VERIFICATION REPORT

Burning of Ndanifor Ecovillage, Bafut, Cameroon

Date of publication: October 21, 2022

Date of event: January 12, 2021

Coordinates: 6° 3' 33.1056"N, 10° 7' 12.3528"E

Location: Ndanifor Permaculture Ecovillage, Bafut Subdivision, Mezam Division, North-West Region, Cameroon

Team: Edinburgh International Justice Initiative

Synopsis: A video split into three parts showed the aftermath of the alleged burning of the Ndanifor Ecovillage in Bafut, North-West Region. Researchers geolocated the location of the attack with a high degree of certainty, as well as identified that the attack took place before 16:00 (Cameroon Local Time) on January 12, 2021. Corroborating evidence and the video narration suggest that the Cameroonian military was responsible for the burning.

**Cameroon Anglophone Crisis
Database of Atrocities**

Contents

1. About the Database

The Cameroon Anglophone Crisis Database of Atrocities is the product of an impartial, independent group of researchers and civic leaders, dedicated to recording and investigating human rights abuses committed by all actors during the Anglophone Crisis. Our team includes researchers at University of Toronto, Leiden University, the Edinburgh International Justice Initiative, and University of Exeter, with support from the Anglophone Crisis Monitoring Project, other OSINT verifiers, University of California - Berkeley's Human Rights Center Investigations Lab, and the Centre for Human Rights and Democracy in Africa (CHRDA).

The Database accepts incidents through an anonymous reporting portal, using Ushahidi software, and also through WhatsApp, Signal, and email submissions. Researchers work to investigate and verify incidents where the level of evidence permits. This Database is apolitical and will always avoid any partisan interference. It is hosted at University of Toronto (Canada) for reasons of neutrality and cybersecurity.

Contributors to this report:

2. Executive Summary

The Database received a video, split into three parts, each depicting the aftermath of an alleged attack on different parts of the Ndanifor Permaculture Ecovillage (henceforth "the Ecovillage") by Cameroon's military. The video showed signs of burning, rubble, and several demolished buildings. Several voices can be heard narrating the footage and describing the alleged events.

Researchers geolocated the burnings to the Ecovillage at **6° 3' 33.1056"N, 10° 7' 12.3528"E** with a high degree of certainty. Geolocation was aided by several features, such as roads and buildings visible on satellite imagery.

Researchers believe that the video was filmed between 16:00 and 17:00 (Cameroon Local Time) on January 12, 2021. This means that the attack occurred before 16:00 (Cameroon Local Time) on that date. Smoke is visible in the video, which also suggests that the attack occurred earlier that same day.

There is a high probability of the video being authentic and reliable due to (i) the fact that it appeared online 7 to 9 hours after the video appears to have been filmed; and (ii) that researchers were unable to discover any other images online that corresponded to the keyframes from the video.

Although the video does not depict the perpetrators in action, the narrators of the video along with other corroborating evidence indicate that the Cameroonian military was responsible for this attack. It is the researchers' opinion that this report and the material contained herein could be of probative value in future litigation and/or accountability efforts, although more information is required regarding the identities of the perpetrators.

It is worth noting that this Ecovillage, which was a permaculture site promoting sustainable development in the region, won the 2015 Gaia Excellence Award as Africa's most inspiring project.

3. Data Sources
Researchers relied on the following sources:
- Videos posted on social media (Facebook, Twitter, YouTube)
- Satellite imagery (Google Earth Pro)
- LinkedIn networking website
- Betterplace.org fundraising webpage

4. What Happened
Researchers watched the video multiple times in order to give an accurate description of what is depicted and heard on the video. The video is split into three sections: 00:00-00:54 (henceforth "Section 1"), 00:55-02:21 (henceforth "Section 2"), and 02:22-03:01 (henceforth "Section 3"). Each section shows a different part of the damaged village, but Sections 1 and 3 clearly display the same structures from slightly different angles.

