu et al study 30mg of Boldenone were administered orally to male and female volunteers. From their results, it can be deducted that 12 hours after the 30mg intake, the mean concentration in urine of the main boldenone metabolite (the one measured by the Laboratory) from the male volunteers is approximately 120 ng/ml, going down to 60 ng/ml after 24 hours. Thus, according to the study the urinary excreted boldenone metabolite corresponds to 0.5 to 1 % of the applied dose to the volunteers after 24 hours. If one were to apply these number (which are not definitive and rather rough estimations) the amount of boldenone that would need to be ingested by the Rider in the case at hand would be of 5 to 7mg of boldenone, if the test occurred 12 hours after the last intake or 10 to 15mg if the test occurred 24 hours after the last intake.

(ii) The concentrations found in the Rider's sample amount to 20ng/ml (or 31ng/ml if corrected for specific gravity). Such concentrations levels – according to the UCI – do not back the meat contamination scenario:

- *"Boldenone-ester-based preparations are not like the trenbolone acetate presented in the form of subcutaneous implants in the animal's ear but via deep intramuscular injection in an oily carrier giving the preparation a delayed reaction. At the site of intramuscular injection, resorption of the active substance is slow and the diffusion of the ester from the site of injection towards general circulation is prolonged. The ester is quickly hydrolysed in the blood compartment (plasmatic esterase) to release the boldenone in its active form (secondary alcohol, 17β)." (see First Le Bizec Report)*

- In order to cause levels of 20 ng/ml (or 31ng/ml if corrected for specific gravity), the Rider would have to consume the part of the meat, in which boldenone was injected. This, however, is very unlikely based considering:

  - *breeders respect best breeding practices, namely an intramuscular injection of boldenone undecylenate at 50 mg per 90 kg of body weight;*
  - *the waiting times are respected between the animal's last treatment and its slaughter, namely a minimum of 30 days;*
  - *the published data related to the 2015-2016 surveillance plans by ICA and INVIMA are reliable;*
  - *the boldenone content in the muscle 30 days post-treatment is below that in the liver, which is generally accepted for steroids in particular;*

[27] Second Saugy Report, para 4.1

- *The residual content of 17β-boldenone in meat would, therefore, not exceed 0.5ng.g-1, the value of the detection limit of the LC-MS/MS method used in these monitoring plans.*

- *[…] According to his butcher, the cyclist consumed meat from the Sirloin (Top Sirloin Cap) and chorizo; according to the cyclist, the proportions consumed were 600 g and 100 g, respectively. Taking into account the calculation shown [above, i.e. that the residual content of boldenone would not exceed 0.5ng.g-1], according to a worst-case scenario, which is conservative (protective) for the cyclist vis-à-vis his own explanations, he would have been exposed to 350 ng of 17β-boldenone during his meal […].*

- *Assuming that this 17β-boldenone residue was:*

  1 *– 100% bio-accessible (which is probably not the case),*
  2 *– 100% bio-available (a value of 10-20% would undoubtedly be more reasonable),*
  3 *– 100% converted in the cyclist in the main metabolite of boldenone (in practice, other metabolites are formed), i.e. 5β-androst-1-en-17β-ol-3-one,*
  4 *– entirely excreted in the urine (elimination by faeces should also be considered) in 24 hours in a limited volume (1 L to consider a larger concentration).*
  The value found in the cyclist's urine would be 350ng.L-1, or in the unit used in this dossier 0.35ng.mL-1. So we cannot reasonably explain the value measured in sample A, even with a conservative scenario that could be qualified as unrealistic.

  …

- *the boldenone content in the muscle 30 days post-treatment is below that in the liver, which is generally accepted for steroids in particular;*

- *[T]he global probability resulting from:*

  1 *– the eventuality of the consumption of a piece of meat contaminated by the injection site containing the boldenone […],*
  2 *– the possible contamination of the Sirloin by an [intramuscular] injection in this part of the animal body, Appears very weak.*[28]

- Also Prof Saugy states in his First Saugy Report as follows: *"we can say that the total amount of boldenone which could potentially be found in the meat (maximum 0.5 ng/g or 350 ng in total for 700 g of meat) would never lead a consumer to be tested for boldenone at a level of 20 ng/ml in urine, when tested one day after the consumption."* Furthermore, the report states that for obtaining 20ng/ml "*the rider would have been ingested at least several mg of boldenone (for example 3.5 mg is 10'000 times more than 350 ng of boldenone)."*

(iii) The UCI objects to Prof Diaz' conclusion that it would have been sufficient for the Rider to have ingested a piece of meat close to the point of injection of boldenone to reach a concentration of 20ng/ml. In this respect, the UCI refers to the report of Prof Le Bizec, in which he states as follows:

- *"Professor Gonzalo J. Diaz made a miscalculation (factor of 1000), in the sense that what he considers to be mg in terms of exposure is in reality µg. In fact, for an adult producing and excreting (let's simplify) 1000 mL of urine within 24 hours, the minimum ingestion dose (in case the weighting factors are of 100%, as assumed by Professor Diaz in his demonstration) that is necessary to observe an excretion of 20ng.mL-1 would be 20 µg. In*

[28] First Le Bizec Report, para 4.2 and 4.3

practice, few percent of the ingested dose is converted into the major boldenone metabolite (i.e. 5β-androst-1-en-17β-ol-3-one) and excreted in human urine. It means that only an exposure of several mg would explain a concentration of 20 ng.mL-1 in the athlete's urine."[29]

- This conclusion is also confirmed by Prof. Saugy, who states in his Second Report as follows:

> *[B]ased on my calculation:*
>
> *- In order to reach a concentration of 20 ng per milliliter of Boldenone in 800 ml of urine, it is necessary that a total quantity of 16 µg (i.e. 0,016 mg or 16'000 ng – 20ng x 800ml) of Boldenone is excreted in this volume of urine; or*
>
> *- Similarly, in order to reach a concentration of 20 ng per milliliter of Boldenone in 2000 ml of urine it is necessary that a total quantity of 40 µg (i.e. 0,04 mg or 40'000 ng – 20ng x 2000ml) of Boldenone is excreted in the urine.*
>
> *Therefore, with all due respect to Prof. Diaz, it appears that he made a mistake of a magnitude of 1000 in his calculation, in the sense that what he considers to be mg in his demonstration is in reality µg. I believe that Prof. Diaz considered that the total amount (100%) of the Boldenone, which was ingested by the athlete would be found intact in the urine, as explained above.*[30]

