

2002 Material Synopsis

By Dr. Bill Doleman

In the Fall of 2002—with funding by the SCI FI Channel—archeologists from the University of New Mexico Office of Contract Archeology (OCA), together with technical advisors Don Schmitt and Tom Carey, volunteer excavators and a professional geophysicist conducted a scientific investigation at the reported initial Roswell impact site in search of just such evidence. The location, known as the "debris field" and "skip site" is located on federal Bureau of Land Management land within the former Foster Ranch, where, as the story goes, rancher Mac Brazel found strange metallic debris one morning in early July 1947. He subsequently took samples of the material into Roswell to the sheriff's office, thus launching one of the most interesting, if controversial, chapters in New Mexico's colorful history.

This was the first fully scientific investigation conducted at the site, and I served as principal investigator. It was performed under an Archaeological Resources Protection Act permit issued by the BLM and an official was published and submitted to the SCI FI Channel and BLM in 2003. The report was reproduced in full in *The Roswell Dig Diaries* (published by Pocket Books, a Division of Simon and Schuster) in 2004. The site was revisited briefly in 2006—again with SCI FI Channel funding as part of the series *SCI FI Investigates*—at which time excavations focused on the area of a possible subsurface anomaly that had been discovered in a backhoe trench in 2002. The time allotted (two days), as well as the shooting schedule, severely restricted the amount of digging that got done, and a backhoe was used to clear the area with the goal of discovering further evidence of the anomaly, but none was found. Additional geophysical research was also done and a report is in preparation.

In addition, there was reportedly an earlier, unofficial investigation using archeological methods and sponsored by MUFON that took place in the late 1980s. No known report of this activity was ever prepared. The 2002 testing project did discover what could be small, shallow test pit remnants whose degree of weathering suggests they've been around for a number of years, however. Given ongoing controversy about the actual physical location of the debris field, it was suggested in the report that these features serve as evidence that the investigation at least took place in the same locale others had studied in the past—in particular the MUFOM "dig."

Post-field analyses of artifacts and soils samples from the site remain largely unpublished and incomplete to this day, however, largely because funding ran out. The SCI FI Channel funded X-Ray diffraction analysis of soil samples from key locations on the site, ICPMS analysis (inductively-coupled plasma mass spectrometry) of soil samples from on- and off-site, as well as preliminary laboratory identification of six of the apparently non-natural artifacts recovered during the excavation project. These artifacts were part of some 20 excavated items collected by the volunteer excavators under the rubric *HMUO*, an acronym for "historic materials of uncertain origin." The HMUO designation was intended to offer excavators an unbiased way to identify anything that might be a non-natural product of the events of 1947.

My preliminary identification of the HMUOs in the original report divided them into three categories: (a) definitely of natural origin (including five mineral specimens and one bone), (b) unidentified but of probable organic (i.e., biological) origin, and (c) of apparent manufactured origin. The probable organic items were identified as such by biology faculty at UNM, while four of the apparently manufactured items were submitted to Assagai Laboratories in Albuquerque, NM for further identification (Roark and Biava, 2003).

A summary of the results of these analyses as well recommendations for further analysis was submitted to the SCI FI Channel and the project's technical advisors—Donald Schmitt and Thomas Carey—in September, 2003, but did not lead to further funding. The table below is drawn from my report and presents the results of my preliminary identifications for the non-natural artifacts and two apparently burned rocks of non-local origin, together with my recommendations for further analysis. The Assagai Lab identifications have been added in blue for the four items submitted for analysis.

The Assagai report (memo to me dated August 2003) concluded thus: “In summary, all samples were found to be synthetic/plastic or cellulose, nothing that was felt to be extraterrestrial.”

Refractive index analysis of the FS 31 “orange blobs (and possibly the FS 57 item—note mention of “optical properties”) was the only laboratory testing technique mentioned, however suggesting that all the other identifications were made the same way mine were—that is “by eye.”

Apparently man-made items that were not submitted to Assagai Labs for analysis are the tentatively identified rubber and leather shoe parts from Study Unit 6, the white fibers from Study Unit 9, and the possible cotton thread from Study Unit 10. Also not submitted were the two non-limestone rock fragments from Study Unit 15, which are of continuing interest for three reasons: (a) they are of non-local origin, (b) they appear possibly burned, and (c) there are clumps of unidentified short, straight white fibers clinging to one surface of each of the specimens.

So, yes, with the exception of the two non-local rocks, the artifacts recovered from the site appear to be of human, 20th century manufacture, but this conclusion has not been confirmed by thorough physical and chemical analysis. Ever since 2003, I have asserted that further forensic analyses of the HMUOs should be conducted for two purposes. The first is to comprehensively confirm, if possible, that the items are in fact of terrestrial and identifiable origin. Owing to the site’s tremendous significance in the on-going controversy over UFOs, as well as its cultural importance to not only the state of New Mexico, but the world at large, identification beyond “eye-ball” evaluation is needed to confirm the items’ terrestrial origin and preclude a non-terrestrial origin.

Secondly, any manufactured items that date to the 1947 era may shed light on the events that took place at Foster Ranch at that time. If, as has been claimed, the military conducted a cleanup of the site, it is possible that some artifactual evidence of that activity, or others that took place in the crucial post-event period, may be present at the site. For those that are determined to be manufactured, attempts should be made to both determine their specific origin and use, as well as to date them, if possible, by identifying diagnostic period-of-manufacture characteristics, or—if appropriate—radiocarbon dating.

