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# PRIMEAU PRODUCTIONS™

Expert Audio & Video Production | Video Post Production | Forensic Analysis

Life Bliss Foundation

January 10, 2012

Attn: Board of Directors

9720 Central Avenue

Montclair, CA 91763

Dear Board of Directors,

I kindly request that you ensure the enclosed video forensics report is delivered to Mr. Ambiger, DSP of the Karnataka CID in Bengaluru, India and also to Nithyananda Dhyanapeetamin in Bidadi, India.

Enclosed are three signed originals of the forensic report.

Thank you,



Edward J. Primeau, RI

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Dear Board of Directors,

I am in receipt of the digital video file titled Video2010.ASF. I understand that this video is purportedly of a male named Swamy Nithyananda and female named Ranjitha. I have completed research of this video and others like it on the Internet and am deeply disturbed.

As a forensic expert, I know how powerfully influencing video can be. A grossly edited video like this series of videos is damaging to a person's character. Video has the power to influence a society because people believe what they see; especially when they see video on television and on the Internet. Video is more powerful than text and people most always believe what they read.

In the following forensic report, I will prove scientifically:

- Why this video and others like it are not real
- These videos have component layers combined to create this composite video just like a Hollywood movie
- These videos have been altered and grossly edited

## Introduction

In my own research to learn more about this project, I found that parts of this video (Video2010.ASF) and other related videos were shown through various television channels, including, but not limited to, Sun TV, TV9 and Aaj Tak. Furthermore, excerpts of the video telecast were uploaded to the Internet via YouTube, a free Internet video service that has very little restrictions. They were also published on numerous blogs and local websites such as Dinakaran and Nakkeeran.

Historically, when a movie is created in Hollywood, often times several layers are placed on top of each other to create a series of events that are fictitious. This compositing is designed to give

the viewer a sense of fantasy. Software programs like Adobe After Effects are often used to create such imagination-driven movies. It is common for film makers to use After Effects experts to create scenes that reflect a vintage feel. Teams of specialists are able to create footage for movies that appear as if it was recorded in different time periods or even different locations. The authentic look of such film can convince a viewer that they are actually watching genuine footage from a far away time or place.

Since the audience that views such movies is not aware of video compositing and the software that was used to create such scenes, they are sucked into a fantasy vortex that takes them on a mental journey. For the time they watched that movie, many can believe such scenes to be real. I suspect thousands of people have viewed the videos that purportedly show Swamy Nithyananda in compromising situations and believe them to be real.

People believe falsified video to be reality when in fact it is not. People believe what they see because it has been broadcast on television and the Internet; both very powerful mediums.

This video Video2010.ASF that you initially asked me to examine is not real. In addition, the various versions of this video that are on the Internet include music, graphics, an on camera actor and several layers of video that were all components used to produce these composited videos. I will explain my expert conclusion which is based on 27+ years experience as an audio and video forensic expert using scientific principles in the following report.

### **Forensic Investigation**

I was originally asked to determine if the video identified as Video2010.ASF is genuine. I took it upon myself to also research this video on the Internet and discovered other videos similar in nature that are all not real.

I have never seen such a grossly edited and altered series of defamatory videos in my time as a practicing audio and video forensic expert. Not only do I conclude that this file Video2010.ASF is not authentic, I also conclude for the reasons outlined below that the other videos that have been broadcast on television and the Internet are also not real. They should not be considered a representation of the facts they appear to show for the following reasons:

1. The video file 2010 ASF has been edited and is unreliable in its current form. I have detected editing both visually and electronically.
2. The video is a portion of a longer video and is not a complete representation of the events as they occurred.
3. There is no audio on the video. It would have been very easy to record audio. I believe audio was not recorded so the actors in the video could not be identified. The audio

would help authenticate this video clip using forensic voice identification to aid in identification of the persons in the video.

4. There appears to be video images layered on top of each other. If the original had been provided, I could tell beyond a reasonable degree of professional certainty how these images were composed.
5. There is an unusual flickering to the left of the television of items on a nightstand that can not be identified. This indicates video composite layering. If the flickering were a result of the light source, the television would be flickering.
6. The video aspect ratio is unusual: 704 X 496. I have never experienced this unusual aspect ratio. I believe this is further proof of alteration.
7. The video ends abruptly and appears to be cut off proving scientifically that it was edited or removed from a complete portion of a video.

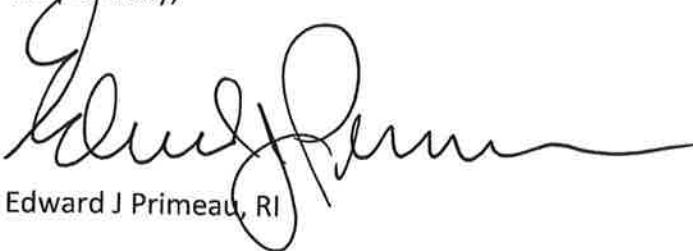
### **Conclusion**

The video title Video2010.ASF is not genuine and authentic. It is not real and is altered. The other videos on the Internet have obvious edits. As a forensic expert I can clearly see the scenes jump and new characters, graphics and music added to glorify events that are not real. Because this video is not a representation of the facts and events as they occurred and is not real, it should not be viewed as real. Furthermore, the video2010.ASF and others like it have composite layering which includes scenes that were recorded at different times and blended together to appear to be real. As a video forensic expert, I recommend that this video be excluded from any factual relevance.

I am willing to testify in the United States or India and answer any questions regarding this forensic investigation.

Please let me know how I may assist further with this matter.

Respectfully,

A handwritten signature in black ink, appearing to read "Edward J Primeau, RI".

Edward J Primeau, RI



national center for audio & video forensics



January 29, 2012

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Owner and founder  
National Center for Audio and Video Forensics



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Details of his contributions were written up in the *PORAC Law Enforcement News* by Bill Hadden, a partner in the law firm Silver, Hadden, Silver, Wexler + Levine that defended officer Webb:

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The agents of the FBI and the Sheriff's Department spent hours doing enhancements of the tape, and as skilled as they were in refining the tape, they were unable to remove the white blotch. Mr. Notowitz applied various filters to the tape and eventually we were able to see the additional frames of Carrion's activities, which helped to disprove Carrion's version of events.

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**Reach David Notowitz at [NCAVF.com](http://NCAVF.com) or 213-973-7811.**



Sunday, January 29, 2012

The following is a report prepared by NCAVF regarding video files delivered to the office by Life Bliss Foundation in early October 2011.

**1) Statements of credentials**

See attached biography

**2) Background**

Today, video and audio technology has advanced enough that it's often difficult to determine what is real and what has been manufactured. Feature films such as *Avatar* and *Hugo* used actors to capture movements, gestures, and interactions, and experts in computer graphics and animation converted that information into totally re-imagined characters and scenarios.

If a person has access to the right computer resources he can create almost any scene.

**3) Integrity of Evidence**

So what becomes most important in the authentication of evidence is to be able to know and track the original source of the video -- the video's "chain of evidence."

**4) Explaining Chain of Evidence**

It is crucial that the integrity of evidence is maintained, from the beginning of a case until its resolution, to be sure a court makes a legal determination based on accurate facts. With this in mind, the first stage of investigating an alleged incident includes the gathering and protecting of evidence by a trusted police employee or a trusted and objective expert.

In a case that involves video or audio, a forensic video expert will gather the evidence directly from a surveillance system or from some original source such as a cellphone or a video camera.

That second generation copy is then manipulated in some way, to enhance and analyze it for law enforcement officials or attorneys. At every step the enhancements are noted carefully and tracked, so that later, if needed, in court, those technical steps can be described and even repeated for a judge or jury.

**5) Chain of Evidence in this specific instance**

In this situation, video was allegedly taken December 23-25, 2009 and it emerged to the public March 2, 2010. What happened to the video during that time? We don't know. The chain in this case was broken -- not only a little but extremely -- because we don't have a trustworthy guardian of the video for over two months. During that time all kinds of digital manipulation may have been applied.

Because the chain of evidence was broken, and in addition because it was broken for such a long time, it almost doesn't matter how much analysis you do. It's just not video we can trust.

- 6) Issue of no audio -- It is strange that if a small recording device was purportedly placed in the room to capture private moments, why wasn't audio recorded? All devices have the function of recording audio too. Why not this device?
- 7) Issue of unexplained recording start and stop -- The unexplained start and stop in the video does not have a good explanation.

The video seems to begin at 23:21:33, and lasts 23 minutes, 11 seconds. It seems to end at 23:44:44. Why?

Regarding those who might say that motion activated and stopped the recording, this does not seem to be so. Because during fairly still screen activity the recording starts, and during obvious motion the camera recording stops.

A handwritten signature in blue ink, appearing to read "David Notowitz".

David Notowitz  
Owner and founder  
National Center for Audio and Video Forensics



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Audio Engineering Society  
American College of Forensic Examiners  
American College of Forensic Examiners International  
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**Norbert Bryan Neumeister, ACFE, AES, ABRE, APA, NATAS, BMI, ASCAP, PSA, ACFEi**



**Norbert Bryan Neumeister - CV**  
**USA Forensic / Skymeister Forensic Lab**  
**Audio & Video Forensic Expert**  
**ACFE, AES, ABRE, APA, NATAS, BMI, ASCAP, PSA, ACFEI**

**COURT CERTIFIED: Military, Federal, State, Civil & Aviation**

**United States District Courts:** Technical Expert Contractor

**United States Department of Justice:** Technical Expert Contractor

**United States Grand Jury System:** Technical Expert Contractor

**Audio Engineering Society**

**American College of Forensic Examiners**

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**Recipient of 39 EMMY AWARDS – National Association of Television Arts & Sciences for Technical Excellence**

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- Published: "High Tech High Stakes" – (*topic Audio and Video Analysis*)
- United States District Court system: Forensic Consultant
- United States Grand Jury system: Forensic Consultant
- Federal, State, Aviation and Civil Law cases - Court Certified Technical Expert
- State of the Art Studio. Over 55 Computers & Processors
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- 3D Sonograph, Spectrograph, HD Video & 192kHz - 64 bit Audio
- Current contractor for the FBI - special technical assignments
- Current: D.O.E. Military Forensic High Speed Video Expert
- Current: US Department of Justice Audio/Video expert
- Have worked in 23 Countries as a Technical Expert

- Work for numerous large multinational companies as an Audio/Video Forensic Expert : Nike, Cox, Honeywell, U-Haul Southwest Gas, Good Samaritan Hospitals, AvNet, Boeing, MD Helicopters, Intel, Weston Hotels, Various Las Vegas Casinos...etc

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High Tech, High Stakes Published in Expert Ease - National Forensic Publication.

Consultant to CPU Magazine as a Forensic Audio and Video Expert on Hardware and Software.

**Largest Federal Cases:**

US Government vs. Charles Keating - Retained as Video Expert

US Grand Jury: The Hope Steffy case – Video Expert

US Government vs. Charles Keating III - Retained as Video expert

US Federal Government vs. State of AZ. -King Case as Video expert

Currently: Encrypted Department of Justice Case

**Television:**

- Recipient of **39 EMMY AWARDS** from the National Association of Television Arts and Sciences for Technical Excellence
- 40+ additional National & International Awards.
- Winner Cannes Film Festival (Technical Audio Excellence)
- Graduate - California State University Northridge - 1980 (*Political Science, emphasis on Journalism*)
- Worked for NPR and NBC Television News stations for 10 Years.
- Phi Sigma Alpha - National Political Science Honor Society – Lifetime Member.

- Member: NAB, BMI, ASCAP, AES, ERA, NATAS
- Winner: Film Advisory Board Gold Medal, Parents Choice Award

**Film & Television clients:**

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**Bryan Neumeister**

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CERTIFIED FORENSIC EXPERT: Federal, State, Civil, Aviation & Military

UNITED STATES DISTRICT COURT: Consultant & Forensic Analyst

UNITED STATES GRAND JURY: Consultant & Forensic Analyst

ACFE, AES, ABRE, NAB, ASCAP, BMI, NATAS, ACFEI



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## Forensic Report 1.0

Prepared by

**Bryan Neumeister**

**Certified: Federal, US District, State, Department of Justice,  
Civil & Aviation Forensic Expert  
ACFE, ABRE, ASCAP, APA, ACFEI, AES, BMI, NATAS  
31 Years Professional Experience  
USAForensic Audio & Video Labs**

**Case Date: 2/6/2012**

**Sri Nithyananda Swami**

**A number of Video clips of were forwarded to our labs.**

**We have been asked to authenticate the clips.**

**The clips are all from the same video source but the clips we received (as "YouTube" Links) were in different aspect ratios, sizes and frame rate.**

**The purported "original clip" in its original codec and the actual recorder are requested to perform tests on.**

**There are questions as to whether the video could have been faked.**

**The simple answer is. Yes, quite simply.**

**With today's roto-scoping faces on stunt persons in the motion picture industry commonplace, the technology is available for anyone with a little knowledge and a mid range home computer to be able to render scenes like these.**

**Facial mapping has been done for years in the movie industry. Many of the programs used for hi-tech animation, motion tracking software, planar tracking and the like are available for purchase by the general public at reasonable prices.**

**The US and India both have very large television and film production communities with large pools of knowledgeable and technically skilled crews.**

**Before we get into the technical aspects of the video clips, how can such a video be "created" or 'faked'**

**Most commonly one would start with a green screen. A green screen environment can be created in almost any studio, living area, room, garage etc.**

**It does not even require "Chroma Key Green or Chroma Key Blue these days.**

{{{ Chroma key compositing (or chroma keying) is a technique for compositing (layering) two images together. A color range in the top layer is made transparent, revealing another image behind. The chroma keying technique is commonly used in video production and post-production. This technique is also referred to as color keying, color-separation overlay green screen, and blue screen. *It is commonly used for weather forecast broadcasts, wherein the news presenter appears to be standing in front of a large map during live television newscasts, but in a television studio it is actually a large blue or green background. The meteorologist stands in front of a blue screen, and then different weather maps are added on those parts in the image where the color is blue. If the meteorologist wears blue clothes, his clothes will be replaced with the background video.* This also works for green screens, since blue and green are considered the colors least like skin tone. }}

This technique is also used in the entertainment industry, for example for special effects. Software is available today, such as Pinnacle Studio, which makes it possible and relatively easy for the average home computer user, to create videos using the Chroma Key function and green screens. }}}

The Chroma Key could be used to create the bedroom in this case.

The people in the scene could be anybody of similar stature. In the early days of rotoscoping and mapping. Green screen suits were worn with blue "ball" markers so the animators could use them as points or reference for motion tracking. This isn't necessary anymore, though sometimes faster, depending on what you are trying to accomplish.

Facial mapping is done using facial nodes or points on the face that can be tracked in a 3D environment by computer.

These days when a movie star is doing something such as a stunt, their face can be mapped onto a stunt person, so it looks as though the star is doing the stunt. The stars face can also be mapped over a completely animated figure.