Section 1 starts by showing a razed building as the cameraperson stands behind some dry shrubbery. Three of the building's walls are still standing while the fourth is mostly demolished; the roof has completely collapsed. Rubble, largely composed of bricks and logs, lies in front of the gap where the fourth wall was indicating that the wall collapsed outwards. The undemolished wall closest to the cameraperson shows signs of charring emanating from a barred window, and there is minor charred rubble underneath it. More razed buildings and smoke can be seen in the immediate background, and more smoke arises from a charred log on the rubble in front of the building. The cameraperson pans the camera between the foliage to the right and then left of the building, which includes palm trees, dried grasses, savannah shrubbery, and various other trees, before panning right three hundred and sixty degrees to also show the foliage behind the original angle.

Section 2 starts by showing a small burned-down building. The lower half of two of its walls are still standing, as well as two wooden support beams, but the rest of the building is demolished. The floor is covered in the finely charred remains of what appears to be the former thatched roof. At the front of the building is what looks like two intact stone ovens with a distinctive mosaic pattern on the wall behind them, including around the background fauna of the first building. The camera pans to the right as the cameraperson walks, showing two more similarly razed buildings. Among the brick rubble are burned logs, although there is plenty of dry shrubbery in the immediate vicinity (01:43) that has not been burned. There appears to be smoke or mist immediately behind both buildings. Foliage present in the video includes more palm trees, various trees, and potentially a sapele tree (01:38-01:44) identifiable by its long trunk and the shape of its branches at the top.

Section 3 starts by showing a distinctive wall in front of two partially razed buildings. The building on the right appears to be the building in the foreground of Section 1, due to the distinctiveness of the wall as well as the single charred log leaning against it which is visible in both sections. The log may have been placed in that position after the burning: underneath it is a mound with white and black ash and stone rubble but no flammable material large enough to have completely charred the log, and there was some dry shrubbery in the immediate vicinity which would have been completely burned by a large fire. There appears to be some smoke rising behind the wall and from the rubble in front of the buildings; both have three walls intact and the fourth, facing the cameraperson, has been demolished. In both buildings, the rubble appears as if the former wall has collapsed outwards, as the rubble extends several meters from the base of the buildings, while most of the rubble inside them appears to be charred wood or straw, potentially from the collapsed roofs. In both, dry shrubbery and foliage surround the buildings and do not appear to have been burned. The part of the distinctive wall between the two buildings is discolored on the left-hand side (02:26-02:31, 02:41-02:43) as if from

smoke, and the ground immediately below it is covered in a thin layer of finely charred material, likely straw or grass. The cameraperson walks around the left through rubble and then dry foliage.

Researchers listened to the video several times to construct an audio transcript:

- Narrator 1 (00:14): Greetings brothers and sisters [indecipherable]. This is the Ecovillage in Bafut which has been burnt to ground level by the military. So the whole place is down. I say let me take this video evidence of the burning to show you guys what has happened today at Ecovillage.
- Narrator 2 (00:58): The military burnt down all the buildings in the village. No building is standing in the village again. This is clear evidence for those reporting on human rights violation to show as exhibit in case of legal action. Use it to pass it onward to the right quarters in order to seek for justice.
- Narrator 2 (01:37): This is Ecovillage in Bafut which is totally down. This place was a place of development in Bafut which has been totally burnt to ground level. This ecovillage was vital in helping the people of Bawum in Bafut, but the military has intentionally burnt the whole place.
- Narrator 2 (02:07): Anyone who sees this information and wants to help the Bafut people should help because this is huge trouble to the Bafut people as this place is down.
- Unknown Narrator (02:58): [Indecipherable.]

5. Geolocation

Researchers searched on Google Maps for the location provided to the Database: "Bafut Ecovillage." This turned up a location for 'Ndanifor Permaculture Eco-village.' Ndanifor Permaculture Ecovillage is also described on the following website: https://ecovillage.org/project/ndanifor-permaculture-eco-village/. The location given by Google Maps is 6° 3' 33.1056"N, 10° 7' 12.3528"E.