- Furthermore, Prof Saugy suggests:

> *[E]ven if we consider that the rider consumed 700 gr of meat, which was contaminated by Boldenone at a concentration of 3.0 µg/Kg, and that he ate all this meat 12 hours before the sample collection, it cannot be possible to find Boldenone metabolites at a concentration of 20 ng/ml.*
>
> *In my opinion, in the event the Rider had consumed 700 gr of meat contaminated by Boldenone at a concentration of 3.0 µg/Kg and 12 hours before the sample collection, Boldenone metabolites at maximum concentration of less than 1 ng/ml would have been detected in the Rider's sample (i.e. more similar to those found in the Farah case).*[31]

(iv) The UCI further submits that, even if all of the following points - highest recommended dose of boldenone is given to the animal; withdrawal time before slaughter may not be respected; substance may have been injected in the animal's haunch; athlete may have eaten the injection site (or around the injection site); athlete was tested 11-12 hours later; athlete ate a piece of meat from the top sirloin cut) - are disregarded and meat contamination is accepted to be possible, in view of the concentration of boldenone metabolite found in the Rider's samples, a meat contamination scenario is nevertheless very unlikely to have happened.

(v) The UCI submits that while the ingestion of a piece of meat close to the injection site could possibly explain the value of 20ng/ml, it was nevertheless very unlikely. The UCI relies in this respect on

- Second Le Bizec Report that reads as follows:

[29] Second Le Bizec Report, p. 12.

[30] Second Saugy Report, p. 6.

[31] Idem, p. 2.

"According to hypothesis 1 (H1):

In scenario 1 (full injection site consumption by the athlete), whatever the applied withdrawal time on the animal, the estimated calculated urinary concentration always exceeds 2000 ng.mL-1. The boldenone metabolite concentration measured at 20 ng.mL-1 in the athlete's urine is therefore significantly exceeded whatever the time between the anabolic steroid administration and the slaughtering of the animal.

In scenario 2 (consumption of a 700 g piece of meat nearby (<10cm) the injection site but excluding it), even if the withdrawal time was respected (30 days), the estimated calculated value is still higher than the concentration found in the athlete's urine.

In scenario 3 (consumption of a 700 g piece of meat in the vicinity (10-20cm) of the injection site but excluding it), the estimated calculated urinary concentration never exceeded 5 ng.mL-1, irrespective of the withdrawal time, so at least 4 times lower than the concentration found in the athlete's urine.

In scenario 4 (consumption of a 700 g piece of meat randomly collected on the animal's carcass but excluding the injection site zone), the estimated calculated urinary concentration never exceeded 0.4 ng.mL-1, so at least 50 times lower than the concentration found in the athlete's urine.

According to hypothesis 2 (H2):

In scenario 1 (full injection site consumption by the athlete), whatever the applied withdrawal time on the animal, the estimated calculated urinary concentration always exceeded 700 ng.mL-1. The boldenone metabolite concentration measured at 20 ng.mL-1 in the athlete's urine is therefore notably exceeded whatever the time between the anabolic steroid administration and slaughtering of the animal.

In scenario 2 (consumption of a 700 g piece of meat nearby (<10cm) the injection site but excluding it), if the withdrawal time was respected (30 days), the estimated calculated value is almost half the concentration found in the athlete's urine. If the withdrawal time was not respected, the residual concentration would have been approximately 2.5 to 4.5 higher than the concentration found in the athlete's urine at 15 and 1 day(s) withdrawal time, respectively.

In scenario 3 (consumption of a 700 g piece of meat in the vicinity (10-20cm) of the injection site but excluding it), the estimated calculated urinary concentration never exceeded 1.5 ng.mL-1, so almost 15 times lower than the concentration found in the athlete's urine.

In scenario 4 (consumption of a 700 g piece of meat randomly collected on the animal carcass but excluding the injection site zone), the estimated calculated urinary concentration never exceeded 0.1 ng.mL-1, so almost 200 times lower than the concentration found in the athlete's urine.

Accepting the facts described at the beginning of this report, scenario 2 (i.e. the consumption (12 hours before the antidoping control) of a 700 g piece of a meat collected nearby (<10cm) the injection site (but excluding it) coming from an animal intramuscularly injected by a solution of boldenone undecylenate athlete's) in both hypotheses 1 and 2 may possibly explain a 20ng.mL-1 boldenone metabolite excretion in the urine (either at 30 days withdrawal time for H1 and between 15 and 30 days withdrawal time for H2).

<u>However, …I nevertheless do not consider this to be a likely scenario.</u>

…I have already made many assumptions in favour of the athlete to present the absolute best case scenario for him. However, any "best case scenario" leading to a concentration of 20ng.mL-1 requires not only these assumptions in the athlete's favour, but also a succession of different, unlikely, events leading to his consumption of meat directly adjacent to an injection site, and it should be recognized that this embeds events that are diverse in nature and are of independent origins.

- 1: it means the animal must have received an intramuscular injection in the hind quarters of the carcass, contrary to what good veterinary practice recommends. Indeed, as already stated above, veterinary best practices do not recommend injecting in the rump or the thigh of the animal, because these pieces of meat are among the prime cuts. Therefore, should an injection trace be found in these prime cuts, significant portions of valuable meat would need to be trimmed out and discarded from the carcass. Moreover, I have seen no convincing evidence that this is what typically occurs in Colombia;

- 2: it means that the carcass would not have been examined by the veterinary inspection services nor during the transformation/distribution and the injection trace […] was not removed;

- 3: it means that the athlete would not have noticed any damage to the meat caused by the injection site or the oily residue when consuming the piece of meat.

- 4: it means that the athlete would have consumed 700 g of meat containing partly the injection site (e.g. in the 10 cm area) from a carcass of an animal of 450 kg which would contain 150 kg of edible meat. In other words, a 700 g sirloin steak corresponds to 0.5% of the total edible meat amount available on the corresponding carcass. The probability of stumbling upon this piece by chance is 0.5%.

Each event is unlikely on its own and even more so when you have to accept all of the four events at the same time.