Cranial points, The Vertex, Supraglabella, Glabella, Euryon and auriculotemporale points on the skull would be common marking points for tracking. (below)

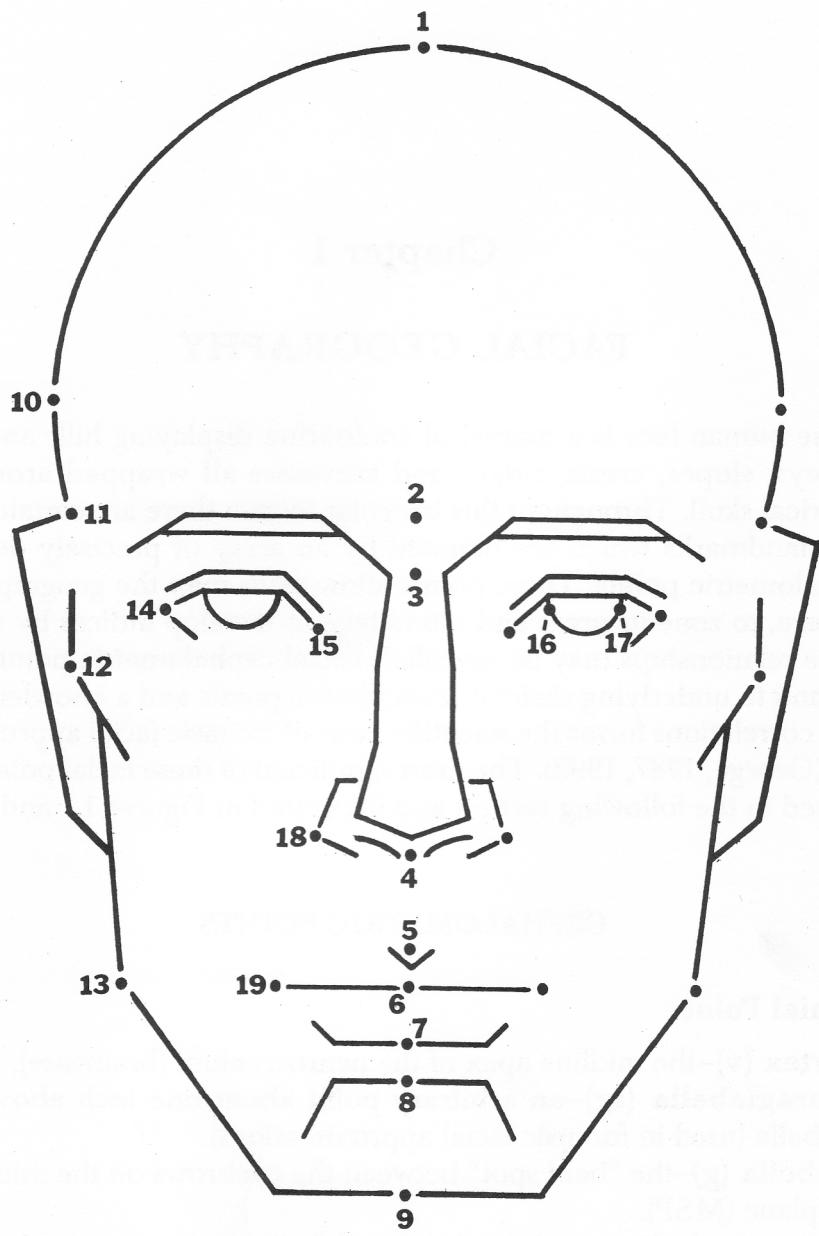


Figure 1.1. Cephalometric Points - Frontal View: 1 = vertex; 2 = glabella; 3 = nasion; 4 = subnasale; 5 = labiale superius; 6 = stomion; 7 = labiale inferius; 8 = labiomentale; 9 = gnathion; 10 = euryon; 11 = auriculotemporale; 12 = zygion; 13 = gonion; 14 = ectocanthion; 15 = endocanthion; 16 = iridion mediale; 17 = iridion laterale; 18 = alare; 19 = cheilion.

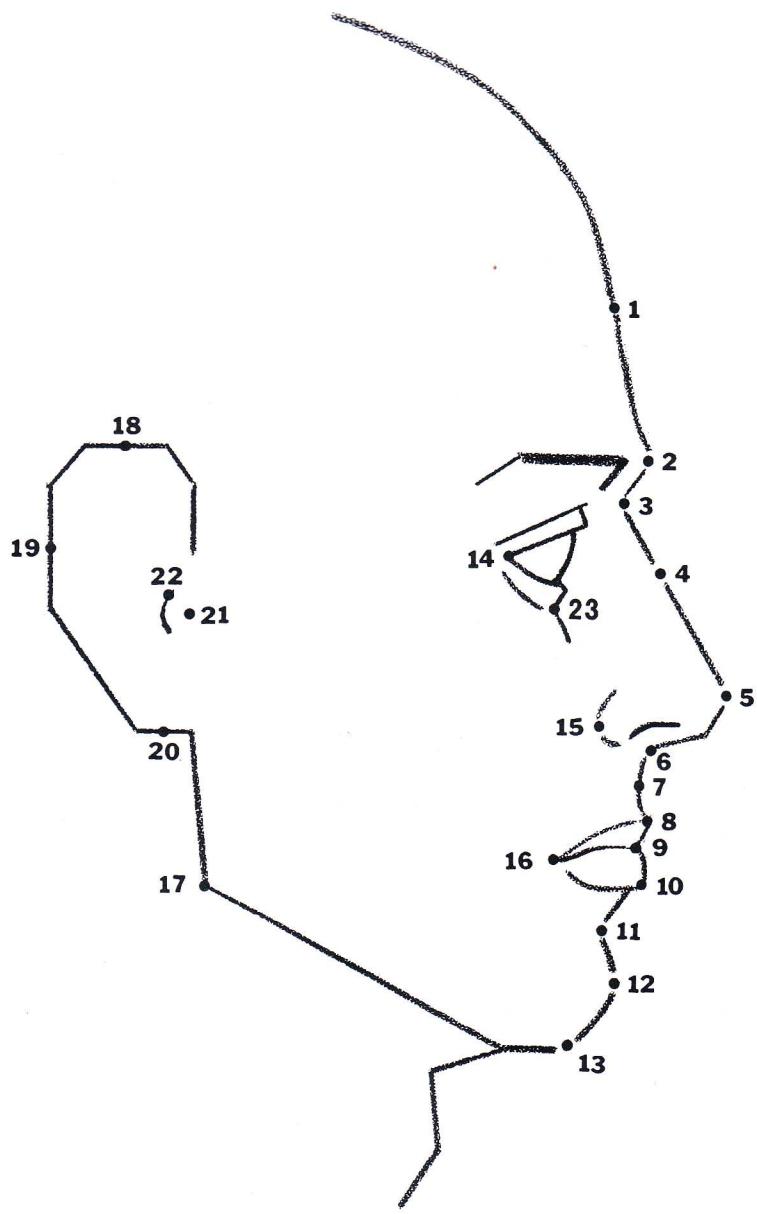


Figure 1.2. Cephalometric Points - Lateral View: 1 = supraglabella; 2 = ciliare (glabella); 3 = nasion; 4 = nasale; 5 = pronasale; 6 = subnasale; 7 = superior labial sulcus; 8 = labiale superius; 9 = stomion; 10 = labiale inferius; 11 = labiomentale (inferior labial sulcus); 12 = pogonion; 13 = gnathion; 14 = ectocanthion; 15 = alare; 16 = chelion; 17 = gonion; 18 = superaurale; 19 = postaurale; 20 = subaurale; 21 = preaurale; 22 = tragion; 23 = orbitale.

**The numbered points above would be most commonly used to track facial expressions, create facial expressions, lip sync etc.**

**Lateral Points, Orbital Points, Nasal Points, Labial Points, Mental Points, Planes, Areas along with lines and groves make up basic Facial Geometry.\***  
(\*Facial Geometry- Graphic Facial Analysis for Forensic Artists)

**The same points used for Forensic Facial Analysis are the basis for facial replacement on video.**

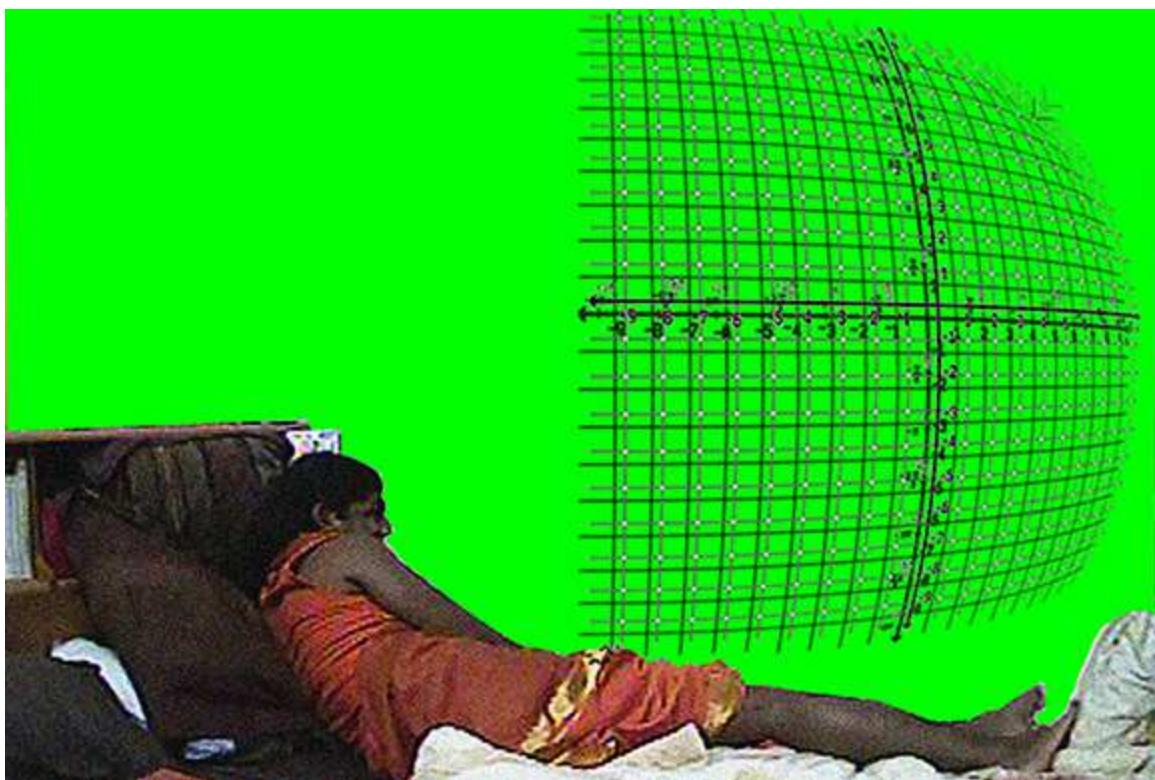
**Adding and subtracting other people in the same scene, even after green screening is possible using programs like Imagineer systems "Mocha".**  
<http://www.imagineersystems.com/products/mochav2> for demonstrations.

**This planar tracker and roto utility operates on many systems, is relatively simple to use and is very effective at creating "alternate realities."**

**Adding another person to a video or taking a person out becomes quite simple using products such as Mocha.**

**Here is a quick example using a lift from the video in question.**





This was done in very quickly... and not by an artist, in under 30 minutes. It's very simple. Given another 30 minutes it could be made much more convincing by adjusting the texture and lighting as well as blending the composite layers.

---

## The Video itself.

**The benefit of sites like "You Tube" for someone posting up an altered video is "compression".**

**Videos that are loaded up to most of these sites are compressed for easier playback by the masses. Often the file type or codec is also changed from the original.**

**The more compressed a signal is the harder it becomes to spot irregularities in a video. The compression of a video file (to make it smaller and easier to play from the web) results in digital noise. The more compressed the noisier the signal (picture) is.**

**This noise creates masking, making it difficult to spot chromatic aberrations and similar "tells".**

**{{{In optics, chromatic aberration (CA, also called achromatism or chromatic distortion) is a type of distortion in which there is a failure of a lens to focus all colors to the same convergence point. It occurs because lenses have a different refractive index for different wavelengths of light (the dispersion of the lens). The refractive index decreases with increasing wavelength.**

**Chromatic aberration manifests itself as "fringes" of color along boundaries that separate dark and bright parts of the image, because each color in the optical spectrum cannot be focused at a single common point. Since the focal length  $f$  of a lens is dependent on the refractive index  $n$ , different wavelengths of light will be focused on different positions.**

**There are two types of chromatic aberration, axial (longitudinal), and transverse (lateral). Axial aberration occurs when different wavelengths of light are focused at different distances from the lens, i.e. different points on the optical axis (focus shift). Transverse aberration occurs when different wavelengths are focused at different positions in the focal plane (because the magnification and/or distortion of the lens also varies with wavelength; indicated in graphs as (change in) focus length). The acronym LCA is used, but ambiguous, and may refer to either longitudinal or lateral CA; for clarity, this article uses "axial" (shift in the direction of the optical axis) and "transverse" (shift perpendicular to the optical axis, in the plane of the sensor or film).**

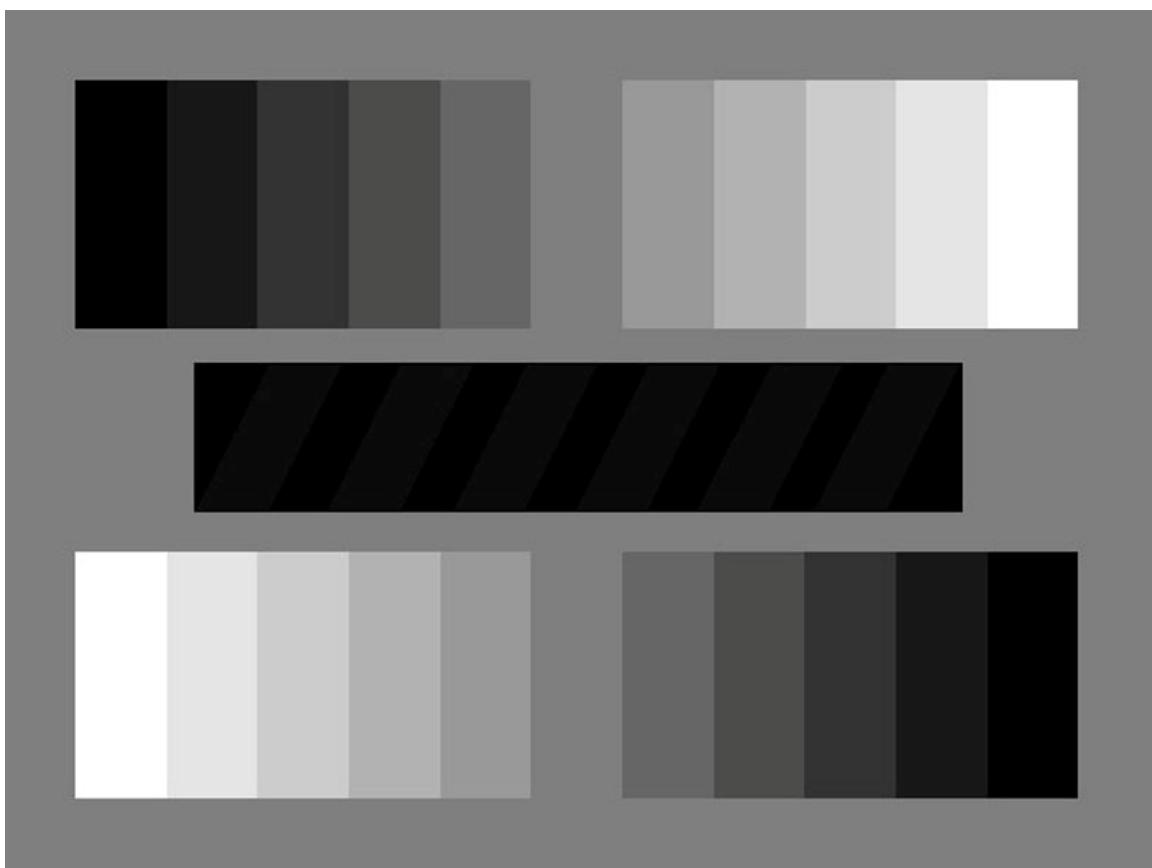
**These two types have different characteristics, and may occur together. Axial CA occurs throughout the image, and is reduced by stopping down (this increases depth of field, so though the different wavelength focus at different distances, they are still**

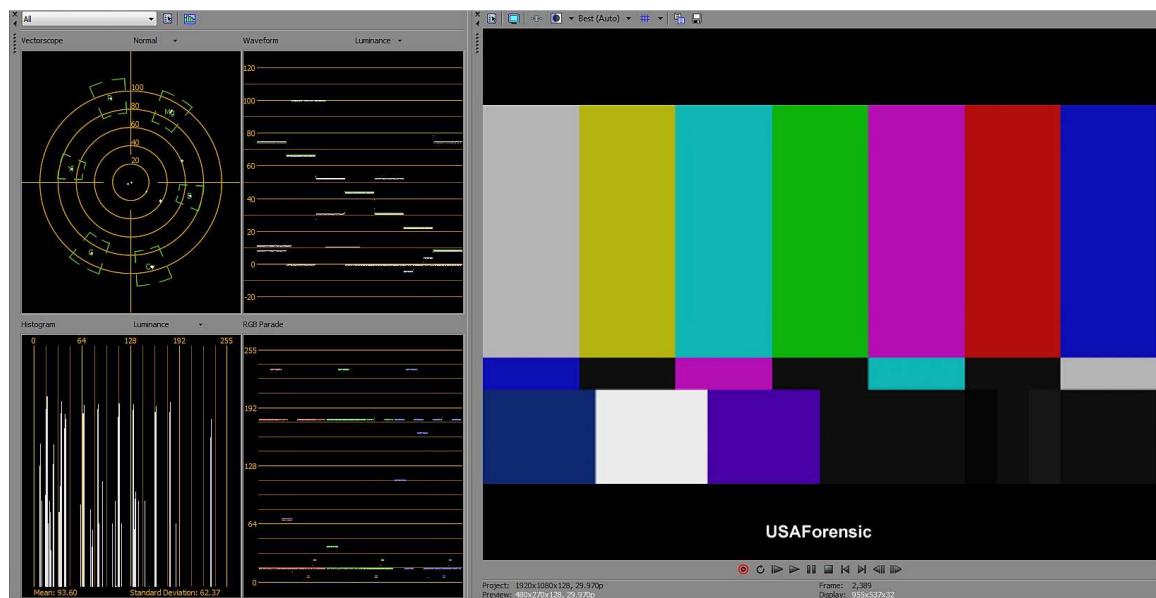
in acceptable focus). Transverse CA does not occur in the center, and increases towards the edge, but is not affected by stopping down.

