

Scientific Analysis of the Dress Betty Hill Wore During her CE3 Experience

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A CE1 sighting experienced by myself many years ago created an obsession. That obsession was to find out about who was piloting the craft. Later in life I became an analytical chemist. And thus, along with acquired analytical skills, I began to examine physical trace evidence related to the UFO phenomena. (You will find over 90 analyses on The Black Vault website: <http://www.theblackvault.com/casefiles/category/ufos/ufological-history/the-phyllis-budinger-collection>.) What clues would these analyses provide about the pilots? I reasoned that a most obvious 'peek out of the fishbowl' would be to examine evidence from a very credible CE3 event. Of course, this was the Betty and Barney Hill encounter.

The September 2001 issue of the "Mutual UFO Network UFO Journal" featured two fascinating articles on the Hills' abduction. These were done in commemoration of the 40th anniversary of event. One was by Dwight Connelly (Betty & Barney Hill Anniversary - Hill Case Revisited), and the other by Kathleen Marden (Niece Recalls Hill Episode). Connelly's article included a recent picture of Betty holding the dress she wore during the event, along with the descriptions of the powdery material and damage the dress apparently had suffered. I was unaware that this dress still existed, and judging from the descriptions, it seemed highly possible it may contain evidence of the abduction. Amazingly, I had never seen any reports of an in-depth analysis of it. There were a few cursory elemental analyses done, but nothing to specifically identify any anomalies on the dress.

Learning of the dress's existence I immediately contacted both Dwight Connelly and Kathleen Marden concerning the possibility of acquiring swatches of the dress for analysis. Kathleen contacted her aunt Betty who agreed to my request. By November 3, 2001 I had received two swatches: one from a discolored area; and the other from an area that retained its original color to serve as a control. Then on July 5-7, 2002, I had the distinct pleasure of meeting Betty Hill and Kathleen Marden at the International MUFON meeting in Rochester, NY. Betty brought the dress, and I personally excised more swatches for analysis.

The analysis is documented in a 47 page report. And for those who want to wade through the detailed results it has the following Black Vault website address: (<http://www.theblackvault.com/casefiles/analysis-dress-worn-betty-hill-september-19-1961-abduction-new-hampshire>). Additional DNA analysis, done after this report was written, can also be found on the site. Bear in mind, some of my opinions have crystallized after over 20 years experience of analyzing UFO physical evidence and overcoming a learning curve for analyzing these types of samples.

Brief Synopsis of the Abduction Event

To refresh some memories a brief description of this well documented event is offered.

On September 19, 1961, Betty and Barney Hill, along with dachshund "Delsey", were returning home (Portsmouth, New Hampshire) from an extended weekend pleasure trip to Canada.

Their itinerary took them to Niagara Falls, then to Montreal, and home. They were traveling south on US Route 3 in central New Hampshire.

At approximately 10:15 they noted a “bright star” which appeared to move erratically. They continued to observe it as it apparently paced them and got closer and closer. Barney stopped to retrieve a 0.22 pistol from the trunk.

After resuming the drive, both Betty and Barney looked at the object through binoculars, observing a spinning, flattened circular disk with multicolored lights on the rim.

About two miles north of North Woodstock, the object descended and hovered about 100 feet in the air. No spinning was noted. A blue-white fluorescent glow shined through its windows. The object appeared to be the size of a four-engine aircraft.

Barney stopped the car and got out. He could see several uniformed, human-like figures. Afraid that they were about to be abducted, he jumped in the car and raced down the road. Suddenly an irregular beeping sound was heard. The Hills felt a tingling sensation and became drowsy.

The next thing they remembered was a second series of beeps as they were passing through Plymouth. It took several more miles before they became fully awake. The craft was gone.

Two hours of missing time were noted. They both felt clammy and grimy, and Barney’s lower abdomen was bothering him. Their wristwatches had quit working, and there were unexplained marks on their car.