To conclude, I consider that the ingestion of a piece of meat close to the injection site the day before the doping control could possibly explain the value of 20 ng.mL-1 in the urine of the cyclist, according to a scenario which is to the advantage of the latter. However, in my opinion the likelihood of this scenario is very low in view of the favourable assumptions as well as the chain of adverse events necessary for this explanation.[32]

- Furthermore, Prof Saugy stated in his second report:

"III.2.C – Lastly, the final calculations proposed by the expert are particularly simplistic and lead to surprising conclusions "… If Mister Puerta ate a beef serving of 200 g (a conservative amount), this serving of 200 g of beef would need to contain only 20 µg of boldenone to cause an adverse analytical result (20 µg/200 g or 100 µg/kg). This concentration of boldenone in beef is very low (100 µg/kg or parts per billion)".

In practice (for carcass meat other than the one at the injection site), the tissue concentrations of steroids found in production animals after intramuscular administration are rather of the order of the nanogram per gram of meat or even below that level14. To consider that 100 ng.g-1 is a very low value suggests inexperience in the field of control of growth promoter residues in production animals.

[32] Second Le Bizec Report.

In conclusion, the demonstration proposed by Professor Diaz adds nothing new to this case."

In the hearing, Prof Saugy stated:

- that Wu et al study is reliable although there were only six volunteers. The Wu et al study is the only available and recent study. They were using the same methodology and analysis, which means that we can compare the results from the study with the results of the Rider. The method of analysis which was used is state of the art. Furthermore, the study has been published in a well-known peer review journal regarding the pharmaceutical and biomedical analysis in general.

- that boldenone could be at a low amount due to endogenous production or transformation of endogenous testosterone. It is the duty of a laboratory in case they have found boldenone or boldenone metabolites in a concentration between 5 and 30 ng/ml, to show if it is of endogenous or exogenous origin by using the IRMS method. The results of the Rider have clearly shown that the origin of boldenone metabolites in his urine were exogenous origin and not an endogenous production of boldenone. Regarding the route of administration, we have to make a comparison of the results found in the Rider's urine and the Wu et al study. Even though, 20 ng/ml in the urine can certainly be due to an oral ingestion of boldenone, the concentration which has been found in the Rider's urine is not completely indicating the amount of substance taken.

- if the cattle were treated according to the best veterinary practice, it would not be possible to find this kind of concentration in the Rider's urine.

- the likelihood of the best-case scenario is very low. The assumption was very generous regarding the metabolism.

- it is common sense not to inject in the normal pieces of meat of a cattle because no one would buy meat with an injection site.

- When injecting into the back of the cow, it would have more of a depository effect because it would be kept more in the muscle tissue and released in a different manner than doing it the neck where it will be distributed more evenly or quickly. To inject it in the neck is more sufficient. Moreover, to inject boldenone close to the neck where there is less ability to move for the cow, is much easier than in the back.

- The bioavailability is around 10% instead of 100% of the metabolite M1, which will be released in the urine after the consumption of boldenone. Even with 500 microgram per kilogram of meat, it is not possible to reach 20ng/ml. Hence, it is not possible to reach the concentration in the Rider's urine with this bioavailability.

- the consumption of contaminated meat could not lead to this concentration in the Rider's urine; the likelihood that the source of the adverse finding is the consumption contaminated meat is low, because there have to be so many favorable assumptions in order to reach this kind of concentration (e.g. eat the meat close to the injection site; veterinarian practice was not respected; someone has to buy the injection site even though it can be seen). According to all the scientific knowledge the likelihood of this scenario is very low. He, therefore, excluded contaminated meat as the source for the adverse analytical finding, because the amount of boldenone is too low to reach the amount, which was found in the urine of the Rider.

Moreover, Prof Le Bizec in his comments on the Ecuador-Study stated as follows:

…

1- Executive Summary

1.4 To the question raised "does the study recently published in Ecuador change the conclusions of your first report", the answer is clearly no. Even assuming a scenario where all the variables would be observed in the same time event and excessively to the benefit of the athlete, we clearly cannot explain a concentration of boldenone metabolites in his urine at 20 ng/ml (31ng/ml corrected).

…

3- Paper from Morales et al. published in Revista Cientifica Ecuatoriana in 2020

…

We can therefore consider that the article presented by Professor Diaz comes from a scientific journal submitted to a peer review process and that the article may be reasonably considered and assessed within the framework of this investigation.

…

6- Prediction of boldenone concentration in urine

The following values would be predicted:

• Maximalist scenario: 3,1 ng/ml;
• Intermediary scenario: 0,3 ng/ml;
• Realist scenario: 0,1 ng/ml.

Therefore, even assuming a maximalist scenario (to the significant benefit of the athlete), we clearly cannot explain a concentration of boldenone metabolites in his urine up to 20 ng/ml (31ng/ml corrected).

7- Conclusion

In conclusion, the scientific article mentioned by Professor Diaz during the hearing at the UCI Anti-Doping Tribunal, does not call into question our demonstration and calculations as presented in our prior reports.

The maximum value noted in the study by Dr. Elvis Horacio Morales Perez is, in many respects, questionable, in particular:

- *because the screening method used (ELISA) is based on the use of an antibody which recognizes boldenone but also other endogenous steroids (therefore naturally present in meat), this particularly applying to testosterone and some of its metabolites, because the results delivered by the screening method have not been supported by a confirmation method such as mass spectrometry,*

- *because the maximum reported value is clearly out of range (domain of validity of the ELISA method)*

- *because an additional study adopting the same design does not find at all the same distribution of values.*

However, ignoring the limitations discussed above with respect to the data from the Morales et al. study and considering some of the values observed to be possible, we have initiated a predictive calculation of the urinary concentrations of the boldenone metabolite in an athlete who consumed contaminated meat at these concentrations.

This calculation shows that the athlete could not have reached a value of 20ng/mL (or 31ng/mL corrected) in his urine - indeed even in the most maximalist scenario, the predicted values do not exceed 3.1 ng/ml in urine (and in any case this worst-case scenario remains highly improbable).

I therefore confirm the content of all of my prior reports, and emphasis that the study produced during the hearing in fact supports my prior conclusions entirely.

Prof Saugy found in his comments to the Ecuador-Study as follows:

My answer:

The main conclusions of the recent scientific publication (Morales-Pérez et al. 2020):

The study was conducted in Ecuador to test Boldenone residue determination on 72 bovine carcasses from different abattoirs from the Quito region. The results showed that all samples analyzed had detectable levels of Boldenone, ranging from 0.2 to 35.3 µg/kg. Prof. Diaz alleged that the situation is the same in Colombia (country of the athlete) as in Ecuador.