In digital sensors, axial CA results in the red and blue planes being defocused (assuming that the green plane is in focus), which is relatively difficult to remedy in post-processing, while transverse CA results in the red, green, and blue planes being at different magnifications (magnification changing along radii, as in geometric distortion), and can be corrected by scaling the planes appropriately so they line up.}}

Using Electronic scopes (Waveform, Vector Scope, RGB Parade and Luminance) it is easy to see chromatic aberration, and various other traits of a lens.  
A wide angle lens used in the making of this video will handle light different than a lens of a different number of elements or focal length would.

Using the original camera: a test would be performed using a chip chart and color bars. Either NTSC or PAL depending on the format of the camera. (see Below)





**Photographing the Black & White Chip Chart & the Color Bar Set up card would show Chromatic aberrations (RGB separation) on the scopes.**  
**This deviance could be measured and compared to the picture coming from the original camera. Distance from the camera, light sources, color temperature of the light source(s) would have to be factored in. Any scratches on the lens or dead pixels on the CCD chip would also be noted.**

This is an important baseline test because many people doing a composite would not take into account dead pixels or chromatic aberrations. These begin to play a factor in compositing.

If there is a dead pixel on the "plate shot"- first layer of video, then it should be present throughout the entire video. If, for example, a person or item crosses the dead pixel and it disappears and reappears as the person passes it... that is a very good "tell" it is a fake.

It works the same for lens scratches, dust or any other irregularities on the plate shot.

Shadows are also important in composite shots. Does the light source remain constant.? Are there any unaccounted for shadows, shadows missing, or not aligned with the light source?

Is the color Purple, if in the shot, consistent. purple is the most difficult color for RGB cameras to accurately reproduce. It tends to go various shades of blue without a proper white balance. If the shades of purple shift, that's also something to be analyzed.

Benefits of compression masking aberrations through noise:

{{{ A compression artifact (or artefact) is a noticeable distortion of media (including images, audio, and video) caused by the application of lossy data compression.

Lossy data compression involves discarding some of the media's data so that it becomes simplified enough to be stored within the desired disk space (known as a data rate or bit rate for media that is streamed). If the compressor could not reproduce enough data in the compressed version to reproduce the original, the result is a diminishing of quality, or introduction of artifacts. Alternatively, the compression algorithm may not be intelligent enough to discriminate between distortions of little subjective importance and those which may be objectionable to the viewer.

Compression artifacts occur in many common media such as DVDs, common computer file formats such as JPEG, MP3, or MPEG files, and some alternatives to the compact disc, such as Sony's MiniDisc format. Uncompressed media (such as on Laserdiscs, Audio CDs, and WAV files) or losslessly compressed media (such as FLAC or PNG) do not suffer from compression artifacts.

The minimization of perceivable artifacts is a key goal in implementing a lossy compression algorithm. However, artifacts are occasionally intentionally produced for artistic purposes, a style known as glitch art or datamoshing.

Technically speaking, a compression artifact is a particular class of data error that is usually the consequence of quantization in lossy data compression. Where

**transform coding is used, they typically assume the form of one of the basis functions of the coder's transform space.**

**When motion prediction is used, as in MPEG-1, MPEG-2 or MPEG-4, compression artifacts tend to remain on several generations of decompressed frames, and move with the optic flow of the image, leading to a peculiar effect, part way between a painting effect and "grime" that moves with objects in the scene.**

**Data errors in the compressed bit-stream can lead to errors similar to large quantization errors, or can disrupt the parsing of the data stream entirely for a short time, leading to "break-up" of the picture. Where gross errors have occurred in the bit-stream, decoders continue to apply updates to the damaged picture for a short interval, creating a "ghost image" effect, until receiving the next independently compressed frame. In MPEG picture coding, these are known as "I-frames", with the 'I' standing for "intra".**

## **Mosquito noise**

**Video compression artifacts include cumulative results of compression of the comprising still images, for instance ringing or other edge busyness in successive still images appear in sequence as a shimmering blur of dots around edges, called mosquito noise, as they resemble mosquitoes swarming around the object}}**

**If a person is going to produce a composited fake. One of the best weapons in the arsenal is video noise. It covers up edges and fine lines that might otherwise show faults in the composite.**

**Beyond the technical issues. One must also take into context why someone would want to create a composited video file. A political, religious, celebrity or business figure would be a common target.**

**Many tabloids make millions of dollars by taking pictures out of context or altering images.**

**Example: A picture out of context would be a photo of a celebrity in the middle of a "eye blink"... possibly making the celebrity look intoxicated.**

**Of course, though not important to the public in general, but legally significant is "how was the video obtained" :::: was the process legal in the country or region.**

**The original Recorder and recording(s) were never turned over to the client or our labs. A “Forensic Report” was however filed with the client.**

**The report has no actual scientific data on it whatsoever.**

**It is an inventory sheet of what was received and a persons best guess that the client and person on the video matched.**

**No forensic tests were performed according to the report.**

**It was the person's estimation the person on the screen was the client and the recording was an original.**

**No tests were done to look for compositing.**

**Below is the report.**

# FORENSIC SCIENCE LABORATORY

GOVT OF NCT OF DELHI  
SECTOR-14, ROHINI, DELHI - 110085

234 ①

## Forwarding Letter (Physics Division)

No.FSL- 2010/P-2031/Phy - 03/10/2010 Dated : 3/6/10

To,

M. P.S.R. Chavan Reddy  
Dy. Inspector General of Police,  
C.I.D. Bangalore

Subject: Examination of case property in FIR No 141/10

Dated 18/3/10 U/S 147(1)(b), 277(4) P.S. Bidai, Panmagar, Karnataka  
506101 7108 IPC

### MEMO

Please find enclosed herewith Report No. FSL-2010/P-2031/Phy-03/10

Dated 1/6/10 in respect of case property received with your Memo no.  
C.M. 11/05/2010 - Dated 11/05/10.

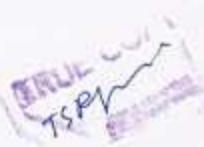
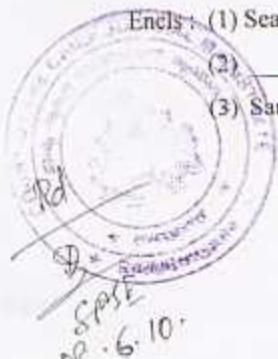
All the concerned case property / exhibits are enclosed as per the details  
mentioned in the report.

1/6/10  
DIRECTOR.

Encls: (1) Sealed Report

(2) sealed parcels

(3) Sample seal impression





## Forensic Science Laboratory

Govt. of NCT of Delhi  
Sector 14, Rohini, Delhi-110085.

Tel: 011-27555811, Fax: 011-27555890



23<sup>rd</sup>

T-1705

Accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL)

### Examination Report

REPORT No. FSL 2010/P-2031/PHY-93/10

Dated 02/6/10

1. Please quote the Report (Opinion) No. & Date in all future correspondence & Summons.
2. This Report is *Per se* admissible U/S.293 Cr.P.C.

To

Sh. K.S.R. Charan Reddy,  
Dy. Inspector General of Police,  
C.I.D. Bangalore

Your letter No. CRM.11/SE/CID/2010/Bangalore Dated 12.05.10 regarding two parcels in connection with case FIR No.141/10 Dated 18.03.10 U/S 495(A), 376, 377, 420, 906(i) & 120B IPC P.S. Bidadi, Ramanagar, Karnataka duly received in this office on 13.05.10 through Insp. K. Nagaraja, CID Bangalore.

#### 1. DESCRIPTION OF PARCEL (S) /EXHIBIT (S)

Sealed cloth parcels : 02 (Two)

Total : 02 (Two)

Two sealed parcels; seals were intact and tallied with the specimen seals as per forwarding letter (FSL FORM).

#### 2. DESCRIPTION OF ARTICLES CONTAINED IN THE PARCEL (S)/EXHIBIT (S)

Parcel-1: One sealed cloth parcel found marked "Article8", sealed with the seals of "TSR" at eight places, stated to be containing, two memory cards; on opening, two memory cards were found and they were marked as "Exhibit-1A" & "Exhibit-1B" in the laboratory.

Exhibit-1A: One memory card of "Sandisk" make, bearing serial number B10922313493G (Made in China) containing video recordings.

Exhibit-1B: One memory card of "Sandisk" make, bearing serial number B10922413493G (Made in China) containing video recordings.



A. S. [Signature]

Parcel-2: One sealed cloth parcel, sealed with the seals of "TSR" at eight places, stated to be containing, one DVD; on opening, one DVD was found and it was marked as "Exhibit-2" in the laboratory.

Exhibit-2: One DVD of "Moserbaer" make, containing video recordings.

### 3. RESULTS OF EXAMINATION/OPINION:

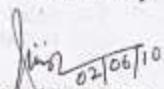
The memory card marked "Exhibit-1A" contains 70 video clips and the memory card marked "Exhibit-1B" contains 213 video clips. On examination using ENCASE tool, it was found that there were 24 deleted files in the memory card marked "Exhibit-1A" and same have been retrieved from memory card marked "Exhibit-1A" and there were 34 deleted files in the memory card marked "Exhibit-1B" and same have been retrieved from memory card marked "Exhibit-1B" and DVD marked "Exhibit-2" contains 116 video clips. The video clips in DVD marked "Exhibit-2" are also in the memory cards marked "Exhibit-1A" & "Exhibit-1B".

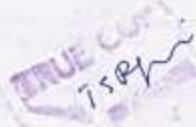
On examination of video recordings in memory cards marked as "Exhibit-1A" & "Exhibit-1B", the followings were observed:

1. The video recordings in memory cards marked "Exhibit-1A" & "Exhibit-1B" contains in camera video shots in separate video clips. The video clips in memory cards marked "Exhibit-1A" & "Exhibit-1B" contains 70 & 213 identified video shots respectively.
2. The video recordings in memory cards marked "Exhibit-1A" & "Exhibit-1B" are in digital video format and there are no indication of alteration in the identified video shots on the basis of examination using Non-Linear Video Editing & Storage System & Video Analyst System.
3. The retrieved video recordings of the deleted files from the memory cards along with the video recordings in the memory cards marked "Exhibit-1A" & "Exhibit-1B" are provided in DVD marked "Copy of Exhibit-1A & Exhibit-1B".

**NOTE:** Case exhibits sent to this laboratory for examination have been sealed with the seal of "Dr.C.P. SINGH- FSL-DELHI".

Examined by

  
02/06/10  
(Dr. C.P. SINGH)  
Dr. C.P. SINGH  
Asst. Director (Physics)  
Forensic Science Laboratory  
FSL-DELHI



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## Forensic Science Laboratory

Govt. of NCT of Delhi

Madhuban Chowk, Sector 14, Rohini, Delhi-110085

Tel: 011-27555811, Fax: 011-27555890



Accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL)

### Examination Report

REPORT No. FSL/2010/P-3243/PHY-152/10

Dated 12/11/10

1. Please quote the Report (Opinion) No. & Date in all future correspondence & Summons.
2. This Report is *Per se* admissible U/S.293 Cr.P.C.

To

Sh. K.S.R. Charan Reddy, IPS  
D.I.G. of Police,  
C.I.D., Bangalore,

Your letter No.CRM/11SE/CID/2010 Dated 24.07.10 regarding four parcel in connection with case FIR No.141/2010 Dated NIL U/S 295(A), 376, 377, 420, 506(I) & 120 B IPC, P.S. Bidali, Ramanagar, Karnataka duly received in this office on 27.07.10 through Insp. Sh. Raveesh C.R. I.D.522/2010.

#### 1. DESCRIPTION OF PARCEL (S) /EXHIBIT (S)

Sealed envelopes	:	02 (Two)
Sealed cloth parcels	:	02 (Two)

Total	:	04 (Four)
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Twelve sealed envelopes; seals were intact and tallied with the specimen seals as per forwarding letter (FSL FORM).

#### 2. DESCRIPTION OF ARTICLES CONTAINED IN THE PARCEL (S)/EXHIBIT (S)

Parcel-1: One sealed cloth parcel, sealed with the seal of "Y-I" at eight places stated to be containing two memory cards; on opening, two memory cards were found and these were marked as "Exhibit-1" & "Exhibit-2" in the laboratory.

Exhibit-1: One memory card 'SDHC 8 GB' of "San Disc" make, with serial No."B1092231 3493G" made in China. The facial image of the male person in the video recording was marked as "Exhibit-QMFI" and the facial image of female person who was



Dr. G. P. SINGH  
Asst. Director (Physics)  
Forensic Science Lab.

(231)

seen adjusting the 'spy camera' and was found in intimate position with the male person and seen involved in other activities with the male person in the video recordings was marked as "Exhibit-QFFI".

- Exhibit-2: One memory card 'SDHC 8 GB' of "San Disk" make, with serial No."B10922413493G" made in China. The facial image of the male person in the video recording was marked as "Exhibit-QMFI" and the facial image of female person who was seen installation of 'spy camera' and other activities in the video recordings was marked as "Exhibit-QFFI".
- Parcel-2: One envelope, sealed with cellophane tape stated to be containing DVD; on opening, one DVD was found and it was marked as "Exhibit-3" in the laboratory.
- Exhibit-3: One DVD-R of "Moserbaer" make, containing two folders, namely, "Photos" & Video". The folder, namely, "Photos" containing eight still images, namely, "DSC00056.JPG", "DSC00057.JPG", "DSC00058.JPG", "DSC00059.JPG", "DSC00060.JPG", "DSC00061.JPG", "DSC00062.JPG" & "DSC00064.JPG" and the folder, namely, "Video" containing one video file, namely, "Video.MTS". The specimen sample of facial image of female person in the video recording and still photographs (Digital) was marked as "Exhibit-SFFI".
- Parcel-3: One envelope, sealed with cellotape stated to be containing DVD; on opening, one DVD-R was found and it was marked as "Exhibit-4" in the laboratory.
- Exhibit-4: One DVD-R of "Moserbaer" make, containing one video file, namely, "Video.MTS" alongwith the still photographs. The specimen sample of facial image of male person in the video recording and still photographs (Digital) was marked as "Exhibit-SMFI".
- Parcel-4: One sealed cloth parcel, sealed with the seal of "Y-I" at thirteen places stated to be containing "a silent air purifier with an inbuilt Sony Spy Camera with two electronic chips, one adapter and a connecting cable; on opening, one spy camera kept in a body of air purifier , one adaptor and connecting cable were found.
- Exhibit-5: One spy camera "Sony" make, kept in a case of air purifier with one adaptor and connecting cable.

### 3. RESULTS OF EXAMINATION/OPINION:

1. On examination of 'spy camera' marked "Exhibit-5" which is built inside in a air purifier case; it was found in working condition.
2. The video recording in the memory chips marked "Exhibit-1" & "Exhibit-2" can be recorded by the 'spy camera', marked "Exhibit-5".
3. On examination of memory slots of 'spy camera' it was found that the original memory cards marked "Exhibit-1" & "Exhibit-2" can be inserted in the memory slot of 'spy camera' marked Exhibit-5 and video recordings can be done in these memory cards in the same format.

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Form No. FSL/DELHI/FM/03/23/24.12.2007  
(Page 03 of 03)

REPORT No. FSL 2010/P-3243/PHY-152/10

Dated \_\_\_\_\_

4. On image analysis and comparison of verbal portrait features, geometric and facial image superimposition of the image of the male person marked "Exhibit- QMFI" from the relevant video frames and the image of the person marked "Exhibit-SMFI" from relevant video frames and still images in Exhibit-4, the image of the person marked "Exhibit-QMFI" has resemblance to the image of the person marked "Exhibit-SMFI" in respect of their facial landmarks. Hence, the images of the person marked "Exhibit-QMFI" & "Exhibit-SMFI" are of the same person.
5. On image analysis and comparison of verbal portrait features, geometric and facial image superimposition of the image of the female person marked "Exhibit- QFFI" from the relevant video frames and the image of the person marked "Exhibit-SFFI" from relevant video frames and still images in Exhibit-3, the image of the person marked "Exhibit-QFFI" has resemblance to the image of the person marked "Exhibit-SFFI" in respect of their facial landmarks. Hence, the images of the person marked "Exhibit-QFFI" & "Exhibit-SFFI" are of the same person.