Researchers observed the video's three sections. Researchers deemed the area visible in Sections 1 and 3 to be "Area A," and the area visible in Section 2 to be "Area B."

Researchers used the video to create aerial maps of Areas A and B, highlighting landmarks and buildings visible in the video footage, which they compared to satellite imagery. Google Earth Pro imagery shows that since 2017, fauna surrounding the site had grown and obscured buildings visible on earlier satellite images. Thus, researchers used a comparison of Google Earth Pro imagery from November 2017 and October 2020 to identify the buildings.

By matching features in the video with features visible on satellite images, researchers determined with a high degree of certainty that the burning occurred at the Ndanifor Permaculture Ecovillage in Bafut Subdivision of the North-West Region of Cameroon, at precisely: **6° 3' 33.1056"N, 10° 7' 12.3528"E.**

Image 1: Screengrab of Area A, captured from Section 1 of the video; edited in Microsoft Paint

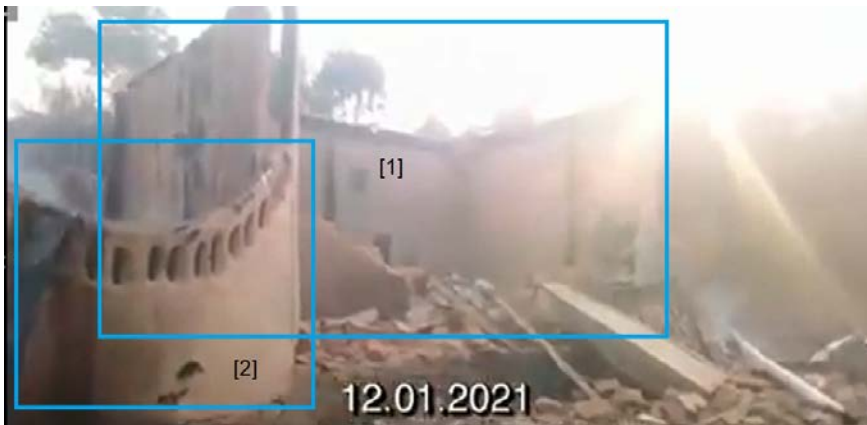*Image 2: Screengrab of Area A, captured from Section 1 of the video; edited in Microsoft Paint*

Image 3: Screengrab of Area A, captured from Section 3 of the video; edited in Microsoft Paint
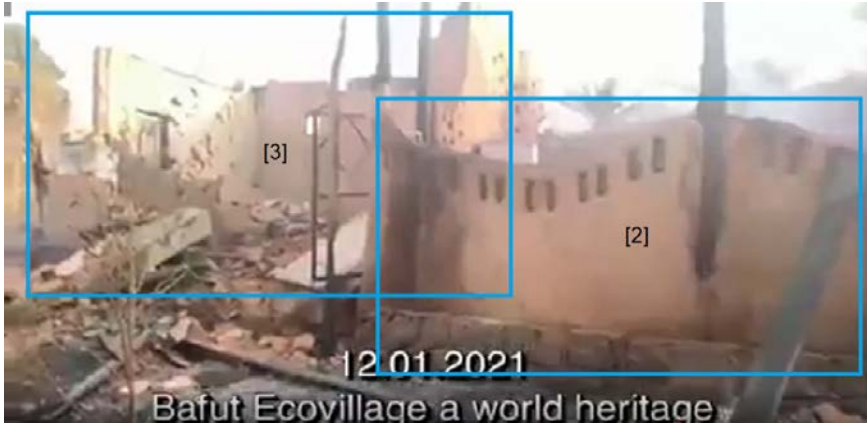
Image 4: Screengrab of Area A, captured from Section 3 of the video; edited in Microsoft Paint

Image 5: Google Earth Pro satellite image, dated October 20, 2020, at 6° 3' 31.6578"N, 10° 7' 10.2966"E