The main conclusions of the recent report of Prof. Le Bizec (16th November 2020)

Prof. Le Bizec highlighted a number of points in the publication, which question the validity of the results presented by the authors. In particular, the technology used for the measurement of Boldenone in the meat (ELISA tests) is known to produce generally overestimated results in comparison with those obtained by the state of the art methodology (namely LC-MSMS).

Nevertheless, Prof. Le Bizec analyzed several scenarios in order to determine what could be the final concentration of Boldenone metabolite in urine after the consumption of a large amount (i.e. 700g) of meat contaminated at the maximum concentration found by the authors of the Ecuadorian study (35 µg/kg).
The following values in urine would be predicted, according to his calculations:

Maximalist scenario: 3,1 ng/mL
Intermediary scenario: 0,3 ng/mL
Realistic scenario: 0,1 ng/mL

Prof. Le Bizec concluded that, even assuming a maximalist scenario (which was already to the significant benefit of the athlete based on his earlier calculations), a concentration of Boldenone metabolite 1 in the athlete's urine up to 20 ng/mL (31ng/mL corrected) can clearly not be explained by the meat contamination scenario.

My opinion on Prof. Le Bizec report and the Morales et al study.

I read the very complete report of Prof. Le Bizec and fully agree with his conclusions.
His conclusions are fully in line with the ones drawn in my first reports and presented during the hearing. I maintain my view that the consumption of meat containing that level of contamination (0.2 to 35.3 µg/kg) would never result in 20ng/ml (31ng/ml when corrected for specific gravity) in the urine of an athlete.

As already explained in my last reports, if we use the Wu et al study as a basis for the estimation of the final concentration in urine, an athlete would need to ingest at least 5 mg of Boldenone to reach 20 ng/ml of the Boldenone Metabolite 1 after 12 hours.
By applying the same pharmacokinetic calculation, with the intake of 700g of meat containing 35 µg of Boldenone, the total intake of Boldenone would be 24.5 µg. Then, the concentration of the Boldenone Metabolite 1 in the athlete's urine would be approximately 0.1 ng/ml, which is consistent with Prof. Le Bizec's realistic scenario described above.

Explanation:

With 5mg = 5000 µg intake -→ 20 ng /ml of Bold Met1
Then 24.5 µg intake →24.5/5000 x 20 = 0.098 ng/ml =
approx. 0.1 ng/ml of Bold Met1
Conclusion:
The Morales study not only does not contradict my previous opinions, but it supports the conclusion that the consumption of contaminated meat with Boldenone at this level (i.e µg/kg range) cannot be the source of the AAF of 20 ng/ml (31 ng/ml if corrected with S.G.) of Boldenone metabolite 1."

c) The position of the Single Judge

138. The Single Judge is mindful of the objections raised against the Wu et al study by the Rider. However, the Single Judge finds that this is the most recent and also most reliable study with respect to the pharmacokinetic calculations. The Rider criticizes the Wu et al study in numerous ways. However, the Rider is not able to submit any other or better figures evidencing the pharmacokinetics effects. Furthermore, the Single Judge notes that the Wu et al study has been published in a peer-reviewed journal and uses the same technology of detection than the anti-doping laboratories. The Single Judge is, thus, prepared to take the Wu et al study as a starting point and accepts that the urinary excreted boldenone metabolite corresponds to 0.5 to 1 % of the applied dose. On this basis the Single Judge is not persuaded that the meat contamination scenario can explain the values found in the Rider's sample. If one were to apply the numbers from the Wu et al study, the amount of boldenone that would need to be ingested by the Rider in the case at hand would be of 5 to 7mg of boldenone, if the test occurred 12 hours after the last intake or 10 to 15mg if the test was performed 24 hours after the last intake. These values exceed by far all estimations of possible residues of boldenone in meat caused by a "normal" use of boldenone in cattle rearing.

139. An exception from the above appears only possible if the Rider would have consumed a piece of meat from the injection site of the animal and if the animal was slaughtered shortly after the application of the injection. However, this seems to be a very implausible scenario that the Single Judge in light of general experience and absent any evidence to the contrary is not prepared to follow. Furthermore, even if one were to accept the values contained in the Ecuador-Study and transpose them to Colombia, nothing would change, since the values detected in the carcasses cannot explain the values of boldenone found in the Rider's sample. To conclude, therefore, the Single Judge is not prepared – on a balance of probability – to accept the hypothesis of the Rider. Consequently, the Single Judge needs further evidence in order to be persuaded by a balance of probabilities that the Rider's AAF was due to the intake of contaminated meat.

5. Other possible routes of ingestions

a) The position of the Rider

140. The Rider submits that – in the case at hand – other sources of intake of boldenone (than oral intake) can be excluded. In particular, the Rider is of the view that the exogenous boldenone levels found in his body are incompatible (chemically or scientifically) with an intake of boldenone *via* injection, because:

(i) if that were the case the levels would have been remarkably higher.

(ii) The scenario of an intramuscular injection or exogenous anabolic treatment can be excluded. The Rider refers insofar to the First Contreras Report. The testing history of the Rider and the concentration of boldenone metabolites found in his sample do not support such scenario. As explained by Dr Contreras, "*[w]hen boldenone is administered by intramuscular injection, it lasts long in the body ... It is known that 14 days after a single intramuscular injection is administered to humans, 50% of the maximum obtained quantity*

persists in the body (in pharmacological terms, that means that its half-life is 14 days); at 28 days, 25% of its concentration would remain, and at 56 days, with 12.5% still present, it would still be easily detectable by antidoping tests. …As athlete Fabian Puerta was tested via urine and/or blood samples on June 2 (9 days before taking the June 11 sample in which the potential adverse analytical finding was reported), on June 24 (13 days later), on July 11 (30 days later), and on July 23 (42 days later) and they were all negative, it is unlikely for the athlete to have received an intramuscular boldenone injection, as he would have still tested positive in all these urine tests. … The fact that boldenone or any of its metabolites did not appear on the test conducted on the cyclist on June 24 (13 days after the test leading to the adverse analytical result), and that they did not appear in the following tests is coherent with the involuntary oral consumption of boldenone, given that the substance is no longer eliminated by such route at those times."[33]

(iii) Further proof that an intentional boldenone treatment can be excluded follows from Prof Diaz' report. The latter mentions that the levels found in the Rider's sample are very close to those of endogenous production. If the Rider had used boldenone via intramuscular injection or if he had consumed the substance on a continuous basis, the levels in his samples would have been significantly higher.