**NOTE:** Case exhibits sent to this division for examination have been sealed with the seal of  
"Dr.C.P. SINGH- FSL-DELHI".

Examined by

  
(Dr. C.P. SINGH)

Dr. C.P. SINGH  
Asstt. Director (Physical)  
Forensic Science Laboratory

Note: This Report is *Per se* admissible U/S.293 Cr.P.C. However, the scientific "expert" (witness) shall be available for cross examination, if required.



**At the close of the report it says the expert witness shall be available for cross examination;**

**The following questions should have been addressed on the report but were not:**

## **MISSING TECHNICAL REPORT DATA**

### **CAMERA:**

- 1. Type of Camera used: brand, model number, serial number, year of manufacture.**
- 2. Type of Codec native to the camera**
- 3. Frames per second 24p, 29.97, 30fps, 59.97. 60fps etc.**
- 4. Drop Frame, non-Drop ?**
- 5. CCD 1080, 740, 486, 320 etc**
- 6. Upper field, lower field, progressive**
- 7. Interlace method. Interpolated, Field blend, none**
- 8. Power supply 50 cycle or 60 cycle**
- 9. CCD Charged Couple Device type- Manufacture**
- 10. Technical specifications of CCD.**
- 11. Bit Depth**
- 12. Image data gathering technique and specifications**
- 13. data compression algorithm**
- 14. DA & AD signal converters (Digital to Analog & Analog to Digital)**
- 15. Trigger method of camera. Motion sensing?**
- 16. Lux level of camera with lens used. (see 17)**
- 17. Black level of camera on appropriate color card (PAL-NTSC) set up at c**
- 18. RGB output of chip to recorder using appropriate color card (PAL-NTSC) set up at 6300K, 3200K, 5400K 4300K**
- 19. Pin Hole test of camera wide open Capped to test for chip pixel damage.**
- 20. Microscopic analysis of CCD using microscope with camera attachment to look for chip irregularities.**
- 21. Microscopic analysis of lens to search for scratches that could lead to chromatic aberrations detectible on video scopes**

**22. Use of set up card and chip chart recorded for Waveform, Vectorscope, RGB Parade and Luminance of camera at 6300K, 3200K, 5400K 4300K. Waveform should reach 100% but not clip.**

**23. Camera Knee set up**

**24. Noise visible by scope of black levels on chart when chart white panel reaches 100% - Same test at 50% and 20%**

**25. Clip setting of whites**

**26. Black level setting of camera**

**27. Color temperature (s) of lights in video, shadows and color temperature of shadows.**

**28. Lens: angle of lens. (Millimeters) (lowest lens F stop... 1.4, 1.8 etc)**

**29. Shutter of lens (how many leaves if applicable)**

**30. Bokeh (lens depth of field being consistent with MM of lens used).**

**31. Number of elements in lens.**

**32. The television in the background has a different refresh rate than the camera. .**

**Crystal sync or Clear Scan could be used to determine the difference of the camera vs the known refresh rate of the TV model. Thus helping to verify if the stated camera was indeed the one used.**

---

**AUDIO: if applicable:**

- 1. Sample rate of Audio:**
- 2. Bit Depth of audio**
- 3. Stereo field of audio if applicable.**
- 4. Phase cancellation of signal test**
- 5. Type of mic used (carotid, directional...etc)**
- 6. Noise floor of microphone**
- 7. db rating of microphone**
- 8. Audio DA & AD specifications**

**9. Distortion of signal at different decibel and Fq ranges from 20Hz to 20kHz**

**10. Output format**

---

**NTSC-PAL Time Code of combined signal:**

- 1. Was time code imprinted on the original file.**
  - 2. was a clock setting imprinted on file.**
  - 3. how was the clock set to insure accuracy.**
- 

**Was the Video re uploaded into the camera. ( using file directory, was a video uploaded into the on board chip at any time?**

---

**STORAGE:**

- 1. Files were said to be erased on the San disc cards. Was there an attempt to recover those files. If not why?**
- 2. It is not said if the San disc files were internal or external.**
- 3. Assuming they are external, what was contained on the original internal card or frame buffer?**
- 4. What was the formatting of the San Disc cards Fat 32, NTFS, Proprietary.**
- 5. Was the codec used for recording proprietary.**
- 6. What program was used to extract the video from the camera/recorder?**
- 7. What program was used to change the file type if it was changed to another format.**
- 8. What was the Dithering set up if the files were converted.**
- 9. What compression was used in the conversion.**
- 10. What is the data rate of the converted file**

- 11. What was the format recorded: a 4:4:4 or 4:2:2 etc ?**
- 12. was the conversion made using a loss less codec or a compressed algorithm.**
  
- 13. A relatively simple computer program ENCASE was used to review the disc. It was not stated what program(s) was used to analyze the video. It just says non-linear video application.**
- 14. What instruments were used to analyze the signal?**  
-----  
**IDENTIFICATION:**
  - 1. No scientific data is presented as to how recognition of the subject(s)in the video was made**
  - 2. It takes at least 50 pixels between pupils of the eyes for credible facial recognition software to work**
  - 3. Just guessing by doing a photo overlay is not usually admissible in a US court of law because the variation of lens (millimeter), distance from the subject to the camera, lighting and shadow differences, color temperature differences. aperture and speed of shutter variations. The exception is if thee are more than 50 pixels between the pupils as a rule of thumb.**
  - 4. Matching of low resolution pictures is merely guesswork and conjecture.**
  - 5. There are over 82 nodal points on the skull /face that should be matched to present clear evidence.**
  - 6. As facial mapping , roto-scoping and tracker planing are so easy to do an a computer.**
  - 7. Pixels should be analyzed to look for irregular color shifting and pixel blending as well as pixels consistently shifting in areas of chromatic aberration or lens flairs.**
  - 8. Green screen artifacts should be looked for closely in areas of differing contrast along edges of moving objects (people)**  
-----

**PROCEDURE OF RECORDING:**

- 1. Was the recording obtained legally?**
- 2. Were any laws broken during the placing of the recorder**
- 3. Was there trespassing in violation of any national, state or regional laws.**
- 4. Were the rights of the people on the video violated in anyway according to law**
- 5. Has the person or persons who allegedly recorded this been charged with any crime?**
- 6. do the person or persons have any previous records of violating any laws.**

**Recommendation:**

I would request to examine the original camera with the original video, in its original codec still on the camera. I understand it is being held as evidence. A chain of custody of the evidence would be strictly upheld.

Respectfully,



Bryan Neumeister

Certified: Federal, US District, State, Department of Justice,  
Civil & Aviation Forensic Expert  
ACFE, ABRE, ASCAP, APA, ACFEI, AES, BMI, NATAS  
31 Years Professional Experience  
USAForensic Audio & Video Labs

**Norbert Bryan Neumeister - CV**  
**USA Forensic / Skymeister Forensic Lab**  
**Audio & Video Forensic Expert**  
**ACFE, AES, ABRE, APA, NATAS, BMI, ASCAP, PSA, ACFEI**

**COURT CERTIFIED: Military, Federal, State, Civil & Aviation**

**United States District Courts:** Technical Expert Contractor

**United States Department of Justice:** Technical Expert Contractor

**United States Grand Jury System:** Technical Expert Contractor

**Audio Engineering Society**

**American College of Forensic Examiners**

**American College of Forensic Examiners International**

**American Board of Recorded Evidence Standards**

**Recipient of 39 EMMY AWARDS – National Association of Television Arts & Sciences for Technical Excellence**

**AUDIO & VIDEO ANALYSIS - STATE OF THE ART FORENSIC EQUIPMENT- VOICE ENHANCEMENT, VERIFICATION, AUTHENTIFICATION - FORENSIC VOICE COMPARISON, FORENSIC LINGUISTICS -**  
**VIDEO ENHANCEMENT – SURVEILLANCE VIDEO ENHANCEMENT - STILL PHOTOGRAPHY ENHANCEMENT - VIDEO UP-RESOLUTION TO HD COURT EXEMPLARS – FACIAL COMPARISONS**

### **Legal & Technical:**

- 31 Years Professional Experience
- Professional Audio & Video Enhancement
- Federal & State Government Agencies
- Law Enforcement Agencies
- US Military – Army, Navy, Air Force, Marines & Coast Guard
- Department of Defense (classified & non-classified)
- Beta Tester for Various Forensic Systems Manufacturers
- Published: "High Tech High Stakes" – (*topic Audio and Video Analysis*)
- United States District Court system: Forensic Consultant
- United States Grand Jury system: Forensic Consultant
- Federal, State, Aviation and Civil Law cases - Court Certified Technical Expert
- State of the Art Studio. Over 55 Computers & Processors
- State of the Art HD Video and Audio Gear.
- Gear and Software Upgraded Continuously
- 3D Sonograph, Spectrograph, HD Video & 192kHz - 64 bit Audio
- Current contractor for the FBI - special technical assignments
- Current: D.O.E. Military Forensic High Speed Video Expert
- Current: US Department of Justice Audio/Video expert
- Have worked in 23 Countries as a Technical Expert

- Work for numerous large multinational companies as an Audio/Video Forensic Expert : Nike, Cox, Honeywell, U-Haul Southwest Gas, Good Samaritan Hospitals, AvNet, Boeing, MD Helicopters, Intel, Weston Hotels, Various Las Vegas Casinos...etc

**Over 200+ Forensic Legal Cases in the past 36 months:**

Non-Military court cases include:

RICO, Murder, Murder for Hire, Fraud, Robbery, Armed Robbery, Assault with a Deadly Weapon, Arson, Kidnapping, Bank Robbery, DUI, DWI, Civil Cases:

**Publications:**

High Tech, High Stakes Published in Expert Ease - National Forensic Publication.

Consultant to CPU Magazine as a Forensic Audio and Video Expert on Hardware and Software.

**Largest Federal Cases:**

US Government vs. Charles Keating - Retained as Video Expert

US Grand Jury: The Hope Steffy case – Video Expert

US Government vs. Charles Keating III - Retained as Video expert

US Federal Government vs. State of AZ. -King Case as Video expert

Currently: Encrypted Department of Justice Case

**Television:**

- Recipient of **39 EMMY AWARDS** from the National Association of Television Arts and Sciences for Technical Excellence
- 40+ additional National & International Awards.
- Winner Cannes Film Festival (Technical Audio Excellence)
- Graduate - California State University Northridge - 1980 (*Political Science, emphasis on Journalism*)
- Worked for NPR and NBC Television News stations for 10 Years.
- Phi Sigma Alpha - National Political Science Honor Society – Lifetime Member.

- Member: NAB, BMI, ASCAP, AES, ERA, NATAS
- Winner: Film Advisory Board Gold Medal, Parents Choice Award

**Film & Television clients:**

NBC - ABC - CBS - PBS - BBC - FOX - DREAMWORKS - SCREEN GEMS FILMS  
- TOUCHSTONE FILMS - LUCASFILMS LTD. - LEVIS - COCA COLA - AMBLIN ENTERTAINMENT - PEPSI - VOLKSWAGEN - TOYOTA - CHEVROLET - NISSAN - AMERICAN EXPRESS - UNIVERSAL PICTURES - LORIMAR - TRIMARK FILMS - TRIMARK ENTERTAINMENT - GANNETT - A&E - DISCOVERY CHANNEL - FOX - DIAL SOAP - COORS BEER - BUDWEISER - MTV - PIZZA HUT - MOTOROLA - UNION CARBIDE - DISNEY - INTEL - MICROSOFT - VISA - MASTERCARD - ARMY - NAVY - AIR FORCE - MARINES - UNITED AIRLINES - CONTINENTAL AIRLINES - PARTNERS FILMS CANADA - PRTV - NATIONAL MEDIA - MOMENTUM FILMS - DFXTV - LOTTO/LOTTERY - GREYSTONE PICTURES - HISTORY CHANNEL - DISCOVERY CHANNEL - WARNER BROTHERS - DAIRY QUEEN - AT&T - MLB - NBA - NFL - SUPER BOWL XXX - ESPN - MAJOR LEAGUE BASEBALL - McDonald's - MCI - HARLEY DAVIDSON - STOUFFER'S - CARQUEST - MD HELICOPTERS - BOEING - "FUTUREWEAPONS", "MYTHBUSTERS" {THE LUXOR - FLAMINGO - STRATOSPHERE - CESAR'S PALACE - MGM GRAND - NYNY - The HARD ROCK...CASINOS all in LAS VEGAS} - NUMEROUS ADVERTISING AGENCIES...

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---

**Bryan Neumeister**

USA FORENSIC: AUDIO & VIDEO FORENSIC LAB

CERTIFIED FORENSIC EXPERT: Federal, State, Civil, Aviation & Military

UNITED STATES DISTRICT COURT: Consultant & Forensic Analyst

UNITED STATES GRAND JURY: Consultant & Forensic Analyst

ACFE, AES, ABRE, NAB, ASCAP, BMI, NATAS, ACFEI



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## Forensic Report 1.0

Prepared by

**Bryan Neumeister**

**Certified: Federal, US District, State, Department of Justice,  
Civil & Aviation Forensic Expert  
ACFE, ABRE, ASCAP, APA, ACFEI, AES, BMI, NATAS  
31 Years Professional Experience  
USAForensic Audio & Video Labs**

**Case Date: 2/6/2012**

**Sri Nithyananda Swami**

**A number of Video clips of were forwarded to our labs.**

**We have been asked to authenticate the clips.**

**The clips are all from the same video source but the clips we received (as "YouTube" Links) were in different aspect ratios, sizes and frame rate.**

**The purported "original clip" in its original codec and the actual recorder are requested to perform tests on.**

**There are questions as to whether the video could have been faked.**

**The simple answer is. Yes, quite simply.**

**With today's roto-scoping faces on stunt persons in the motion picture industry commonplace, the technology is available for anyone with a little knowledge and a mid range home computer to be able to render scenes like these.**

**Facial mapping has been done for years in the movie industry. Many of the programs used for hi-tech animation, motion tracking software, planar tracking and the like are available for purchase by the general public at reasonable prices.**

**The US and India both have very large television and film production communities with large pools of knowledgeable and technically skilled crews.**

**Before we get into the technical aspects of the video clips, how can such a video be "created" or 'faked'**

**Most commonly one would start with a green screen. A green screen environment can be created in almost any studio, living area, room, garage etc.**

**It does not even require "Chroma Key Green or Chroma Key Blue these days.**

{{{ Chroma key compositing (or chroma keying) is a technique for compositing (layering) two images together. A color range in the top layer is made transparent, revealing another image behind. The chroma keying technique is commonly used in video production and post-production. This technique is also referred to as color keying, color-separation overlay green screen, and blue screen. *It is commonly used for weather forecast broadcasts, wherein the news presenter appears to be standing in front of a large map during live television newscasts, but in a television studio it is actually a large blue or green background. The meteorologist stands in front of a blue screen, and then different weather maps are added on those parts in the image where the color is blue. If the meteorologist wears blue clothes, his clothes will be replaced with the background video.* This also works for green screens, since blue and green are considered the colors least like skin tone. }}

This technique is also used in the entertainment industry, for example for special effects. Software is available today, such as Pinnacle Studio, which makes it possible and relatively easy for the average home computer user, to create videos using the Chroma Key function and green screens. }}}

The Chroma Key could be used to create the bedroom in this case.

The people in the scene could be anybody of similar stature. In the early days of rotoscoping and mapping. Green screen suits were worn with blue "ball" markers so the animators could use them as points or reference for motion tracking. This isn't necessary anymore, though sometimes faster, depending on what you are trying to accomplish.

Facial mapping is done using facial nodes or points on the face that can be tracked in a 3D environment by computer.

These days when a movie star is doing something such as a stunt, their face can be mapped onto a stunt person, so it looks as though the star is doing the stunt. The stars face can also be mapped over a completely animated figure.