Image 6: Google Earth Pro satellite image, dated November 7, 2017, at 6° 3' 31.6578"N, 10° 7' 10.2966"E

Image 7: Screengrab of Area B, captured from Section 2 of the video; edited in Microsoft Paint

Image 8: Screengrab of Area B, captured from Section 2 of the video; edited in Microsoft Paint

Image 9: Screengrab of Area B, captured from Section 2 of the video; edited in Microsoft Paint
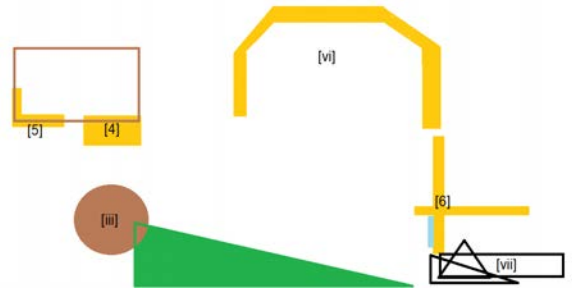

Image 10: Map of Area B drawn by researchers from watching Section 2, created in Microsoft Paint

Image 11: Google Earth Pro satellite image, dated October 20, 2020, at 6° 3' 32.0832"N, 10° 7' 12.903"E

Image 12: Google Earth Pro satellite image, dated November 7, 2017, at 6° 3' 32.0832"N, 10° 7' 12.903"E

Image 13: Google Earth Pro satellite image, dated October 20, 2020, at 6° 3' 33.1056"N, 10° 7' 12.3528"E

Image 14: Google Earth Pro satellite image, dated November 7, 2017, at 6° 3' 33.1056"N, 10° 7' 12.3528"E

Other Corroborating Information

Researchers corroborated their findings using an image found in an article titled "Cameroon: Ecobuilding in Bafut" (Michael, 2016) from the Global Ecovillage Network.

Image 15: Image taken from Global Ecovillage Network article

Image 16: Screengrab from Section 1 of the video

The distinctive wall design on the middle section of this structure, the appearance of the small window, and the stone base are an exact match for the damaged building in Section 1 of the video. Global Ecovillage Network appears to be a reputable, well-known organisation with close links to Ndanifor Ecovillage, strongly suggesting that this picture is legitimate and that the source is trustworthy for these purposes.

In a different video of the rubble in the aftermath of the burning, posted on Facebook by Ndanifor Consultancy (https://www.facebook.com/watch/?v=164559801754960), a destroyed outdoor stovetop is visible. A video of the Ecovillage posted on YouTube on December 24, 2016 (https://www.youtube.com/watch?v=MTxhKoLpqNM), although it does not show the same outdoor stove, shows a similar stove with the same type of distinctive pattern. This adds further confirmation that the structures burned in the attack are the structures of the Ecovillage, and that they include stoves.

Image 17: Screengrab from video of the burning, showing outdoor stove with mosaic (red rectangle)

Image 18: Screengrab from video of the Ecovillage from 2016, showing similar outdoor stove with mosaic (red rectangle)

6. Date and Time

Date

The video submitted to the Database has text superimposed on it reading "12.01.2021 Bafut Ecovillage a world heritage Destroyed by the Cameroun Military." The earliest discovered social media posting of the video was on Facebook on January 12, 2021, at 23:16 (Cameroon Local Time) by the user Betterworld Cameroon. That video consisted of the first 55 seconds of the video submitted to the Database, without the superimposed text. The date of this first posting supports that the attack occurred on January 12, 2021. Other videos, including Sections 2 and 3, were posted online on January 14, 2021, and January 15, 2021.

Time

Researchers used SunCalc and weather reports to chronolocate the video of the incident aftermath. According to SunCalc, on January 12, 2021, sunrise was 06:33 and sunset was 18:22 (Cameroon Local Time). Researchers examined the video multiple times, noting the positions and depth of shadows in a number of keyframes. Researchers believe that the shadow of a pole seen in the video indicates the video was likely taken between 14:00 and 18:00 (Cameroon Local Time).