(iv) Furthermore, if the Rider had consumed boldenone through intramuscular injection or had he undergone some other doping treatment, the Rider's physical and medical appearance would have changed. His general cholesterol would have increased, and HDL cholesterol would have decreased in his blood levels. Likewise, triglycerides would decrease. All of this did not happen with the Rider. In addition, there were no dramatic changes in the Rider's weight nor, more specifically, in his muscle mass, all of which are among the immediate effects of a boldenone treatment. Lastly, a boldenone treatment – according to the Rider – produces ruptures in the tendons and lesions in the joints of the athletes. As certified by the Rider's doctor, the Rider did not sustain an injury of this kind nor of any other in the last few months.

b) The position of the UCI

141. The UCI submits that there is a reasonable alternative scenario, namely that the Rider intentionally ingested or applied boldenone.

(i) The UCI first and foremost submits that there is no proof for an oral intake of boldenone by the Rider. The UCI refers to the statement of its expert Prof Saugy. The latter explained in his third report that the δ13C values of the boldenone contained in the Rider's sample: (i) show that the origin of the boldenone was clearly exogenous; and (ii) do not provide any indication of the manner in which the boldenone was ultimately applied (or indeed in what amount or when). The report states as follows:

> *(i) Does the carbon signature of boldenone detected in the athlete's urine allow a determination of whether the origin of boldenone was exogenous or endogenous?*
>
> *Yes. The carbon signature of boldenone (and/or its metabolites) detected in the athlete's urine allows us to determine whether the origin of the substance is exogenous or endogenous. This is done by comparing the carbon signature of boldenone with the carbon signature of a known endogenous steroid (in the present case with the endogenous steroid pregnanediol).*
>
> *(ii) Is it correct to suggest that there is only a slight deviation between the typical endogenous carbon signature of boldenone and what was detected in the athlete's urine?*

[33] First Contreras Report.

No.

The carbon signature of boldenone metabolite detected in the athlete's urine (A- sample) is –28.2 ‰ and the carbon signature of pregnanediol (the endogenous reference steroid) is –18.3 ‰. The difference between the carbon signatures of boldenone and the endogenous reference steroid is therefore 9.9‰.

For the B-sample, the carbon signature of boldenone metabolite detected in the athlete's urine is –29.4 ‰ and the carbon signature of pregnanediol (the endogenous reference steroid) is –17.6 ‰. The difference between the carbon signatures of boldenone and the endogenous reference steroid is therefore 11.8 ‰.

In both A and B samples, there is therefore a highly significant difference as the relevant WADA technical document requires a difference of at least more than 4 ‰ to confirm the exogenous origin of boldenone.

Also, in his final report, Dr. Diaz indicates that the endogenous values of the carbon signatures of steroids depend strongly on the diet of the individuals and can therefore vary from -17‰ to -27 ‰. This is a correct statement and was clearly shown in the following publication (Piper, Flenker, Mareck & Schaenzer, 2009, 13C/12C ratios of endogenous urinary steroids investigated for doping control purposes; Drug Testing Analysis, 1, 65-72). This is precisely why it is necessary to compare the carbon signature of boldenone with the endogenous reference substance in order to confirm the exogenous origin of boldenone.

(iii) Does the carbon signature of the boldenone in the athlete's urine (and the alleged slight deviation) indicate that "the substance entered the body exogenously, but in small amounts, which may be associated ... to the oral consumption of a contaminated product"?

As shown in (ii) above, it is incorrect to state that there is only a slight deviation in the relevant carbon signatures (i.e. the carbon signatures of boldenone and the endogenous reference compound). There is further no published study showing that the amount of exogenous boldenone ingested will have any influence on the difference between the carbon signature of boldenone and the endogenous reference steroid.

(iv) Any further comments you have – including with respect to whether this rules out the intentional ingestion of boldenone by the athlete?

None of the cyclist's above comments rules out an intentional ingestion of boldenone by the athlete.[34]

(ii) Furthermore, Prof Saugy in his Second Report stated as follows:

It is a performance enhancing drug which stimulates muscle growth and assists the recovery of the athlete after strenuous effort. As with many other anabolic steroids with a structure close to testosterone (boldenone = dehydrotestosterone), boldenone can be used to recover from hard training sessions or competition, because of its anti-catabolic action on the muscle ….
In the antidoping figures published by WADA, boldenone Adverse Analytical Findings (AAFs) represented, from 2016 to 2018, approximately 6% of the AAFs for anabolic agents. In 2018, 44% of the AAFs reported by the WADA accredited Laboratories were related to anabolic agents (1823 in total)…
In my first report of 29 February 2019, I stated that the intentional oral route of administration and the intentional injection of boldenone were two scenarios which could not be ruled out. I reiterate and supplement my opinion in this regard in the below sections

[34] Third Saugy Report, page 2 ff.

> *…[T]he oral route of administration of a normal dose of boldenone (30mg as described in the study) can be at the origin of the AAF. In this case, we can estimate that the intake was done 2 days before the test (i.e. on 9 June 2018), if the dose was similar to what was applied in the Wu study. Of course, if the dose was lower, for example 10 to 15 mg, it can be expected that the concentration of 20 ng/ml could be reached after 24 hours after the intake.*[35]

(iii) In addition, the UCI relies on the First Le Bizec Report, in which it is stated that "*Boldenone is a dehydrogenated Δ1-2 derivative of testosterone; it is a powerful anabolic steroid with androgenic properties that has been/is used for increasing muscle mass for athletes and race horses for performance as well as for promoting growth in productive animals."*[36] (emphasis added)

(iv) The UCI also submits that in view of the above a scenario of intentional oral intake of boldenone cannot be excluded:

> *As described in chapter 4 and based on the results obtained by Wu et al (2015), the oral route of administration of a normal dose of boldenone (30 mg as described in the study) can be at the origin of the AAF. In this case, we can estimate that the intake was done 2 days before the test (i.e. on 9 June 2018), if the dose was similar to what was applied in the Wu study. Of course, if the dose was lower, for example 10 to 15 mg, it can be expected that the concentration of 20 ng/ml could be reached 24 hours after the intake. As far as I know, the cyclist is a track rider (approximately 90 kg of body weight). I assume that in this case, a dose of 30 mg would be more effective than a lower dose.*
>
> *As described above in chapter 3, boldenone is particularly used to recover from hard training sessions or competition, because of its anti-catabolic action on the muscle.*
>
> *Thus, in this case, the scenario of an intentional oral intake of boldenone for recovery purposes cannot be ruled out.*[37]

(v) The UCI furthermore submits that the mere fact that there were allegedly no physical and medical changes in the Rider's body is no evidence that the Rider never used boldenone through muscular injection or continuous anabolic treatment. The UCI notes that the medical reports produced by the Rider to establish that the Rider's blood revealed no sign that could evidence the constant consumption of boldenone were all posterior to the test, which significantly reduces their relevance.