Cranial points, The Vertex, Supraglabella, Glabella, Euryon and auriculotemporale points on the skull would be common marking points for tracking. (below)

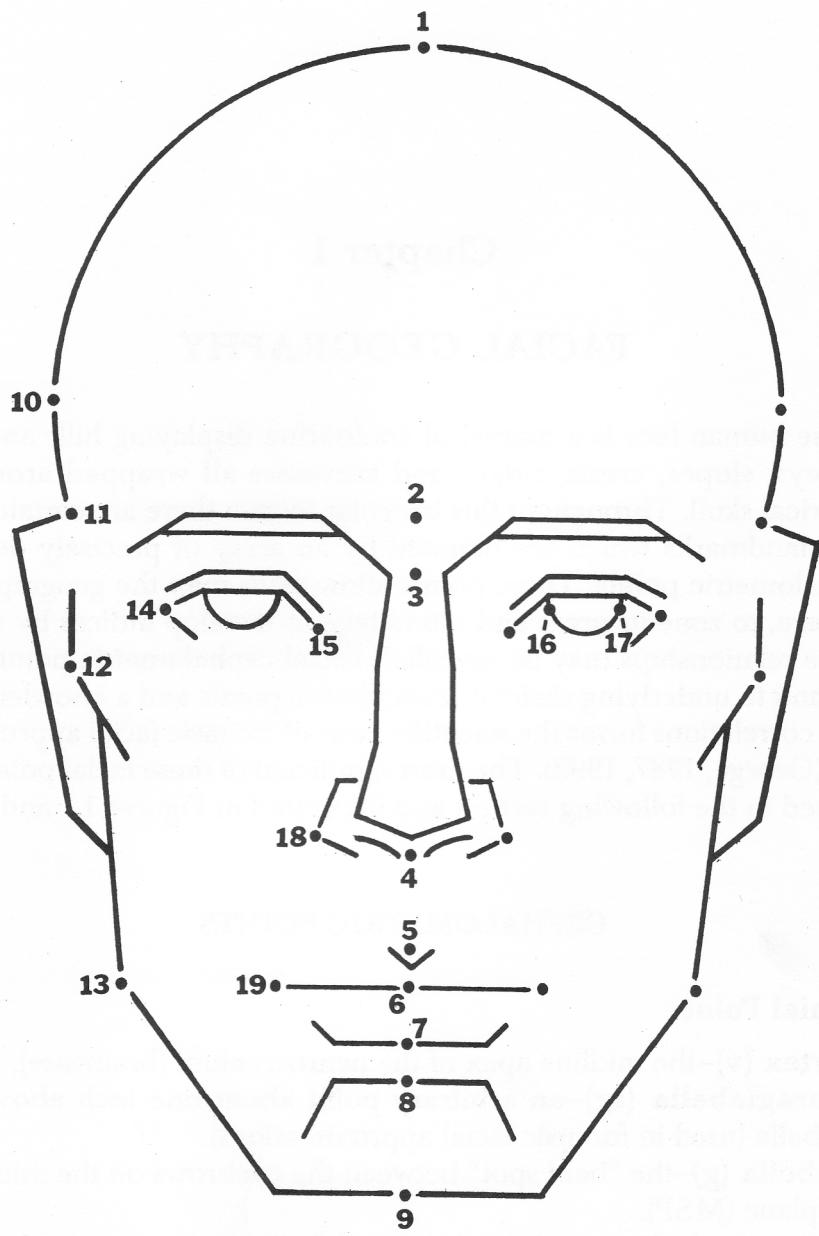


Figure 1.1. Cephalometric Points - Frontal View: 1 = vertex; 2 = glabella; 3 = nasion; 4 = subnasale; 5 = labiale superius; 6 = stomion; 7 = labiale inferius; 8 = labiomentale; 9 = gnathion; 10 = euryon; 11 = auriculotemporale; 12 = zygion; 13 = gonion; 14 = ectocanthion; 15 = endocanthion; 16 = iridion mediale; 17 = iridion laterale; 18 = alare; 19 = cheilion.

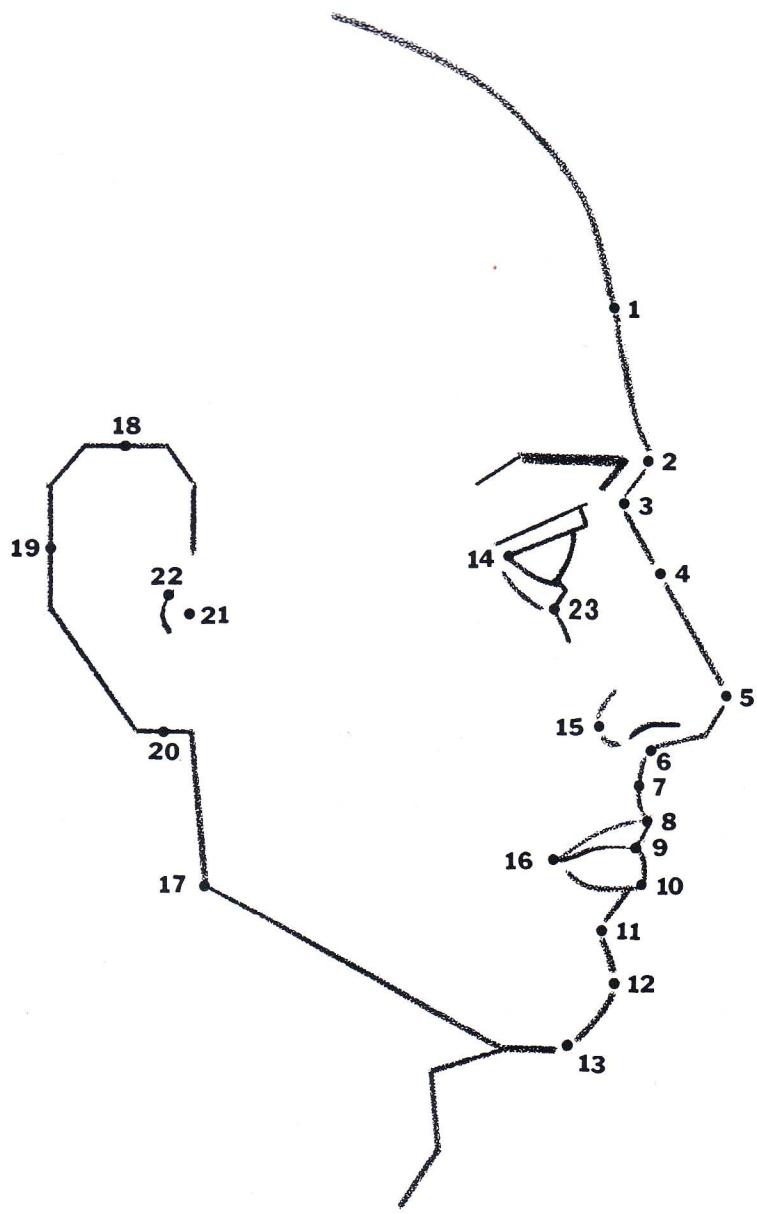


Figure 1.2. Cephalometric Points - Lateral View: 1 = supraglabella; 2 = ciliare (glabella); 3 = nasion; 4 = nasale; 5 = pronasale; 6 = subnasale; 7 = superior labial sulcus; 8 = labiale superius; 9 = stomion; 10 = labiale inferius; 11 = labiomentale (inferior labial sulcus); 12 = pogonion; 13 = gnathion; 14 = ectocanthion; 15 = alare; 16 = chelion; 17 = gonion; 18 = superaurale; 19 = postaurale; 20 = subaurale; 21 = preaurale; 22 = tragion; 23 = orbitale.

**The numbered points above would be most commonly used to track facial expressions, create facial expressions, lip sync etc.**

**Lateral Points, Orbital Points, Nasal Points, Labial Points, Mental Points, Planes, Areas along with lines and groves make up basic Facial Geometry.\***  
(\*Facial Geometry- Graphic Facial Analysis for Forensic Artists)

**The same points used for Forensic Facial Analysis are the basis for facial replacement on video.**

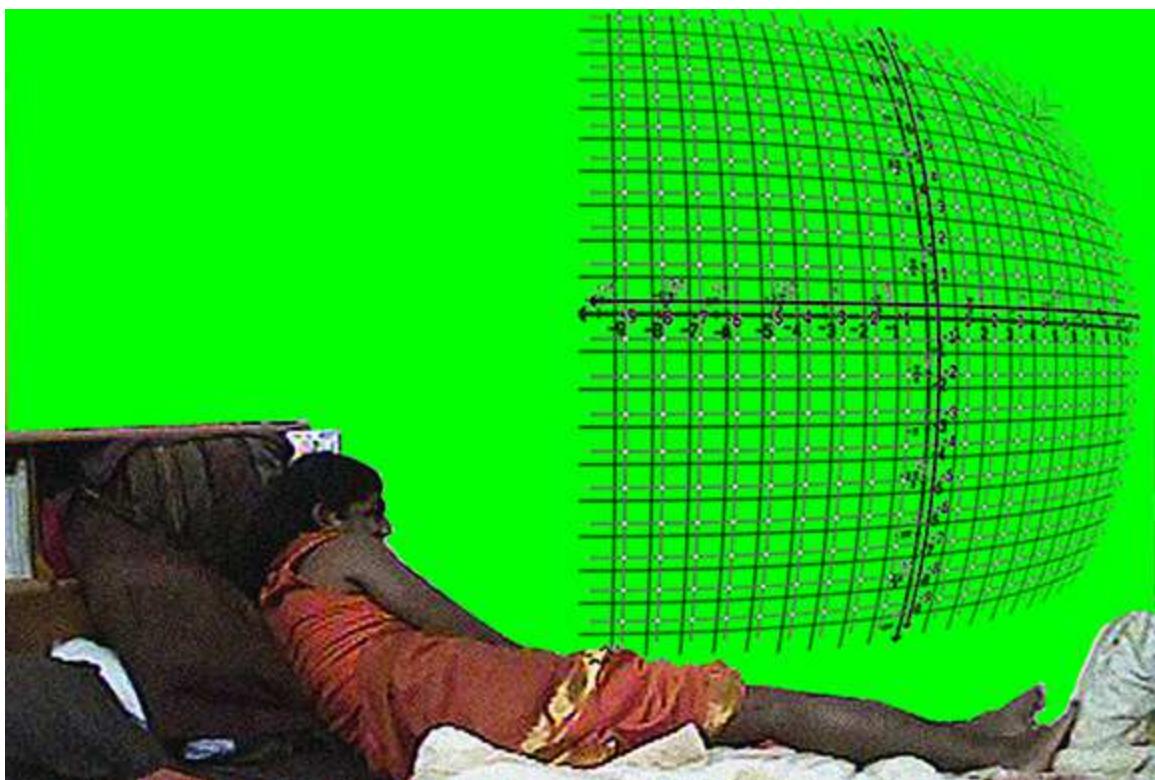
**Adding and subtracting other people in the same scene, even after green screening is possible using programs like Imagineer systems "Mocha".**  
<http://www.imagineersystems.com/products/mochav2> for demonstrations.

**This planar tracker and roto utility operates on many systems, is relatively simple to use and is very effective at creating "alternate realities."**

**Adding another person to a video or taking a person out becomes quite simple using products such as Mocha.**

**Here is a quick example using a lift from the video in question.**





This was done in very quickly... and not by an artist, in under 30 minutes. It's very simple. Given another 30 minutes it could be made much more convincing by adjusting the texture and lighting as well as blending the composite layers.

---

## The Video itself.

**The benefit of sites like "You Tube" for someone posting up an altered video is "compression".**

**Videos that are loaded up to most of these sites are compressed for easier playback by the masses. Often the file type or codec is also changed from the original.**

**The more compressed a signal is the harder it becomes to spot irregularities in a video. The compression of a video file (to make it smaller and easier to play from the web) results in digital noise. The more compressed the noisier the signal (picture) is.**

**This noise creates masking, making it difficult to spot chromatic aberrations and similar "tells".**

**{{{In optics, chromatic aberration (CA, also called achromatism or chromatic distortion) is a type of distortion in which there is a failure of a lens to focus all colors to the same convergence point. It occurs because lenses have a different refractive index for different wavelengths of light (the dispersion of the lens). The refractive index decreases with increasing wavelength.**

**Chromatic aberration manifests itself as "fringes" of color along boundaries that separate dark and bright parts of the image, because each color in the optical spectrum cannot be focused at a single common point. Since the focal length  $f$  of a lens is dependent on the refractive index  $n$ , different wavelengths of light will be focused on different positions.**

**There are two types of chromatic aberration, axial (longitudinal), and transverse (lateral). Axial aberration occurs when different wavelengths of light are focused at different distances from the lens, i.e. different points on the optical axis (focus shift). Transverse aberration occurs when different wavelengths are focused at different positions in the focal plane (because the magnification and/or distortion of the lens also varies with wavelength; indicated in graphs as (change in) focus length). The acronym LCA is used, but ambiguous, and may refer to either longitudinal or lateral CA; for clarity, this article uses "axial" (shift in the direction of the optical axis) and "transverse" (shift perpendicular to the optical axis, in the plane of the sensor or film).**

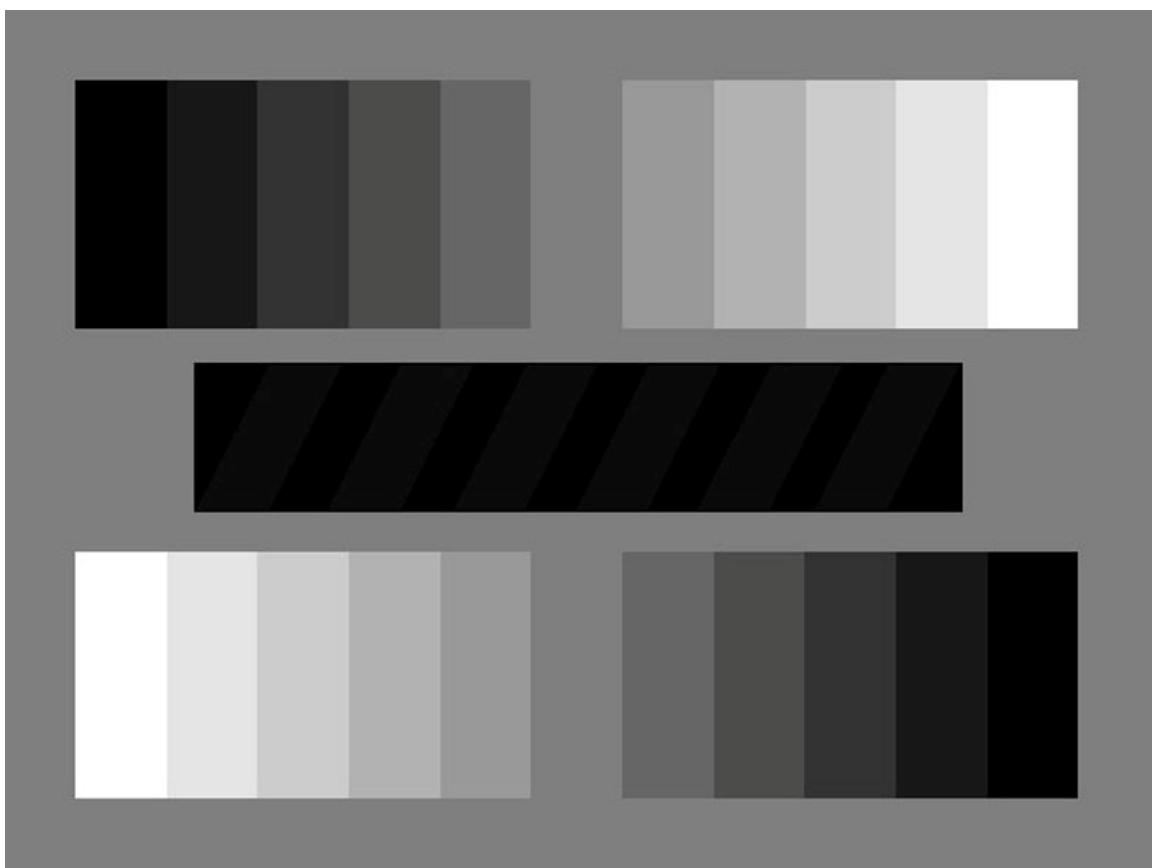
**These two types have different characteristics, and may occur together. Axial CA occurs throughout the image, and is reduced by stopping down (this increases depth of field, so though the different wavelength focus at different distances, they are still**

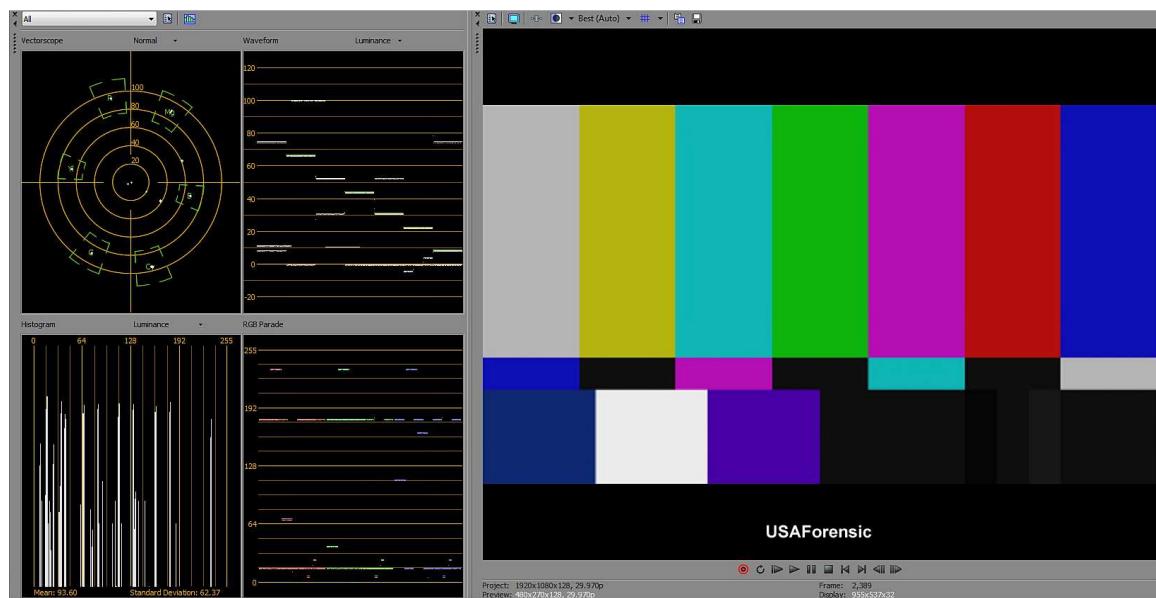
in acceptable focus). Transverse CA does not occur in the center, and increases towards the edge, but is not affected by stopping down.