Both Barney and Betty sought therapy, and eventually hypnosis was utilized by Dr. Benjamin Simon, who had no knowledge of, or interest in, UFOs. Yet the hypnosis suggested that both Barney and Betty had been abducted and subjected to physical examinations.

Dress History

Every chemical analyst knows that a complete background history of a sample helps in determining the final conclusions. It’s 50% of the analysis. And so it is with Betty’s dress. Following is the dress history.

The dress Betty wore on that fateful night was new. She had worn it only one other day during that weekend, but not the day before the abduction. Therefore, it had never been laundered.

The weather on the night of the event was unusually warm for that time of year, and it was not exceptionally humid.

When the abduction began, Betty recalls that two beings were on each side and escorted her to the craft with their “hands” under her armpits. Betty related she put up a “helluva fight” before she crossed the threshold of the craft. I asked whether she hit with her hands. She said, “No, I kicked like hell”, because her arms were restricted. The dress most definitely had to suffer stresses.

While on the craft she remembers that half way through a physical examination they decided to remove the dress. They had difficulties with the zipper. Once removed, the dress ended up on the floor of the craft in a heap.

Betty did not notice any odor emanating from the dress. But she did note “a strong odor” which was “not pleasant” on the craft. She initially could not identify it, but later said it smelled like marigolds. So the dress had had to be exposed to this.

After the event, when Betty and Barney arrived home, she undressed to go to bed. Betty related the following in a letter to me dated October 31, 2001.

“When I returned home that morning, I put my dress, folded, in the bottom of my closet, where it remained for several days. (Kathleen Marden reports in her book *“Captured”* that it was actually April or May of 1964 after the event. Page 25.) When I removed it, it was covered with a pink powder. So I threw it in the trash, but quickly changed my mind. I decided to put it outdoors in the sun. The powder blew away, but leaving the stains.”

Other damage was also noted to the dress. The lining on the right side of the dress was torn from the waist to the hem, and the top of the zipper was ripped. (See photographs below.) Because of the damage to the dress, it could never be worn again.

The dress then hung on a hanger in the Betty’s closet for many years. It had not been enclosed in a protective bag. No disinfectants, moth repellent, or other chemicals were ever sprayed in the closet. Occasionally, the dress would be taken out and shown to visitors.

Barney immediately had his suit cleaned after the event, and it never “developed” a pink powder, nor was it discolored. There was no damage to his clothing.

Dress Description

The dress is a common sheath-like style with (originally) a printed design in various shades of blue. It has simple lines, with short sleeves, a natural waist, a straight skirt, and is lined. The exterior is a knit of cellulose acetate as identified by my analysis. The lining is solid blue and also cellulose acetate, but woven. The dress has several swatches cut out of it due to sampling for analysis, as well as souvenirs given to some people.

Following are photographs of the dress which show the lining is torn from the waist down. The zipper is also torn. Extensive discoloration is obvious in two areas: along the top half of the dress, especially in the underarms; and on the bottom of the dress. These are the areas where Betty says the pink powder resided. The waist area retains its original blue color. There is no significant discoloring on the lining except for two or three stains.

Microscopic analysis of the discolored areas show the fiber has been “attacked” along with the dye. The stained swatches have a loose and less ordered fiber structure. The unstained control swatch has a tighter, more orderly fiber structure.

Photographs of the dress follow.

Dress Exterior Front



Dress Exterior Back



Inside Lining - Dress Front



Inside Lining Dress Back



Torn Lining



Torn Zipper



Sampling the Dress

Four swatches from the outside of the dress were examined. These include three swatches from the discolored areas and a control from an area that was not discolored. Also analyzed was a swatch of the interior lining, which had a stain.

The following documents the size of the swatches, along with photographs showing the locations of the dress from which the samplings were obtained.

- Control: The control is from the back, mid-section of the dress, about 3 to 4 inches above the waist, next to the zipper. It was sampled by Betty Hill and received on November 3, 2001. Note: it is only designated as a control because it was not discolored.