142. Prof Saugy also stated at the hearing that nothing can be followed from the test conducted on 2 June 2018, i.e. nine days before the AAF for the case at hand. In particular, the negative result is no proof that the Rider consumed boldenone orally during the nine days before 11 June 2018. Also, the negative results of 24 June 2018 and 11 July 2018 are not helpful when trying to determine how the substance entered the Rider's system. In case of an oral intake in the form of a pill, which is his basic scenario between 24 hours or maximum 72 hours before the test, the quantity can be close to these 30 milligrams or even higher. Moreover, Prof Saugy is of the view that an injection of boldenone cannot be excluded, since there is no peer-reviewed study in the literature showing the excretion of boldenone following an injection.

c) The position of the Single Judge

143. In view of the above, the Single Judge is not prepared to follow – on a balance of probabilities – the view held by the Rider that there must have been an oral route of ingestion in the case at hand and that such oral ingestion must stem from an inadvertent meat contamination. The evidence on file

[35] Second Saugy Report.

[36] First Le Bizec Report, see "4.0 Introduction".

[37] Second Saugy Report, para. 8.1.

simply does not back this conclusion and therefore, it is absolutely possible that the origin of the results found in the Rider's sample originate from another scenario than a meat contamination.

6. Overall Context

a) The position of the Rider

144. The Rider submits that the Single Judge when assessing the likelihood of the various scenarios should also take into account the jurisprudence in comparable cases. In this respect the Rider relies on the following cases:

aa) Sara Lopez Case

145. Sara Lopez Bueno is a female Colombian archer who was also tested positive for boldenone. Sara Lopez Bueno claimed that the AAF was the result of contaminated meat that she had consumed. The World Archery Federation accepted this explanation.

146. The Rider submits that

- *[a]lthough the boldenone and metabolite volumes found in the urine of the archer and those found in cyclist Fabian Puerta are different (as their urine samples were collected at different moments), several aspects of the two cases are similar:*
  - *Both athletes had tested negative for consumption of prohibited substances in multiple tests conducted previously and in all subsequent ones.*
  - *The δ13C values in the IRMS exam were very similar:*
    - *SARA: Boldenone = -29.4‰, uc = 0.4‰; 5β-androstane-3α, 17β-diol (5βAdiol) = -21.3‰, uc = 0.4‰.*
    - *FABIAN: Boldenone = -29.4‰, uc = 0.9‰; 5β-androstane-3α, 17β-diol (5βAdiol) = -21.3‰, uc = 0.4‰.*
  - *In Colombia, good practices in veterinary medicine are not followed (dose of anabolic steroids administered to the cattle and withdrawal period before slaughter) and the meat is frequently contaminated with anabolic steroids, particularly boldenone.*[38]

bb) Echeverria Case

147. The Rider also relies on the Echeverria case (CAS 2019/A/6244). He submits that there are striking similarities between this case and the case at hand, since the other case concerns a *"player that had and AAF of boldenone, in Colombia, in the same region … [as the Rider] and almost in the same dates"*. In particular, the Rider refers to the finding of the CAS arbitrator in the award, where it is stated as follows:

> *The sole arbitrator reiterates that is conscious about the strict application of the anti-doping rules to safeguard the spirit of the competition and be rigorous in the interpretation of WADA and FIFA definitions and that the athlete has an exigency that does not limit to mere speculations or affirmations, but to an effective evidentiary activity. Still, understand that in this case we are at exceptional circumstances, not only because in Colombia in contrast of the UE countries, the boldenone is completely legal and its use is extended in the livestock, but because the player has carried out an intense evidentiary activity, including experts in the matter, who allow to establish, applying the rules of balance of probability that due to the general situation of the Boldenone use in the Colombian cattle, the amount of the substance in the AAF, the absence of Sulfate Boldenone, the opinion of the experts, the absence of changes into the player's body, the theory of the contamination meat is a probable explanation to the appearance of the Boldenone in his body. All of this without requiring and impossible standard of exigence to prove that the specific meat ate or lot of meat, was contaminated.*

[38] Second Contreras Report, p. 5.

148. The Rider also object to the finding of the UCI that the Santiago Echeverria case should not be followed. Prof Le Bizec conclusion that the CAS made a wrong decision is disrespectful. Instead, the Rider finds that the CAS award should serve as guidance in the case at hand.

cc) Farah Case

149. The Rider also relies on case of ITF v. Farah and argues that the defense of the tennis player relied on the same arguments and evidence as him and that both cases are very similar, in particular

(i) in relation to the substance reported as AAF

(ii) the explanation of the way in which the substance entered the body of the athletes (intake of meat contaminated with boldenone)

(iii) the absence of fault or negligence in the behavior of the athletes, and

(iv) the lack of intent of the athletes.

150. The Rider finds that, in particular, some of the most important elements of the Farah´s case, which resulted in acquitting the athlete, are fully applicable to his case as well. These elements relate – inter alia to the veterinary practices in Colombia. It is true that in the Farah case the meat could be traced to a supermarket that was able to provide the specific origin of the meat. However, in the case at hand the meat in question was bought in a small butcher shop in La Ceja Antioquia from where the meat could not be further traced. The Rider did however the maximum that could be expected from him

b) The position of the UCI

151. The UCI submits that the above cases do not support the Rider's case.

(i) with respect to the Sara Lopez case, Prof Saugy concludes as follows:

> *The first and main point raised by Dr. Contreras relates to the similarity of the δ13C values for Boldenone which were allegedly the same in both cases (-29.4 ‰). However, the comparison is based on the Boldenone δ13C result of Ms. Lopez and the δ13C result of the Boldenone metabolite 1 of the B-sample of the Rider. The fact that the δ13C result of one compound for one athlete is similar to the δ13C result of another compound for a second athlete is just a random event, with no real biological significance and does not bring any information on the origin of the Boldenone metabolites present in the rider's urine nor on the timing of ingestion.*
>
> *Then, the second criteria used by Dr. Contreras to compare these two cases is the δ13C values for 5-βAdiol, which is an endogenous steroid. The fact that the δ13C value is similar for both athletes is again scientifically not relevant and again just a random event, thus it does not bring any information on the origin of the Boldenone metabolites present in the rider's urine nor on the timing of ingestion.*
>
> *The IRMS analyses from Ms. Sarah Lopez' case do not show any relevant similarities with the present case that would allow to confirm that in both cases, the route of administration of boldenone was the intake of contaminated meat.*[39]

(ii) With respect to the Echeverria case Prof Saugy explained as follows:

> *[T]he explanations given on the scientific front in the CAS case are not correct. There is a gross misunderstanding of the documentation provided by the laboratory. The scientific*

[39] Second Saugy Report, p. 7

experts of the football player claim that only "acetate type" boldenone was found in the urine, where sulphate type should appear.

This is in fact an error of concept here.

Boldenone, as many drugs and other steroids, is metabolized in the liver. There are two important types of metabolization.

- Phase 1 metabolism:

Phase I reactions are the direct transformation of the parent molecule. It may occur for example by oxidation, which is performed by the addition of oxygen or removal of hydrogen, carried out by mixed function oxidases, mainly occurring in the liver. The substance is then directly transformed to become more hydrophilic (more water-soluble) to enter into the cells. The metabolites issued from phase I can still be active products in the body.

- Phase 2 metabolism:

After the phase I metabolism, there are subsequent phase II reactions.

The parent compound and/or the phase I metabolites as described above, are conjugated with glucuronic acid or sulfates. This means that a molecule of glucuronic acid (a special type of sugar) or a sulfate molecule will be added to the compounds (parent or metabolites).

In all anti-doping laboratories, when analyzing and quantifying the steroids and their phase I metabolites, there is a step of de-conjugation in their procedure, in order to remove specifically the glucuronide part. This step is named "hydrolysis" and this is done with a specific enzyme, the glucuronidase from E. Coli, in order to analyze the total amount of the substances of interest.

In most of the cases, the sulfate conjugate fraction is ignored (i.e. not analyzed), because it is only marginal in quantity. Nevertheless, in the case of boldenone, Gomez et al in 2012 showed that sulfate conjugates could be good markers of boldenone misuse (Gomez, Pozo, Geyer, Thevis, Schänzer, Segura, Ventura, 2012: New potential markers for the detection of boldenone misuse. J Steroid Biochem Mol Biol 132: 239-246). But since that publication, these phase II metabolites were not included in the official SOPs of the WADA accredited laboratories therefore it is normal that the sulfate conjugate does not appear in the documentation package.

The "acetate type" mentioned in the defense of the football player is not a metabolite of boldenone in the human body. The acetate form of boldenone (or metabolite) is synthetized (created) by a chemical reaction of the extract of the sample, inside the laboratories, in order to have the boldenone or its metabolite analyzed by GC/C/IRMS. This step is called "derivatization with acetate or Acetylation". This is then a step in the procedure of sample preparation for the IRMS measurement and not at all a natural metabolite of boldenone.[40]

Therefore, UCI maintains that in view of the wrong scientific explanations given in the Echeverria case, its conclusion cannot be applied to the present case.

(iii) With respect to the Farah case, the UCI notes that the concentrations of boldenone and boldenone metabolites found in Mr Farah's samples (i.e. 1.2ng/ml of boldenone and 1.8ng/ml of boldenone metabolite) were more than ten times lower than the values identified in Mr Puerta's samples. Furthermore, the concentrations in the Farah Case are more in line with the figures that Prof Le Bizec would consider consistent with boldenone

[40] Second Saugy Report, p. 8 ff.

meat contamination. Moreover, in the Farah Case, the athlete was able to provide credible evidence as to the origin of the meat that he had consumed on the day preceding the positive doping control. In the present case. The only evidence provided by the Rider to establish the origin of the meat he consumed is a purchase receipt from the butcher where the meat was purchased.

152. At the hearing Prof Saugy also stated that in the Sara Lopez case, the concentration found in the sample was around 5ng/ml instead of 20 ng/ml. This – according to Prof Saugy – speaks for itself.

c) The position of the Single Judge

153. The Single Judge notes that – in principle – cases turn on the individual facts and that, therefore, it is difficult to transpose conclusions from other cases to the one at hand. Hence, generally speaking, the Single Judge finds that the reference to these other cases is of little help. In the case at hand this is even more so, considering that the concentrations found in the Rider's sample differ considerably from the concentrations found in the other cases that are used as a benchmark by the Rider.

7. Conclusion

154. In view of all of the above the Single Judge finds that the Rider has committed an ADRV and that the Rider has not discharged his burden of proof how – on a balance of probabilities – the prohibited substance entered his system. Consequently, the Rider also failed to show – on a balance of probabilities – that he did not act intentionally when committing the ADRV.

C. What are the appropriate consequences of such an ADRV?

1. The Standard Period of Ineligibility

155. If – as in the present case – the Rider's ADRV constitutes an intentional first violation, Article 10.2 of the UCI ADR applies, which provides that

> *10.2.1 The period of Ineligibility shall be four years where:*

156. A Rider may be entitled to a reduction – or elimination – of the period of ineligibility, if he establishes that one of the fault-related reductions enshrined in Articles 10.4 or 10.5 of the UCI ADR apply. No fault-related reductions apply, however, in case the Rider acted intentionally.

157. In relation to the commencement of the period of ineligibility, Article 10.11 of the UCI ADR provides as follows:

> *Except as provided below, the period of Ineligibility shall start on the date of the final hearing decision providing for Ineligibility or, if the hearing is waived or there is no hearing, on the date Ineligibility is accepted or otherwise imposed. […]*
>
> *10.11.3.1 If a Provisional Suspension is imposed and respected by the Rider or other Person, then the Rider or other Person shall receive a credit for such period of Provisional Suspension against any period of Ineligibility which may ultimately be imposed. If a period of Ineligibility is served pursuant to a decision that is subsequently appealed, then the Rider or other Person shall receive a credit for such period of Ineligibility served against any period of Ineligibility which may ultimately be imposed on appeal. …*

158. Thus, as a general rule, the period of ineligibility shall start on the date of the final decision imposing such Ineligibility, with credit given for the period of any provisional suspension if and to the extent it was respected by the Rider. On 13 August 2018, the Rider was informed of a mandatory provisional suspension imposed on him. It is undisputed between the Parties that the Rider observed the terms of such suspension and that, therefore, he must receive credit for the time so served.