In digital sensors, axial CA results in the red and blue planes being defocused (assuming that the green plane is in focus), which is relatively difficult to remedy in post-processing, while transverse CA results in the red, green, and blue planes being at different magnifications (magnification changing along radii, as in geometric distortion), and can be corrected by scaling the planes appropriately so they line up.}}

Using Electronic scopes (Waveform, Vector Scope, RGB Parade and Luminance) it is easy to see chromatic aberration, and various other traits of a lens.  
A wide angle lens used in the making of this video will handle light different than a lens of a different number of elements or focal length would.

Using the original camera: a test would be performed using a chip chart and color bars. Either NTSC or PAL depending on the format of the camera. (see Below)





**Photographing the Black & White Chip Chart & the Color Bar Set up card would show Chromatic aberrations (RGB separation) on the scopes.**  
**This deviance could be measured and compared to the picture coming from the original camera. Distance from the camera, light sources, color temperature of the light source(s) would have to be factored in. Any scratches on the lens or dead pixels on the CCD chip would also be noted.**

This is an important baseline test because many people doing a composite would not take into account dead pixels or chromatic aberrations. These begin to play a factor in compositing.

If there is a dead pixel on the "plate shot"- first layer of video, then it should be present throughout the entire video. If, for example, a person or item crosses the dead pixel and it disappears and reappears as the person passes it... that is a very good "tell" it is a fake.

It works the same for lens scratches, dust or any other irregularities on the plate shot.

Shadows are also important in composite shots. Does the light source remain constant.? Are there any unaccounted for shadows, shadows missing, or not aligned with the light source?

Is the color Purple, if in the shot, consistent. purple is the most difficult color for RGB cameras to accurately reproduce. It tends to go various shades of blue without a proper white balance. If the shades of purple shift, that's also something to be analyzed.

Benefits of compression masking aberrations through noise:

{{{ A compression artifact (or artefact) is a noticeable distortion of media (including images, audio, and video) caused by the application of lossy data compression.

Lossy data compression involves discarding some of the media's data so that it becomes simplified enough to be stored within the desired disk space (known as a data rate or bit rate for media that is streamed). If the compressor could not reproduce enough data in the compressed version to reproduce the original, the result is a diminishing of quality, or introduction of artifacts. Alternatively, the compression algorithm may not be intelligent enough to discriminate between distortions of little subjective importance and those which may be objectionable to the viewer.

Compression artifacts occur in many common media such as DVDs, common computer file formats such as JPEG, MP3, or MPEG files, and some alternatives to the compact disc, such as Sony's MiniDisc format. Uncompressed media (such as on Laserdiscs, Audio CDs, and WAV files) or losslessly compressed media (such as FLAC or PNG) do not suffer from compression artifacts.

The minimization of perceivable artifacts is a key goal in implementing a lossy compression algorithm. However, artifacts are occasionally intentionally produced for artistic purposes, a style known as glitch art or datamoshing.

Technically speaking, a compression artifact is a particular class of data error that is usually the consequence of quantization in lossy data compression. Where

**transform coding is used, they typically assume the form of one of the basis functions of the coder's transform space.**

**When motion prediction is used, as in MPEG-1, MPEG-2 or MPEG-4, compression artifacts tend to remain on several generations of decompressed frames, and move with the optic flow of the image, leading to a peculiar effect, part way between a painting effect and "grime" that moves with objects in the scene.**

**Data errors in the compressed bit-stream can lead to errors similar to large quantization errors, or can disrupt the parsing of the data stream entirely for a short time, leading to "break-up" of the picture. Where gross errors have occurred in the bit-stream, decoders continue to apply updates to the damaged picture for a short interval, creating a "ghost image" effect, until receiving the next independently compressed frame. In MPEG picture coding, these are known as "I-frames", with the 'I' standing for "intra".**

## **Mosquito noise**

**Video compression artifacts include cumulative results of compression of the comprising still images, for instance ringing or other edge busyness in successive still images appear in sequence as a shimmering blur of dots around edges, called mosquito noise, as they resemble mosquitoes swarming around the object}}**

**If a person is going to produce a composited fake. One of the best weapons in the arsenal is video noise. It covers up edges and fine lines that might otherwise show faults in the composite.**

**Beyond the technical issues. One must also take into context why someone would want to create a composited video file. A political, religious, celebrity or business figure would be a common target.**

**Many tabloids make millions of dollars by taking pictures out of context or altering images.**

**Example: A picture out of context would be a photo of a celebrity in the middle of a "eye blink"... possibly making the celebrity look intoxicated.**

**Of course, though not important to the public in general, but legally significant is "how was the video obtained" :::: was the process legal in the country or region.**

**The original Recorder and recording(s) were never turned over to the client or our labs. A “Forensic Report” was however filed with the client.**

**The report has no actual scientific data on it whatsoever.**

**It is an inventory sheet of what was received and a persons best guess that the client and person on the video matched.**

**No forensic tests were performed according to the report.**

**It was the person's estimation the person on the screen was the client and the recording was an original.**

**No tests were done to look for compositing.**

**Below is the report.**

## FORENSIC SCIENCE LABORATORY

GOVT OF NCT OF DELHI  
SECTOR-14, ROHINI, DELHI - 110085

234 ①

### Forwarding Letter (Physics Division)

No.FSL- 2010/P-2031/Phy - 03/10/2010 Dated : 3/6/10

To,

M. P.S.R. Chavan Reddy  
Dy. Inspector General of Police,  
C.I.D. Bangalore

Subject: Examination of case property in FIR No 141/10

Dated 18/3/10 U/S 147(1)(b), 277(4) P.S. Bidai, Panmagar, Karnataka  
506101 7108 IPC

#### MEMO

Please find enclosed herewith Report No. FSL-2010/P-2031/Phy-03/10

Dated 1/6/10 in respect of case property received with your Memo no.  
C.P.M. 11/05/2010 - Dated 11/05/10.

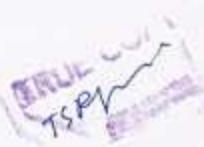
All the concerned case property / exhibits are enclosed as per the details  
mentioned in the report.

1/6/10  
DIRECTOR.

Encls: (1) Sealed Report

(2) sealed parcels

(3) Sample seal impression





## Forensic Science Laboratory

Govt. of NCT of Delhi  
Sector 14, Rohini, Delhi-110085.  
Tel: 011-27555811, Fax: 011-27555890



23<sup>rd</sup>

T-1705

Accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL)

### Examination Report

REPORT No. FSL 2010/P-2031/PHY-93/10

Dated 02/6/10

1. Please quote the Report (Opinion) No. & Date in all future correspondence & Summons.
2. This Report is *Per se* admissible U/S.293 Cr.P.C.

To

Sh. K.S.R. Charan Reddy,  
Dy. Inspector General of Police,  
C.I.D. Bangalore

Your letter No. CRM.11/SE/CID/2010/Bangalore Dated 12.05.10 regarding two parcels in connection with case FIR No.141/10 Dated 18.03.10 U/S 495(A), 376, 377, 420, 906(i) & 120B IPC P.S. Bidadi, Ramanagar, Karnataka duly received in this office on 13.05.10 through Insp. K. Nagaraja, CID Bangalore.

#### 1. DESCRIPTION OF PARCEL (S) /EXHIBIT (S)

Sealed cloth parcels : 02 (Two)

Total : 02 (Two)

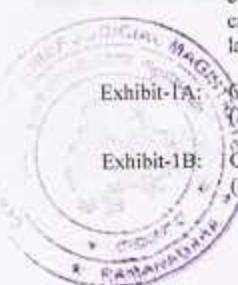
Two sealed parcels; seals were intact and tallied with the specimen seals as per forwarding letter (FSL FORM).

#### 2. DESCRIPTION OF ARTICLES CONTAINED IN THE PARCEL (S)/EXHIBIT (S)

Parcel-1: One sealed cloth parcel found marked "Article8", sealed with the seals of "TSR" at eight places, stated to be containing, two memory cards; on opening, two memory cards were found and they were marked as "Exhibit-1A" & "Exhibit-1B" in the laboratory.

Exhibit-1A: One memory card of "Sandisk" make, bearing serial number B10922313493G (Made in China) containing video recordings.

Exhibit-1B: One memory card of "Sandisk" make, bearing serial number B10922413493G (Made in China) containing video recordings.



A. S.

Parcel-2: One sealed cloth parcel, sealed with the seals of "TSR" at eight places, stated to be containing, one DVD; on opening, one DVD was found and it was marked as "Exhibit-2" in the laboratory.

Exhibit-2: One DVD of "Moserbaer" make, containing video recordings.

### 3. RESULTS OF EXAMINATION/OPINION:

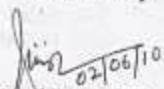
The memory card marked "Exhibit-1A" contains 70 video clips and the memory card marked "Exhibit-1B" contains 213 video clips. On examination using ENCASE tool, it was found that there were 24 deleted files in the memory card marked "Exhibit-1A" and same have been retrieved from memory card marked "Exhibit-1A" and there were 34 deleted files in the memory card marked "Exhibit-1B" and same have been retrieved from memory card marked "Exhibit-1B" and DVD marked "Exhibit-2" contains 116 video clips. The video clips in DVD marked "Exhibit-2" are also in the memory cards marked "Exhibit-1A" & "Exhibit-1B".

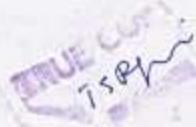
On examination of video recordings in memory cards marked as "Exhibit-1A" & "Exhibit-1B", the followings were observed:

1. The video recordings in memory cards marked "Exhibit-1A" & "Exhibit-1B" contains in camera video shots in separate video clips. The video clips in memory cards marked "Exhibit-1A" & "Exhibit-1B" contains 70 & 213 identified video shots respectively.
2. The video recordings in memory cards marked "Exhibit-1A" & "Exhibit-1B" are in digital video format and there are no indication of alteration in the identified video shots on the basis of examination using Non-Linear Video Editing & Storage System & Video Analyst System.
3. The retrieved video recordings of the deleted files from the memory cards along with the video recordings in the memory cards marked "Exhibit-1A" & "Exhibit-1B" are provided in DVD marked "Copy of Exhibit-1A & Exhibit-1B".

**NOTE:** Case exhibits sent to this laboratory for examination have been sealed with the seal of "Dr.C.P. SINGH- FSL-DELHI".

Examined by

  
02/06/10  
(Dr. C.P. SINGH)  
Dr. C.P. SINGH  
Asst. Director (Physics)  
Forensic Science Laboratory  
FSL-DELHI



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## Forensic Science Laboratory

Govt. of NCT of Delhi

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Accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL)

### Examination Report

REPORT No. FSL/2010/P-3243/PHY-152/10

Dated 12/11/10

1. Please quote the Report (Opinion) No. & Date in all future correspondence & Summons.
2. This Report is *Per se* admissible U/S.293 Cr.P.C.

To

Sh. K.S.R. Charan Reddy, IPS  
D.I.G. of Police,  
C.I.D., Bangalore,

Your letter No.CRM/11SE/CID/2010 Dated 24.07.10 regarding four parcel in connection with case FIR No.141/2010 Dated NIL U/S 295(A), 376, 377, 420, 506(I) & 120 B IPC, P.S. Bidali, Ramanagar, Karnataka duly received in this office on 27.07.10 through Insp. Sh. Raveesh C.R. I.D.522/2010.

#### 1. DESCRIPTION OF PARCEL (S) /EXHIBIT (S)

Sealed envelopes	:	02 (Two)
Sealed cloth parcels	:	02 (Two)

Total	:	04 (Four)
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Twelve sealed envelopes; seals were intact and tallied with the specimen seals as per forwarding letter (FSL FORM).

#### 2. DESCRIPTION OF ARTICLES CONTAINED IN THE PARCEL (S)/EXHIBIT (S)

Parcel-1: One sealed cloth parcel, sealed with the seal of "Y-I" at eight places stated to be containing two memory cards; on opening, two memory cards were found and these were marked as "Exhibit-1" & "Exhibit-2" in the laboratory.

Exhibit-1: One memory card 'SDHC 8 GB' of "San Disc" make, with serial No."B1092231 3493G" made in China. The facial image of the male person in the video recording was marked as "Exhibit-QMFI" and the facial image of female person who was



Dr. G. P. SINGH  
Asst. Director (Physics)  
Forensic Science Lab.

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seen adjusting the 'spy camera' and was found in intimate position with the male person and seen involved in other activities with the male person in the video recordings was marked as "Exhibit-QFFI".

- Exhibit-2: One memory card 'SDHC 8 GB' of "San Disk" make, with serial No."B10922413493G" made in China. The facial image of the male person in the video recording was marked as "Exhibit-QMFI" and the facial image of female person who was seen installation of 'spy camera' and other activities in the video recordings was marked as "Exhibit-QFFI".
- Parcel-2: One envelope, sealed with cellophane tape stated to be containing DVD; on opening, one DVD was found and it was marked as "Exhibit-3" in the laboratory.
- Exhibit-3: One DVD-R of "Moserbaer" make, containing two folders, namely, "Photos" & Video". The folder, namely, "Photos" containing eight still images, namely, "DSC00056.JPG", "DSC00057.JPG", "DSC00058.JPG", "DSC00059.JPG", "DSC00060.JPG", "DSC00061.JPG", "DSC00062.JPG" & "DSC00064.JPG" and the folder, namely, "Video" containing one video file, namely, "Video.MTS". The specimen sample of facial image of female person in the video recording and still photographs (Digital) was marked as "Exhibit-SFFI".
- Parcel-3: One envelope, sealed with cellotape stated to be containing DVD; on opening, one DVD-R was found and it was marked as "Exhibit-4" in the laboratory.
- Exhibit-4: One DVD-R of "Moserbaer" make, containing one video file, namely, "Video.MTS" alongwith the still photographs. The specimen sample of facial image of male person in the video recording and still photographs (Digital) was marked as "Exhibit-SMFI".
- Parcel-4: One sealed cloth parcel, sealed with the seal of "Y-I" at thirteen places stated to be containing "a silent air purifier with an inbuilt Sony Spy Camera with two electronic chips, one adapter and a connecting cable; on opening, one spy camera kept in a body of air purifier , one adaptor and connecting cable were found.
- Exhibit-5: One spy camera "Sony" make, kept in a case of air purifier with one adaptor and connecting cable.

### 3. RESULTS OF EXAMINATION/OPINION:

1. On examination of 'spy camera' marked "Exhibit-5" which is built inside in a air purifier case; it was found in working condition.
2. The video recording in the memory chips marked "Exhibit-1" & "Exhibit-2" can be recorded by the 'spy camera', marked "Exhibit-5".
3. On examination of memory slots of 'spy camera' it was found that the original memory cards marked "Exhibit-1" & "Exhibit-2" can be inserted in the memory slot of 'spy camera' marked Exhibit-5 and video recordings can be done in these memory cards in the same format.