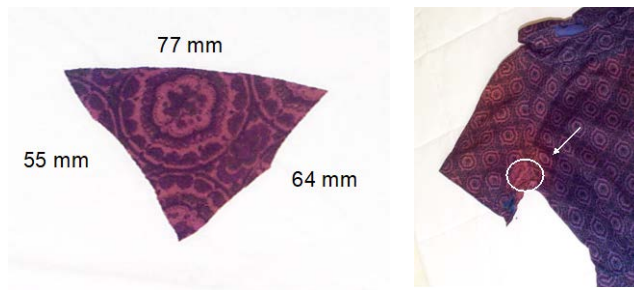
- Swatch #1: This swatch was sampled from the left sleeve by Betty Hill. It was also received on November 3, 2001.



- Swatch #2: This swatch is from the front mid-section of the dress skirt. It was sampled by me on July 7, 2002.



- Swatch #3: This swatch is from the right sleeve underarm. It was sampled by me on July 7, 2002.



•Lining: A lining swatch was obtained from the inside back skirt section, also sampled by myself on July 7, 2002. It was selected because of the dark stain.



Procedure

I wanted to identify any foreign contamination on the dress on a molecular level. So FT-IR (Fourier Transform-Infrared) spectroscopy, along with limited H NMR (Proton Nuclear Magnetic Resonance) were the instrumentation of choice to accomplish this objective. I obtained numerous infrared spectra of the surfaces of the swatches, isolated particles, and solvent extracts. ¹H NMR spectra were obtained by Dr. J. Robert Mooney for the water extracts.

I also acquired many microscope photographs obtained from the front and back of the swatches, as well as some isolated particulates.

A DNA analyses was done on Left Sleeve (Swatch #1), Mid-section Swatch #2), Right Sleeve (Swatch #3); Dress Lining stain, and finally a blood sample from Betty Hill for reference. The analyses were completed in December 2004. This was done by an expert DNA analyst with pseudonym 'Collie' who was recommended by Bill Chalker in Australia.

Analytical Results Foreign Materials Identified and Comments on Them

Mildew

Particles of the pink powder that Betty shook out of the dress after it was removed from the closet are mildew. Some of these particles, as well as a coating of mildew remained for analysis. Spectroscopy shows typical protein-type absorption characteristic of biological derived material. The conditions were right for it to form. Betty and Barney felt clammy and grimy after the event. The substance on the dress was originally moist, so the moisture was not allowed to dissipate because the dress was folded. This moist substance, probably slightly acidic, served as a nutrient for mildew. (See speculation on this substance below.) The mildew grew for

almost two years. Later, when the dress finally dried, a pink powdery residue from the growth remained.

It is the mildew that caused the discoloration and interacted with the dress fiber. The dress interior and drier lining were not attacked.

Mildew is most prominent and coating the stain areas. It is not prominent on the control. It is mostly on the exterior of the dress, and not as much on the interior side or lining. Some decomposition of the mildew was noted over time. Mildew is responsible for the attack on the fiber and dye on the stained swatches. Furthermore, the stained areas are where Betty says the NHI (Non Human Intelligence) had contact with the dress.

Household Components and Natural Oil

Common household components are detected which are: pet hair (Betty had a cat); skin flakes; fibers from other clothing/objects (cotton, polyethylene, polyacrylonitrile). These would be expected because the uncovered dress had hung in the closet for four decades before analysis. There is a natural oil which is specifically a glycerol ester.

DNA Types

DNA Analysis is most interesting. Explainable DNA can be found on all swatches except the right and left sleeves. For example, analysis revealed the stain on the back lining of the skirt is spider blood. Betty apparently sat on a spider during the journey. Kathleen Marden told me that Betty had a hot dog in Canada and sat at a picnic table to eat it. Also there was human, mouse and cow DNA. But there are two DNA results that raise questions. These are DNA sequences from soil bacteria and the Hmong-Mein speaking population from East Asia.