Researchers further believe that there is a high probability the video was recorded between 16:00 and 17:00 (Cameroon Local Time) since it was partly sunny with cloud coverage at that time, and the angle of shadows was steep, indicating the likelihood that the video was recorded closer to sunset and the end of the day.

Thus, researchers concluded, on a balance of probabilities, that the video was likely recorded between 14:00 and 18:00, and most likely between 16:00 and 17:00 (Cameroon Local Time). Given the smoke visible in the video, researchers believe the incident occurred in the daytime on January 12, 2021.
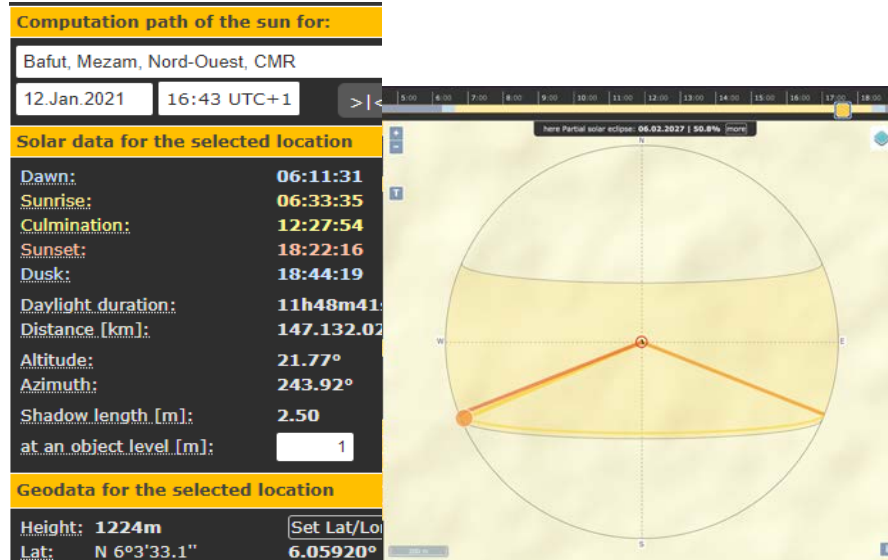

Image 19: Screenshots from SunCalc of Bafut on January 12, 2021
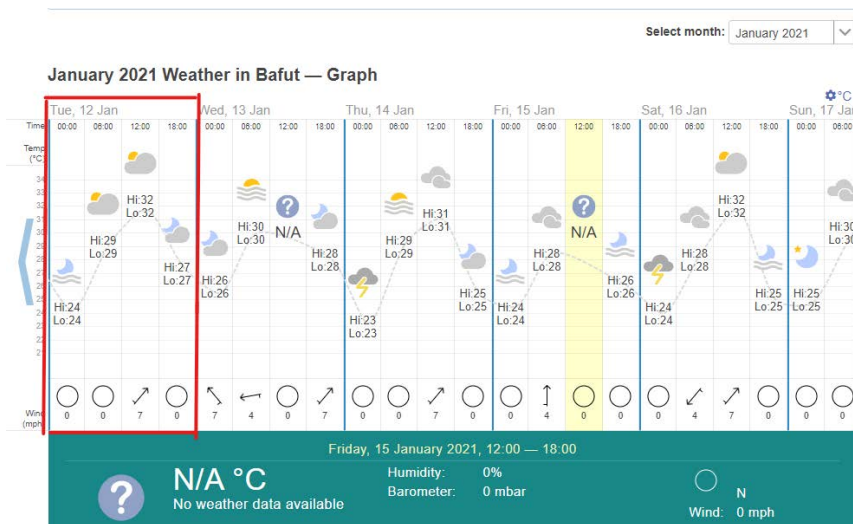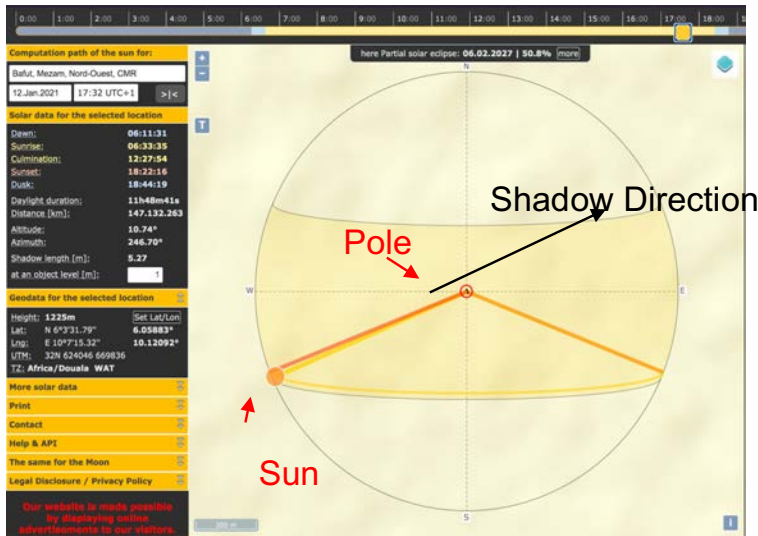
Image 20: Screenshot from video, showing pole and shadow