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(Page 03 of 03)

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Dated \_\_\_\_\_

4. On image analysis and comparison of verbal portrait features, geometric and facial image superimposition of the image of the male person marked "Exhibit- QMFI" from the relevant video frames and the image of the person marked "Exhibit-SMFI" from relevant video frames and still images in Exhibit-4, the image of the person marked "Exhibit-QMFI" has resemblance to the image of the person marked "Exhibit-SMFI" in respect of their facial landmarks. Hence, the images of the person marked "Exhibit-QMFI" & "Exhibit-SMFI" are of the same person.
5. On image analysis and comparison of verbal portrait features, geometric and facial image superimposition of the image of the female person marked "Exhibit- QFFI" from the relevant video frames and the image of the person marked "Exhibit-SFFI" from relevant video frames and still images in Exhibit-3, the image of the person marked "Exhibit-QFFI" has resemblance to the image of the person marked "Exhibit-SFFI" in respect of their facial landmarks. Hence, the images of the person marked "Exhibit-QFFI" & "Exhibit-SFFI" are of the same person.

**NOTE:** Case exhibits sent to this division for examination have been sealed with the seal of  
"Dr.C.P. SINGH- FSL-DELHI".

Examined by

  
(Dr. C.P. SINGH)

Dr. C.P. SINGH  
Asstt. Director (Physical)  
Forensic Science Laboratory

Note: This Report is *Per se* admissible U/S.293 Cr.P.C. However, the scientific "expert" (witness) shall be available for cross examination, if required.



**At the close of the report it says the expert witness shall be available for cross examination;**

**The following questions should have been addressed on the report but were not:**

## **MISSING TECHNICAL REPORT DATA**

### **CAMERA:**

- 1. Type of Camera used: brand, model number, serial number, year of manufacture.**
- 2. Type of Codec native to the camera**
- 3. Frames per second 24p, 29.97, 30fps, 59.97. 60fps etc.**
- 4. Drop Frame, non-Drop ?**
- 5. CCD 1080, 740, 486, 320 etc**
- 6. Upper field, lower field, progressive**
- 7. Interlace method. Interpolated, Field blend, none**
- 8. Power supply 50 cycle or 60 cycle**
- 9. CCD Charged Couple Device type- Manufacture**
- 10. Technical specifications of CCD.**
- 11. Bit Depth**
- 12. Image data gathering technique and specifications**
- 13. data compression algorithm**
- 14. DA & AD signal converters (Digital to Analog & Analog to Digital)**
- 15. Trigger method of camera. Motion sensing?**
- 16. Lux level of camera with lens used. (see 17)**
- 17. Black level of camera on appropriate color card (PAL-NTSC) set up at c**
- 18. RGB output of chip to recorder using appropriate color card (PAL-NTSC) set up at 6300K, 3200K, 5400K 4300K**
- 19. Pin Hole test of camera wide open Capped to test for chip pixel damage.**
- 20. Microscopic analysis of CCD using microscope with camera attachment to look for chip irregularities.**
- 21. Microscopic analysis of lens to search for scratches that could lead to chromatic aberrations detectible on video scopes**

**22. Use of set up card and chip chart recorded for Waveform, Vectorscope, RGB Parade and Luminance of camera at 6300K, 3200K, 5400K 4300K. Waveform should reach 100% but not clip.**

**23. Camera Knee set up**

**24. Noise visible by scope of black levels on chart when chart white panel reaches 100% - Same test at 50% and 20%**

**25. Clip setting of whites**

**26. Black level setting of camera**

**27. Color temperature (s) of lights in video, shadows and color temperature of shadows.**

**28. Lens: angle of lens. (Millimeters) (lowest lens F stop... 1.4, 1.8 etc)**

**29. Shutter of lens (how many leaves if applicable)**

**30. Bokeh (lens depth of field being consistent with MM of lens used).**

**31. Number of elements in lens.**

**32. The television in the background has a different refresh rate than the camera. .**

**Crystal sync or Clear Scan could be used to determine the difference of the camera vs the known refresh rate of the TV model. Thus helping to verify if the stated camera was indeed the one used.**

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**AUDIO: if applicable:**

- 1. Sample rate of Audio:**
- 2. Bit Depth of audio**
- 3. Stereo field of audio if applicable.**
- 4. Phase cancellation of signal test**
- 5. Type of mic used (carotid, directional...etc)**
- 6. Noise floor of microphone**
- 7. db rating of microphone**
- 8. Audio DA & AD specifications**

**9. Distortion of signal at different decibel and Fq ranges from 20Hz to 20kHz**

**10. Output format**

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**NTSC-PAL Time Code of combined signal:**

- 1. Was time code imprinted on the original file.**
  - 2. was a clock setting imprinted on file.**
  - 3. how was the clock set to insure accuracy.**
- 

**Was the Video re uploaded into the camera. ( using file directory, was a video uploaded into the on board chip at any time?**

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**STORAGE:**

- 1. Files were said to be erased on the San disc cards. Was there an attempt to recover those files. If not why?**
- 2. It is not said if the San disc files were internal or external.**
- 3. Assuming they are external, what was contained on the original internal card or frame buffer?**
- 4. What was the formatting of the San Disc cards Fat 32, NTFS, Proprietary.**
- 5. Was the codec used for recording proprietary.**
- 6. What program was used to extract the video from the camera/recorder?**
- 7. What program was used to change the file type if it was changed to another format.**
- 8. What was the Dithering set up if the files were converted.**
- 9. What compression was used in the conversion.**
- 10. What is the data rate of the converted file**

- 11. What was the format recorded: a 4:4:4 or 4:2:2 etc ?**
- 12. was the conversion made using a loss less codec or a compressed algorithm.**
  
- 13. A relatively simple computer program ENCASE was used to review the disc. It was not stated what program(s) was used to analyze the video. It just says non-linear video application.**
- 14. What instruments were used to analyze the signal?**  
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**IDENTIFICATION:**
  - 1. No scientific data is presented as to how recognition of the subject(s)in the video was made**
  - 2. It takes at least 50 pixels between pupils of the eyes for credible facial recognition software to work**
  - 3. Just guessing by doing a photo overlay is not usually admissible in a US court of law because the variation of lens (millimeter), distance from the subject to the camera, lighting and shadow differences, color temperature differences. aperture and speed of shutter variations. The exception is if thee are more than 50 pixels between the pupils as a rule of thumb.**
  - 4. Matching of low resolution pictures is merely guesswork and conjecture.**
  - 5. There are over 82 nodal points on the skull /face that should be matched to present clear evidence.**
  - 6. As facial mapping , roto-scoping and tracker planing are so easy to do an a computer.**
  - 7. Pixels should be analyzed to look for irregular color shifting and pixel blending as well as pixels consistently shifting in areas of chromatic aberration or lens flairs.**
  - 8. Green screen artifacts should be looked for closely in areas of differing contrast along edges of moving objects (people)**  
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## **PROCEDURE OF RECORDING:**

- 1. Was the recording obtained legally?**
- 2. Were any laws broken during the placing of the recorder**
- 3. Was there trespassing in violation of any national, state or regional laws.**
- 4. Were the rights of the people on the video violated in anyway according to law**
- 5. Has the person or persons who allegedly recorded this been charged with any crime?**
- 6. do the person or persons have any previous records of violating any laws.**

## **Recommendation:**

I would request to examine the original camera with the original video, in its original codec still on the camera. I understand it is being held as evidence. A chain of custody of the evidence would be strictly upheld.

Respectfully,



Bryan Neumeister

Certified: Federal, US District, State, Department of Justice,  
Civil & Aviation Forensic Expert  
ACFE, ABRE, ASCAP, APA, ACFEI, AES, BMI, NATAS  
31 Years Professional Experience  
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VIA E-MAIL AS PDF FILE

January 28, 2012

Attn.: Board of Directors  
Life Bliss Foundation  
9720 Central Ave.  
Montclair, CA 91763

RE: Preliminary Forensic Video Analyses Report

Dear Board of Directors,

Thank you for the opportunity to forensically review the audio/video evidence at issue. Attached are 3 signed copies of the report with attachments.

To properly determine the authenticity of the evidence at issue, it is standard procedure to either have possession of or at least on-site access to the putative original evidence for non-invasive, non-destructive testing and digital copying. My equipment is portable, as going on-site for testing and copying is routine. I may suggest delivering copies of my Report to Mr. Ambiger, DSP of the Karnataka CID in Bengaluru, India and to Nithyananda Dhyanapeetam in Bidadi, India. Please let me know if I can be of further assistance. Thank you, have a great week, and I remain

Sincerely,  
YONOVITZ & JOE, LLP.  
*Forensic Audio/Video Analysts, Experts & Consultants*

**Herbert Joe**, M.A., J.D., LL.M., B.C.F.E., D.A.B.L.E.E., F.A.C.F.E.  
Board Certified Forensic Audio/Video Examiner  
Registered Patent Attorney, USPTO, CIPO  
Adjunct Faculty (Grad. Law), University of Phoenix  
Member, Evidence Code Committee, Oklahoma Bar Assoc.  
Member, College of the State Bar of Texas  
Member, Legal Advisory Board, American College of  
Forensic Examiners International  
Diplomate, American Board of Law Enforcement Experts  
Diplomate, American Board of Forensic Examiners  
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VIA E-MAIL AS PDF FILE

January 28, 2012

Attn.: Board of Directors  
Life Bliss Foundation  
9720 Central Ave.  
Montclair, CA 91763

**FORENSIC VIDEO EXPERT'S PRELIMINARY REPORT**

Dear Board of Directors,

**INTRODUCTION.** We were retained to objectively review a particular video recording, two particular forensic video reports and six (6) YouTube videos, all described below. Preliminary results of such analyses follow the explanation of the analyses.

**EVIDENCE REVIEWED.** The video at issue is a 23m12s video - with no audio content - in the WMA format (221 MB; "created Mar. 12, 2010, 9:59:04A") obtained from the Life Bliss Foundation. A screenshot of the beginning of this video follows:



**Screen Shot 1.**

## ANALYSES OF SELECT YOUTUBE VIDEOS.

1) In the first YouTube video entitled "*Swami Nithyananda SEX SCANDAL Video Nithyananda Ranjitha Full Video.flv*", there is music as well as commentary interjected into the otherwise silent video. Such audio and linguistic insertions of any nature, by definition, materially change the putative original video. The reason why such embellishments would typically not be admissible in any U.S. civil or criminal court of law relative to the putative original is because such changing is necessarily and substantively misleading and mischaracterizes the video evidence received, which has no audio. Clearly, also, the deliberate choosing of the nature of the music inserted dramatizes the video content of the evidence and, of course, changes or adds to what the embellisher wants the viewer to take away from the otherwise silent video. The undersigned does not speak the language of the commentator, but such commentary should be done before or after the viewing of the (silent) video - not during, as that likewise materially misleads or mischaracterizes the original silent video.

In addition to the above, there are nineteen documentable edits within the otherwise continuous video. Specifically, there are five (5) edits at 0m54s, 1m01s, 1m10s, 1m19s, 1m30s into the coverage; then there appears to be the black-and-white (B&W) processing effect at 1m43s into the coverage. Two seconds later there is an apparent splicing back to the previous segments. Then there are ten (10) edits at 1m47s, 2m09s, 2m16s, 2m32s, 2m44s, 2m51s, 2m53s, 3m08s, 3m12s and 3m23s into the coverage. There appears to be the same B&W effect segment starting at 3m37s into the coverage. At 3m40s into the coverage, there is no transition as it goes right into a portrait of the Swami while the inserted music continues. In sum, this video is not a true and accurate copy of the video evidence received, and there are inserted content (dramatic music and commentary) that materially mischaracterizes the original content.

2) As previously stated, the link to this YouTube video goes to the exact same video as the one described above.

3) To view this video, the following directive was at this homepage:

This video may contain content that is inappropriate for some users, as determined by the video uploader ([Learn More](#)). To view this video please verify you are 18 or older by signing in or signing up.

Like the YouTube video above, this video has music but different than the above. The music inserted during the original video includes chanting. In addition to the comments for the first YouTube video analyzed, which all apply here for this YouTube video as well, there are thirty (30) documented edits within the otherwise continuous video. Specifically, there are eleven (11) edits at 0m14s, 0m42s, 0m59s, 1m15s, 1m46s, 2m07s, 2m24s, 2m29s, 2m32s, 3m02s, 3m13s of the recording. There is a blurring effect at 2m07s and 2m28s into the recording. Adding, deleting or changing anything within the original video is misleading at the least and fraudulent at the most. Blurring of a part of a video insinuates impropriety, so, for example, if nothing improper is transpiring in a video, then strategic blurring could mislead otherwise.

At 3m24s into the recording, there is a professional transition from fade out of the previous segment to fade in of another segment. A screen shot of this (#5) is above. After this transition to another segment, there are seventeen (17) edits at 3m32s, 3m39s, 3m44s, 3m50s, 4m03s, 4m08s, 4m16s, 4m21s, 4m23s, 4m25s, 4m28s, 4m32s, 4m41s, 4m47s, 4m50s, 4m52s and 4m57s into the recording. Then there is break into another B&W effect at 5m08s into the recording. The video and inserted music ends at 5m11s. After the end of the video, the following scrolling "credits" of eight seconds are seen:

thanks nankeeran  
by  
ranjitha fans accosiation from abudhabi

4) The beginning of this YouTube video is seen in Screen Shot 4, above. Note that the inserted music is of different music and singing than the other videos. The time and date information of the putative original video has been blurred. There is one edit at 0m52s into the recording. This video ends at 3m07s and can be seen in ScreenShot 5, above. By definition, this video has also been edited and is therefore not authentic and potentially if not actually misleading, relative to the putative original video.

5) As stated above, this link to the YouTube video (see Screenshot 9) has been removed and is no longer available to the general public.<sup>1</sup>

6) The beginning of this YouTube video is seen in Screen Shot 10, above. There is commentary (and music) from the beginning. The video at issue does not start until 2m02s into the commentary, see Screen Shot 11. It is remarkable from the outset that much of the content of this YouTube video is not in the video at issue, e.g., the woman at the beginning of this video (Screen Shot 11) is not in the video at issue. This underscores the obvious conclusion that the video at issue is not an accurate copy of the actual original video. It is remarkable that of the YouTube videos reviewed, this YouTube video is the most professionally produced, especially as it relates to the way the video at issue has been edited. For examples, i) the way the edited segments have been transitioned to fade out as a new segment is faded in appears to be professionally produced; and ii) the edited video at one point is in a split screen with other video. There are many edits, all apparently designed to further the agenda of the producer of this commentary or documentary, as is the choice of music and the way the music is synchronized to the video. The more that this (or any) video is edited or mixed, including the choice of music, the more prejudicial the video is made in light of the fact that the putative original is a silent video. Nonetheless, it is still remarkable that all the people in all the videos reviewed are fully clothed.

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<sup>1</sup> It is notable that India's telecommunications minister, Mr. Kapil Sibal, and "other (Indian) government officials are upset about Web pages that are insulting to ... major religious figures." *India cranks up pressure to clean up the Internet*, Salt Lake Tribune, Dec. 07, 2011, p. A9.

## ANALYSES OF THE FORENSICS REPORTS.

Two "Examination Reports" were reviewed, both of which were from the Forensic Science Laboratory of the Government of NCT of Delhi. One was dated "02/6/10" and the other dated "12/11/10." A copy of each report is appended to this report.

In re "Examination Report" (2 pages), No. FSL 2010/P-2031/**PHY-93/10** (herein-after referred to as "Report 1"), dated "02/6/10": The analyses by the Forensic Science Laboratory Delhi were per the request by Deputy Inspector General of the Police of C.I.D. Bangalore. What was examined were 2 "Sandisk" memory cards (70 and 213 "video clips"; format of "clips" and capacity of cards not specified in the Report) and 1 Moserbaer DVD with "video recordings" (quantity not specified in the Report).

This Report is substantively lacking, even though it states that there were 34 "deleted files" in one of the memory cards, and 24 "deleted files" in the other memory card. The Report states that ENCASE software was used, but did not detail exactly what analyses were performed, nor did Report 1 compile its findings in order for the reader to understand or replicate its findings. For example, ENCASE software is a product of GuidanceSoftware. In one of their publications (EF PS 8090-50004, entitled "ENCASE Forensic - Transform Your Investigations"), it states that a "completed case is only as good as its final report." The undersigned completely concurs.

The reporting capabilities include the ability to "create compelling, easy to read, professional reports for every case." And yet the Report in this case has no details to support its findings or conclusions. In fact, the ENCASE software is set up to generate complete reports to be "consistent across an examiner's entire caseload." This is consistent with the objectives of the National Accreditation Board for Testing and Calibration Laboratories (NABL) - the Forensic Science Laboratory Delhi is a NABL member and yet did not apparently produce a Report consistent with NABL standards and readily completed with the ENCASE software that they use.