2. Disqualification

159. Article 10.8 of the UCI ADR provides as follows

> *In addition to the automatic Disqualification of the results in the Competition which produced the positive Sample under Article 9, all other competitive results of the Rider obtained from the date a positive Sample was collected (whether In-Competition or Out-of- Competition), or other anti-doping rule violation occurred, through the commencement of any Provisional Suspension or Ineligibility period, shall, unless fairness requires otherwise, be Disqualified with all of the resulting Consequences including forfeiture of any medals, points and prizes.*

160. Therefore, all results obtained – if any – by the Rider between the date of the sample collection on 11 June 2018 until the date he was provisionally suspended, i.e. 13 August 2018 are disqualified.

3. Mandatory Fine and Costs under the of the UCI ADR

161. The UCI requests that that certain costs be imposed on the Rider, but no fine. The Single Judge observes that the Rider does not exercise a professional activity in cycling and that, therefore, Article 10.10.1 of the UCI ADR does not apply to him.

162. The UCI requests that the Rider pay the cost of the results management in the amount of CHF 2,500.00, the costs incurred for the Out-of-Competition Testing (CHF 1,500.00), the costs of the B Sample analysis (USD 450.00) and the costs of the Laboratory Documentation Package (USD 600.00, costs for the A and B Sample Laboratory Documentation Package, 2x USD 300.00).

163. In relation to the costs of the testing and the results management process, the Single Judge refers to Article 10.10.2 of the UCI ADR, which reads as follows:

> *10.10.2 Liability for Costs of the Procedures*
>
> *If the Rider or other Person is found to have committed an anti-doping rule violation, he or she shall bear, unless the UCI Anti-Doping Tribunal determines otherwise:*
>
> 1. *The cost of the proceedings as determined by the UCI Anti-Doping Tribunal, if any.*
> 2. *The cost of the result management by the UCI; the amount of this cost shall be CHF 2'500, unless a higher amount is claimed by the UCI and determined by the UCI Anti-Doping Tribunal.*
> 3. *The cost of the B Sample analysis, where applicable.*
> 4. *The costs incurred for Out-of-Competition Testing; the amount of this cost shall be CHF 1'500, unless a higher amount is claimed by the UCI and determined by the UCI Anti-Doping Tribunal.*
> 5. *The cost for the A and/or B Sample laboratory documentation package where requested by the Rider.*
> 6. *The cost for the documentation package of Samples analyzed for the Biological Passport, where applicable.*
>
> *The National Federation of the Rider or other Person shall be jointly and severally liable for its payment to the UCI.*

164. In application of the above provisions, the Single Judge holds that the Rider shall reimburse to the UCI the following amounts:

- CHF 2,500.00- for costs of the results management [Article 10.10.2 (2) of the UCI ADR];
- CHF 1,500.00- for Out-of-Competition Testing [Article 10.10.2(4) of the UCI ADR];
- USD 450.00 - for B Sample analysis [Article 10.10.2(3) of the UCI ADR]
- USD 600.00- for A and B Sample laboratory documentation package [Article 10.10.2 (5) of the UCI ADR].

4. Costs of the proceedings

165. In application of Article 28 (1) of the ADT Rules, the Single Judge has to determine the costs of the proceedings as provided under Article 28 of the UCI ADR:

> *1. The Tribunal shall determine in its judgment the costs of the proceedings as provided under Article 10.10.2 para. 1 ADR.*
>
> *2. As a matter of principle the Judgment is rendered without costs.*
>
> *3. Notwithstanding para. 1 above, the Tribunal may order the Defendant to pay a contribution toward the costs of the Tribunal. Whenever the hearing is held by videoconference, the maximum participation is CHF 7'500.*
>
> *4. The Tribunal may also order the unsuccessful Party to pay a contribution toward the prevailing Party's costs and expenses incurred in connection with the proceedings and, in particular, the costs of witnesses and experts. If the prevailing Party was represented by a legal representative the contribution shall also cover legal costs.*

166. In application of Article 28.2 of the ADT Rules, the Single Judge decides that the present Judgment is rendered without costs. In light of all of the circumstances of this case, the Single Judge finds it appropriate to not order the Rider (as the unsuccessful party) to pay a contribution towards the UCI's costs.

VI. RULING

167. In the light of the above, the Tribunal decides as follows:

1. **Mr Fabian Hernando Puerta Zapata has committed an Anti-Doping Rule Violation.**

2. **Mr Fabian Hernando Puerta Zapata is suspended for a period of Ineligibility of 4 years. The period of Ineligibility shall commence on the date of the decision, i.e. 16 December 2020. However, considering the credit for the period of the Provisional Suspension already served by Mr Fabian Hernando Puerta Zapata since 13 August 2018, Mr Fabian Hernando Puerta Zapata's period of Ineligibility effectively began on 13 August 2018, and shall end four years from this date, i.e. 12 August 2022.**

3. **The results obtained by Mr Fabian Hernando Puerta Zapata from 11 June 2018 until 13 August 2018 are disqualified.**

4. **Mr Fabian Hernando Puerta Zapata is ordered to pay to the UCI:**

   a) **the amount of CHF 2,500.00 for the costs of the results management; and**
   b) **the amount of CHF 1,500.00 for the costs of Out-of-Competition Testing; and**
   c) **the amount of USD 450.00 for the costs of B Sample analysis; and**
   d) **the amount of USD 600.00 for the costs of A and B Sample laboratory documentation package.**

5. **All other and/or further-reaching requests are dismissed.**

6. **This judgment is final and will be notified to:**

   a) **Mr Fabian Hernando Puerta Zapata;**
   b) **UCI;**
   c) **Coldeportes (Colombia's National Anti-Doping Organization); and**
   d) **WADA**

168. This Judgment may be appealed before the CAS pursuant Article 30.2 of the ADT Rules and Article 74 UCI Constitution. The time limit to file the appeal is governed by the provisions in Article 13.2.5 of the UCI ADR.

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Ulrich HAAS
Single Judge