Image 21: Google Earth Pro satellite image showing shadow position

7. Perpetrators

To investigate the perpetrators, researchers used multiple sources, such as local news articles and social media posts, and conducted further analysis of the videos.

Numerous sources reported that the perpetrators of the burning of the Ecovillage were members of the Cameroon forces. Notably, the narrators of Sections 1 and 2 of the video identify the "Cameroon military" as the perpetrator. Media reports and social media posts also identify the military—for instance:

1. A Facebook post by Betterworld Cameroon on January 12, 2021, showing Section 1 of the video identifies the location as "Alegnwi, Bawum Bafut" and the "French Cameroun military" as the perpetrator (https://www.facebook.com/betterworldcameroon/videos/451636336205169/). Betterworld Cameroon, according to their Facebook page, is a "Youth Organization in Bamenda" working at the "Ndanifor ecovillage in Bafut rural area."

2. News outlet *Mimi Mefo Info* posted Section 2 of the video on January 14, 2021 (https://www.facebook.com/MimiMefoInfo/videos/247751593377989/). The caption identifies "the military" as the perpetrators.

3. A Facebook post by Bafut Ecovillage on January 15, 2021, showing Section 3 of the video identifies the "French Cameroon military" as the perpetrator, and "Better World" (i.e. Betterworld Cameroon) as the project leader and victim (https://www.facebook.com/Betterworldyouthexchange/videos/3206672412767776/?__so__=permalink&__rv__=related_videos).

4. A fundraising page for the Ecovillage, found by researchers, indicated that a raid and burning had occurred in the Ecovillage on January 12, 2021. It stated: "On January 12, 2021, soldiers raided and burned down the Bafut Ecovillage, located in the heart of Africa, that won the 2015 Gaia Excellence Award as Africa's most inspiring project. The permaculture learning center was built by young girls and women to improve the living standards of vulnerable communities by running permaculture gardens and regenerating the ecosystem" (https://www.betterplace.org/en/projects/89864-make-bafut-ecovillage-green-again-permaculture-for-cameroon-war-victims).