What was reportedly examined were:

- \* Memory Card, Exhibit 1A: 70 video clips (or shots) + 24 deleted but retrieved files
- \* Memory Card, Exhibit 1B: 213 video clips (or shots) + 34 deleted but retrieved files

The Report states that the above video clips or shots were in "digital video format" and no "alterations" were concluded based on Non-Linear Video Editing & Storage System & Video Analyst System. It is remarkable that the Report 1 does not state the exact "digital video format." The characteristics of various digital video formats, e.g., GVI, AVI, DivX, QuickTime, MPEG-1, MPEG-2, MPEG-4, etc. differ and may affect the forensic authenticity analyses of a given video. As for the Non-Linear Video Editing & Storage System, it is not clear because it was not specified how a video editing method was employed to determine the authenticity of any of the clips.

As for the Video Analyst System, likewise, the report is deficient in providing the essential information about what was performed and how any analysis was performed - information essential for another forensic examiner to understand the analyses and/or to attempt to replicate the procedures and findings.

\* DVD, Exhibit 2: 116 video clips

Again, the report is deficiently unclear in that there is no explanation of which of these 116 video clips were also in the 283 clips within Exhs. 1A and 1B. Nor does Report 1 discuss the significance of the duplicated clips, or the clips that were not duplicated. Also, Report 1 states that there are "Retrieved video recordings of deleted files from memory cards along with the video recordings in the memory cards marked Exhibit-1A and Exhibit-1B," which are apparently provided in the DVD marked "Copy of Exhibit-1A & Exhibit 1B." And yet another way that Report 1 is deficient is that it does not expand or explain the forensic or legal significance of such findings. Another remarkable finding is that Report 1 is explicit in stating that it "contains 116 video clips" (Report, p.1), but also states in another paragraph on page 2 of the same report that the (same) DVD has *all* of the video recordings, along with the retrieved files on that DVD. In other words, the DVD either has 116 video clips in it, or 341 video clips (the sum of all the clips and retrieved files from both memory card), but not both, as the report states. Such inconsistency is very substantial.

Furthermore, Report 1 does not explain the content, much less their forensic significance, of the clips or shots? Nor the content of retrieved files? Nor the relationship of the clips to deleted files? Nor the significance of video clips and deleted files? Etc.

In re "Examination Report" (3 pages), No. FSL 2010/P-3243/**PHY-152/10** (herein-after referred to as "Report 2"), dated "12/11/10." The analyses by the Forensic Science Laboratory Delhi were per the request by Deputy Inspector General of the Police of C.I.D. Bangalore. It is not obvious what the purpose or objective of the forensic examination of the same evidence is months later. Nevertheless, what was examined were 5 exhibits:

- |           |   |
|-----------|---|
| Exhibit-1 | San Disc SDHC 8 GB memory card;<br>facial image of male = Exh.-QMFI and facial image of female = Exh.-QFFI<br>* same SN as earlier Report but references "male person in <i>the</i> video recording" (emphasis added) and yet there are supposedly 70 video clips or shots + 24 deleted clips - "the" recording vis-a-vis 70-94 clips?    |
| Exhibit-2 | San Disc SDHC 8 GB memory card;<br>facial image of male = Exh.-QMFI and facial image of female = Exh.-QFFI<br>* same SN as earlier Report but references "male person in <i>the</i> video recording" (emphasis added) and yet there are supposedly 213 video clips or shots + 34 deleted clips - "the" recording vis-a-vis 213-247 clips? |

One of the many confusing aspects of Report 2 is that there are the same Exhibit designations of people from different discs. This, by definition, means that the person at issue in one file is identical (positive identification) as another person in a different file. Although the serial numbers of the 2 memory discs are the same in both Reports, one report spells the make as "Sandisk", while the other report, by the same author, spells the make as "San Disc."

Exhibit-3 Moserbaer DVD w/2 folders: Photos (w/8 JPEGs) + Video (w/Video.MTS)  
female in video and stills = Exh.-SFFI

Exhibit-4 Moserbaer DVD w/1 folder: Video (w/Video.MTS) with stills;  
male in video and stills = Exh.-SMFI

Exhibit-5 Sony spy camera in air purifier w/1 adapter and connecting cable

It is very remarkable that the Examiner in both Reports give the serial numbers to the memory cards, but not the model or serial number of the "Sony spy camera." The only "forensic" conclusion about the "spy camera" was that it was in "working condition." Making controlled test recordings of this working "Sony spy camera" would provide very helpful information as a baseline to compare all the other recordings. Exhibit 5 also claims an "adapter" and a "connecting cable." It is very remarkable that a forensic report does not elaborate on these 2 items. Is the adapter, for example, a microphone, or voltage converter or regulator? What was the adapter used for? What was the connecting cable used for? How did either effect the original recording? Why was the total lack of any audio not addressed?

It is very remarkable that the Examiner in both Reports states that the video recording in the memory chips was that it "can be recorded" by the spy camera. The significance of this opinion was not provided in the Report 2. Likewise, the legal or forensic significance of the "opinion" that the memory cards "can be inserted in the memory slot of spy camera" is unknown.

Arguably the most remarkable "opinion" from the Examiner in Report 2 is that from an "image of person" having an unqualified "resemblance" to another can lead to the conclusion that that person and a particular another person "are of the same person." From "resemblance" to a positive identification based on the information in Report 2 is forensically, scientifically and even logically untenable.

#### ANALYSES OF THE 23m12s VIDEO AT ISSUE.

It is clear that there are content in the YouTube videos that are not contained in the 23m12s video (see, for examples, ScreenShots 3, 4 and 11, above); and, there is content in the 23m12s video that is not contained in any of the YouTube videos analyzed. Likewise, there is video content before and after the beginning and ending of the 23m12s video at issue. Therefore, by definition, this means that the 23m12s video is not a true and accurate copy of the original, as there is at least video content before and after the beginning and ending of the 23m12s video at issue.

There is no audio in the 23m12s video at issue. The fact that there is no audio in the video analyzed is especially remarkable in light of

- i) practically every video recording shot in real-time (vis-à-vis time-lapsed video) with the capability of sound recording has sound in the video recording; and
- ii) although Report 2 inventories the "Sony spy camera in air purifier w/1 adapter and connecting cable," it does not elaborate on the nature and purpose of said "adapter" or "connecting cable."
- iii) Neither Report 1 or 2 notes any video with or without audio.

The video at issue is described variously as a "sex scandal." The main contention appears to be when a woman allegedly appears to be performing oral sex on the male subject. This is not irrefutable based on the angle of the recording system, i.e., only the back of the woman's head is seen, and nothing about the front of her head, what she is or is not exactly doing and what the male subject is or is not doing, are visually obvious. Then the likelihood of what is or is not happening should be based on the circumstantial visual information available: What is apparent from the visual information available are as follows:

- i) the male subject's arm is nonchalantly resting behind his head before *and* after the woman's head is lowered (see Screenshots 12 and 13, below);
- ii) the male subject's head and attention are both directed to the television before *and* after the woman's head is lowered (see Screenshots 12 and 13, below);
- iii) the male subject's demeanor is unchanged before *and* after the woman's head is lowered, e.g., his breathing rate does not appear to change, his facial expression does not appear to change, no part of his body, e.g., his hands or arms, is apparent of any on-going sexual activity, etc. (see Screenshots 12 and 13, above)



**Screen Shot 12, at 19m42s.**



**Screen Shot 13, at 22m53s. Note that his demeanor, e.g., attention to television, relaxed (not aroused) arm resting nonchalantly behind his head, relaxed body, no remarkable facial expression, remains unchanged before (Screenshot 10) and after (Screenshot 11) the woman's head is lowered.**

#### CONCLUSIONS.

- 1) Based on the information provided in Reports 1 and 2, it is of the expert opinion of the undersigned that such Report may not be admissible in any U.S. court of law, or may not survive a *Daubert* reliability challenge<sup>2</sup>.
- 2) Based on the information provided in Reports 1 and 2, it is of the expert opinion of the undersigned that there is no forensically tenable basis to authenticate the silent video at issue, *i.e.*, there is no forensically tenable basis to make a scientifically valid determination that the video at issue is a true and accurate reproduction of the original recording.
- 3) The YouTube video clips reviewed are very misleading, if not outright fraudulent, from an evidentiary standpoint: There are edits, insertions of music, singing and/or commentary, which are more than mere misrepresentations of the putative original video content.
- 4) The 23m12s video at issue is clearly not a true and accurate reproduction or copy of the putative original video, as there is content before the beginning and after the end of the 23m12s video that exists, and as it is likely that the audio content was removed after the fact. In fact, this 23m12s video at issue is an edited version of the true original. Nevertheless, determination of authenticity of this 23m12s recording can be made with more information and additional forensic analyses of the equipment and evidence analyzed in Reports 1 and 2, described above.

<sup>2</sup> A *Daubert* challenge is a pre-trial hearing before the judge where the validity and admissibility of expert testimony is challenged by opposing counsel; the expert is required to demonstrate that his/her methodology and reasoning are scientifically valid and reliable and can be properly applied to the facts of the case. The undersigned has been *Daubert* challenged once, and overcame it completely. A copy of that *Daubert* Order, which also explains the elements of scientific validity and reliability, is attached.

In summary, given the visual information available in the 23m12s video, either there is sexual activity at the end of the 23m12s video received, or there is not. If there is sexual activity, it is most remarkable that there are no outward signs of any sexual, physical or emotional gratification of the male during or after the alleged event. To the contrary, it is much more likely that there is no sexual activity at the end of this 23m12s video for the reasons stated above. In addition, there is another compelling reason to substantiate the likelihood that no sexual activity is transpiring at the end of the 23s12s video: if one covers up the female in the video from view, then no viewer of that video can logically determine with any certainty the exact second or moment that the alleged sexual activity at the end of the video starts or ends.

**QUALIFICATIONS.** Yonovitz & Joe, L.L.P., a registered partnership based in Dallas, Texas, is a team of forensic audio/video analysts, experts and consultants. We have been forensic audio/video experts for over fifty-eight combined years. Our diverse legal, forensic, academic, research and clinical experience includes scientifically objective, verifiable and generally accepted analyses of audio and video evidence including, but not limited to, the forensic authenticity analyses of audio or video evidence, voice/speaker identification or elimination via aural-acoustic-spectrography, digital enhancement of audio or video recordings, transcription development and verification, etc. We have been retained in thousands of cases involving thousands of recordings throughout the U.S., Canada, Mexico, the United Kingdom, Sri Lanka, Australia, Singapore and the United Arab Emirates, and have testified in state and Federal courts in civil, criminal and administrative matters throughout the U.S., as well as overseas. Representative clients include Steptoe & Johnson (Wash., D.C.), Shearman & Sterling (NYC), Simpson Thacher & Bartlett (NYC), Mesereau & Yu (Los Angeles), Armstrong Teasdale (Kansas City), Ford & Harrison (Memphis), Rawle & Henderson (Philadelphia), McAfee & Taft (OKC), Bracewell & Patterson (Houston), Akin Gump (San Antonio), Jones Day (Dallas), Haynes & Boone (Houston), Thompson & Knight (Dallas), Vinson & Elkins (Dallas), Jenkins & Gilchrist (Dallas), Wal-Mart Stores, Inc., Georgia-Pacific, LLC, Coastamare Shipping Comp., Motorola Corp., Vivint, Inc., BankOne, BlueCross BlueShield, Shell Oil Co., United Parcel Service, Inc., Shell Texaco & Saudi Refineries, Inc., Reliant Energy, 7-Eleven, Inc., Evercom Systems, Inc., Abu Dhabi (United Arab Emirates) Judicial Department, U.S. Attorney's Office (NM), Mississippi Attorney General's Office, Harris County (Houston) Attorney's Office, Harris County Sheriff's Office, City of Austin, City of San Angelo, City of Galveston, Plano (TX) and Akron (OH) Police Depts., Dallas, Maricopa (Phoenix), Tulsa (OK), Harris (Hou.), Fulton (GA) and Summit (OH) County DA's Offices, Washington D.C., Houston, Little Rock, South Dakota, DuPage County (IL), Green County (PA), New Mexico, New Hampshire and New Jersey Public Defender's Offices, Kentucky Department of Public Advocacy, Louisiana Crisis Assistance Center, Oklahoma Indigent Defense System, the Associated Press (AP), ABC, BBC, FOX-TV, etc. High profile cases include the *Branch Davidian* case; consultations include TMZ, *CSI: Miami* and *People* Magazine and recent speaking engagements include the 2002, 15th Annual Criminal Litigation Seminar, the 2003 annual convention of the American Speech & Hearing Association, the 2004 26th World Congress of the International Association of Logopedics and Phoniatrics, the 2005 annual conference of the Center for International Legal Studies, the 2005 3rd Annual Forensics Seminar, the 2006 4th Annual Forensics Seminar, the 2007 annual meeting of the North Carolina Bar Association, the 2007 5th Annual Forensics Seminar,

the 2008 6th Annual Forensics Seminar, the 2009 Spring Meeting of the Forensic Expert Witness Association, the 2009 7th Annual Forensics Seminar, the 2010 8th Annual Forensics Seminar, the 2010 2nd Pan American/Iberian Meeting on Acoustics (Cancún), the 2011 9th Annual Forensics Seminar and the 2011 annual meeting of the American Speech & Hearing Association.

The undersigned is managing partner of Yonovitz & Joe, L.L.P. I have 4 degrees, including 2 science degrees (B.S., M.A.) and 2 law degrees (J.D., LL.M.). The following are a result of my expertise and experience in the area of forensic audio/video: Board Certified Forensic Audio/Video Examiner; Diplomat, American Board of Forensic Examiners; Diplomat, American Board of Law Enforcement Experts; Licensed Instructor, Texas Board of Private Investigators; Member, Evidence Code Committee of the Oklahoma Bar Association; Former Board Member, Forensic Expert Witness Association; Board of Legal Advisors, American Guild of Court Videographers; Charter Member, Legal Advisory Board, American College of Forensic Examiner Institute; Member, The Commission on Forensic Education; Fellow, American Guild of Court Videographers; and Fellow, American College of Forensic Examiners. I am also a Certified Mediator, licensed to practice law in Texas and Oklahoma, a Registered Patent Attorney with the United States Patent & Trademark Office, a Registered Patent Agent with the Canadian Intellectual Property Office, a Member of the College of the State Bar of Texas, Adjunct Faculty (Grad. Law Classes) at the University of Phoenix and a Member of the Summit County Board of Health. My 24-year involvement in the area of forensic audio/video includes expert testimony in state and Federal courts in civil and criminal cases throughout the U.S., as well as overseas, giving regional, national and international presentations, authoring peer-reviewed publications and being interviewed or consulted with throughout the news and entertainment industries domestically and foreign.

This is a preliminary report and subject to change upon receipt of additional information or evidence.

Respectfully submitted,  
YONOVITZ & JOE, L.L.P.  
*Forensic Audio/Video Analysts, Experts & Consultants*



**Herbert Joe**, M.A., J.D., LL.M., B.C.F.E.,  
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Licensed Instructor, Texas Board of Private Investigators

Member, Evidence Code Committee, Oklahoma Bar Assoc.  
Member, College of the State Bar of Texas  
Member, Legal Advisory Board, American College of  
Forensic Examiners International  
Member, Board of Legal Advisors,  
American Guild of Court of Videographers  
Fellow, American Guild of Court of Videographers  
Diplomate, American Board of Law Enforcement Experts  
Diplomate, American Board of Forensic Examiners  
Fellow, American College of Forensic Examiners

- Attachments:
- 1) Two "Examination Reports" (dated "02/6/10 and "12/11/10")  
from the Forensic Science Laboratory of the Government of  
NCT of Delhi; and
  - 2) Copy of only *Daubert* Order of Herbert Joe.



Al Yonovitz, Ph.D., CCC-A  
Herbert Joe, M.A., J.D., LL.M., B.C.F.E.,  
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VIA E-MAIL AS PDF FILE

January 28, 2012

Attn.: Board of Directors  
Life Bliss Foundation  
9720 Central Ave.  
Montclair, CA 91763

RE: Preliminary Forensic Video Analyses Report

Dear Board of Directors,

Thank you for the opportunity to forensically review the audio/video evidence at issue. Attached are 3 signed copies of the report with attachments.

To properly determine the authenticity of the evidence at issue, it is standard procedure to either have possession of or at least on-site access to the putative original evidence for non-invasive, non-destructive testing and digital copying. My equipment is portable, as going on-site for testing and copying is routine. I may suggest delivering copies of my Report to Mr. Ambiger, DSP of the Karnataka CID in Bengaluru, India and to Nithyananda Dhyanapeetam in Bidadi, India. Please let me know if I can be of further assistance. Thank you, have a great week, and I remain

Sincerely,  
YONOVITZ & JOE, LLP.  
*Forensic Audio/Video Analysts, Experts & Consultants*

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