Dress Physical Damage and Analytical Results Related to the NHI (Non Human Intelligence) Encounter

On the onset it should be noted that no evidence was found which would contradict Betty and Barney's account of the CE#3 experience, and in fact lends support the story. Consider the following observations.

Cause of Mildew

Betty reports a most unpleasant, unidentifiable odor on the craft. I offer a speculation that this odor emanated from the craft occupants and were a result of natural body elimination of oils/respiratory agents. These substances transferred to the dress on contact. The pink areas are most profound around the top of the dress, especially around the sleeves where the NHIs had gripped Betty as they escorted her to and from the craft. The pink on the bottom is easily explainable, because contact was made with Betty's "escorts" when she kicked them as she was forcefully taken over the threshold of the craft. It is also possible some material transferred from the top of the dress to the skirt when Betty folded the dress after returning home. This moist substance eventually caused the mildew to form on Betty's dress. The moist, damp biological components found on the dress were probably also on Betty's skin, causing her to feel clammy and dirty.

At this point I also note an observation from the Travis Walton CE#3 encounter. In his book "Fire in the Sky" he remarks it was "stifling, warm and humid" in the craft (P 105). It is highly

possible, in fact probable, that there was a humid atmosphere in the craft Betty and Barney were on. This would contribute to the mildew formation.

Presence of Soil Bacteria

On the left sleeve of the dress DNA a soil bacterium (Alpha Proteobacterium) was found. So the left sleeve of a new dress was somehow in contact with soil. Betty reports her dress was removed and thrown 'in a heap' on the floor of the craft. I contend there was soil on the floor tracked in by Betty and the NHIs. At the time of the abduction the road the car was stopped on was dirt. It was paved in later years.

Excess of Mildew and Other Foreign Material

The NHI on the right took the brunt of Betty's kicking attack, because this is where the lining is ripped. Additionally, it is noted that the right sleeve is totally permeated with pink material, more so than the left sleeve, which indicates a tighter grip on her was necessary.

Hmong-Mein DNA

Also on the right sleeve is the "Hmong-Mein" DNA sequence. This demands explanation. Kathleen Marden related to me that Betty did not know anyone of Asian extract, nor is there any indication that the dress was ever handled by an Asian or made in Asia. In fact, Kathleen Marden suspects the dress was hand made by her grandmother, mother, or Betty. They often made clothing for themselves and others in the family. Furthermore there is no label.

Could the Hmong-Mien sequence have originated from the NHI? Does this indicate genetic engineering done in ages past to the human race involved introducing alien DNA? Did this DNA later become known as a Hmong-Mien sequence? Kathleen Marden related in a recent Email: "Betty and Barney described the entities as having flat Mongoloid faces and large slanted eyes."

There is precedence for the above questions. Bill Chalker's book "*Hair of the Alien*" reports the assault of Peter Khoury by a Nordic-appearing female NHI. The DNA results of a blond hair she left behind shows the shaft is of a rare Chinese Mongoloid type. (Chapter 5) Yet the NHI's hair was blond and not black. Furthermore, the root of the hair is a rare Basque/Gaelic type. To me, this is a clear indication of genetic engineering.

In support, I present an artist's depiction, as well as a sculpted head Betty would show at meetings and conferences. They were crafted from her description of the NHI's appearance.



Following are photographs of people of Hmong-Mien extraction. There appears to be a resemblance.



A racial similarity – A genetic connection?

Recommendation

More DNA testing has to be done on the right sleeve, and perhaps the torn zipper area which the NHIs had trouble undoing. The “Scientific Method” dictates this must be done. The 2004 results need confirmation. This should be done by a highly qualified scientist well-versed in the most modern DNA procedures. There was DNA on the right sleeve in 2004. I feel some remains in 2020.