8. Conclusion

Researchers were able to geolocate the video submitted to the Database, of the burning of Ndanifor Permaculture Ecovillage, to 6° 3' 33.1056"N, 10° 7' 12.3528"E, in Bafut Subdivision, Mezam Division, of Cameroon's North-West Region. Due to chronolocation techniques and the first posting found of the video, researchers believe that the video was most likely filmed between 16:00 and 17:00 (Cameroon Local Time) on January 12, 2021. Smoke visible in the video suggests that the incident occurred earlier that day. Accounts of the incident—from the video narrators, social media posts, a fundraising page for the Ecovillage, and a media report—all suggest that the Cameroon military perpetrated the attack. It should be noted that the fact the video of this event appeared online within hours of the event and that none of the video's keyframes correspond with other images online (this was determined using InVid and TinEye reverse image platforms) indicates a higher probability of the video being authentic and reliable than not. It is the researchers' opinion that this report and the material contained herein could be of potential probative value in litigation or accountability.

9. References

Bafut Ecovillage. (2021, January 15). *Bafut Ecovillage Emergency* [Video]. Facebook. https://www.facebook.com/Betterworldyouthexchange/videos/3206672412767776/.

Better World Cameroon. (2016, December 24). *Bafut Ecovillage- Transition of a traditional village* [Video]. YouTube. www.youtube.com/watch?v=MTxhKoLpqNM.

Better World Cameroon. (2021, January 12). *Bafut Ecovillage burnt today to ashes* [Video]. Facebook. https://www.facebook.com/betterworldcameroon/videos/451636336205169/.

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SunCalc. (n.d.). Sun position on January 12, 2021. Retrieved on March 14, 2021, from https://www.suncalc.org/#/6.0592,10.1201,3/2021.01.12/15:16/1/3.

TimeandDate. (n.d.). Weather for Bafut, Cameroon from January 2021. Retrieved on March 14, 2021, from https://www.timeanddate.com/weather/@2235186/historic?month=1&year=2021.

10. Appendix 1: Metadata Analysis Images

Metadata Analysis – Image 1

Image 24: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021

Video Metadata

Movie atom	true
Duration	181881
Timescale	1000
Duration of fragment	false
Fragmented	0
Progressive	true
IOD	false
Brands	isom,isom,iso2,avc1,mp41
Created time	no date
Modified time	no date

Metadata Analysis – Image 2

Image 25: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021

Video Track

Identifier	1
References	
Created time	no date
Modified time	no date
Movie duration	181684
Layer	0
Alternate group	0
Volume	0
Width	426
Height	246
Timescale	19200
Duration	3488320
Codec	avc1.42c01e
Language	und
Samples	4875
Size	5703188
Bitrate	251126.5241720943

Audio track

Metadata Analysis – Image 3

Image 26: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021

Audio track

Identifier	2
References	
Created time	no date
Modified time	no date
Movie duration	181881
Layer	0
Alternate group	1
Volume	1
Width	0
Height	0
Timescale	44100
Duration	8020930
Codec	mp4a.40.5
Language	und
Samples	3917
Size	1091499
Bitrate	48009.501042896525

Metadata Analysis – Image 4

Video Metadata

Movie atom	true
Duration	181975
Timescale	1000
Duration of fragment	false
Fragmented	0
Progressive	true
IOD	false
Brands	mp42,isom,mp42
Created time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)
Modified time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)

Image 27: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021

Metadata Analysis – Image 5

Video Track

Identifier	1
References	
Created time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)
Modified time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)
Movie duration	181723
Layer	0
Alternate group	0
Volume	0
Width	426
Height	246
Timescale	13416
Duration	2438000
Codec	avc1.4d4015
Language	und
Samples	4876
Size	5118772
Bitrate	225343.54438720262

Image 28: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021

Metadata Analysis – Image 6

Audio track

Identifier	2
References	
Created time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)
Modified time	Sun Jan 24 2021 01:09:15 GMT+0000 (Greenwich Mean Time)
Movie duration	181975
Layer	0
Alternate group	0
Volume	1
Width	0
Height	0
Timescale	44100
Duration	8025088
Codec	mp4a.40.2
Language	und
Samples	7837
Size	2183697
Bitrate	95999.98175720939

Image 29: Screengrab of video metadata taken from InVid Metadata Analysis Tool on February 17, 2021