In fact, the site is located essentially “in the middle of nowhere,” and hence, the presence of 20th century artifacts is somewhat surprising. Possible scenarios that might account for the presence of these artifacts fall into three categories:

1. Activities related to the event itself and the immediate post-event time frame and human activities (the crash, eyewitness visits (e.g., Brazel), military visits)
2. Activities related to UFO research conducted at the site subsequent to the Summer of 1947
3. Activities related to on-going ranching and livestock grazing

In addition to the postulated military cleanup, a distinct possibility is that some or all of the apparently man-made items were left there by visitors to the site, including the MUFON-sponsored testing that reportedly occurred in the 1980s.

Depending on how many times the location has been visited by researchers such as MUFON, Mr. Schmitt and his colleagues, or others, modern artifacts could have been introduced to the site at other times as well. Only positive identification through forensic laboratory analysis can provide knowledge concerning the age and origin of these artifacts. Given these considerations, any information concerning past visits to the site by Mr. Schmitt and others would be of great aid in better understanding the origin of 20th century artifacts recovered from the site surface excavated contexts. In particular, *any* information concerning the nature of the MUFON excavations, their duration, the number of individuals present, the activities conducted, and whatever items that might have been lost or discarded would be invaluable.

I have used the term "forensic" because it refers to the use of scientific methods in legal issues and courts of law—i.e., in matter where the validity of the conclusions must be as close to 100% certainty as possible. That's also the kind of certainty needed if proof of the Roswell event (or any such claim), as well as public acceptance is to be achieved. Forensic material analyses fall into two general categories. The first might be called specialist-based analyses in which a scientist who specializes in a particular kind of material identifies specimens, often consulting a library of representative examples. The second category might be called chemistry/physics-based. This approach involves the use of a variety of analytical technologies to determine the chemical (or elemental) composition and/or physical properties of unknown materials, and uses the resulting information to identify them. As such, chemistry/physics-based methods (of which exists a vast array) are often used in service of the overall forensic analysis.

I am suggesting that professional forensic scientists—preferably those at a reputable forensic laboratory—be consulted for guidance in identifying the Foster Ranch site HMUOS and in the choice of appropriate instrument analyses. The major purpose of our press conference was to publicize the need for the analyses in hopes that a forensic laboratory or funder or both would step forward. It should be noted here that attempts were made to have the HMUOs studied by both the FBI (request made through the Roswell Field Office of the BLM), and New Mexico State crime Lab (request made through the governor's office), but that neither request was granted. Here are some thoughts relating to analysis of some of the artifacts.

As any fan of the many forensic crime dramas popular on television today is aware, shoes—particularly their soles—are often identifiable as to manufacturer and date. Perhaps the SU 6 shoe parts, which include apparent sole fragments, may be identifiable as to origin and time frame. Also, given its possible similarity to the "metallic debris" originally reported in 1947 by eyewitnesses, the "gray film" material from SU 17 (FS No. 58) is of particular interest, despite its apparent similarity to duct tape or trash bag material. Equally interesting is the SU 17 thread (FS 32), which appears to be dark green, a color common in US Army fatigues of the post-war era. Need I say more about the implications of finding military fatigue thread at this site?

At present, the white fibers from SU 9 remain a mystery. The material was not shown to UNM biology faculty, and it does not look much like fur of any sort. Similarly, the SU 15 rock fragments, their burned appearance, and the short white fibers remain unexplained, but of interest because of the possibility that a strong impact could have produced burning.

Dating the HMUOs is also a crucial analytical goal. In addition to forensic identification and analysis, radiocarbon (C-14) dating of certain artifacts may be possible. Hence, the SU 10 thread, the SU 9 white fibers, and the SU 6 "shoe leather"—if they are in fact biological in origin—may be datable.

In summary, artifacts from five different excavated study units on the Foster Ranch "debris site" warrant further study by the appropriate scientists using appropriate analytical techniques. Better identification—and dating where possible—is necessary to conclusively determine if any of the items *could* be of non-terrestrial origin. Alternatively, if the artifacts are of modern origin, knowledge of their age and origin might increase knowledge of the events of 1947 and offer invaluable insight into the site's history.

Table. HMUOs (historic materials of uncertain origin) from the Foster Ranch skip site and debris field

STUDY UNIT	LEVEL	FS NUMBER	ITEM NUMBER	DESCRIPTION AND COMMENTS	FURTHER ANALYSIS?
6	1	5	1	1-2 pieces probable worn rubber shoe sole with molded tread (?), ca. 25 mm	YES
6	1	5	2	1-2 pieces probable shoe leather, ca. 25 mm	YES
6	2	6	1	1 piece probable worn rubber shoe sole with molded tread (?), ca. 30 mm	YES
6	2	6	2	1 piece of probable shoe leather, ca. 30 mm	YES
9	1	23	1	Clump of unidentified fibers, slightly "curly", 15-20 mm, pale to white in color; possibly fur, probably not nylon	YES
10	3	32	1	Flattened clump 10-15 mm of probably clothing thread (cotton?), with an unknown substance adhering	YES
15	2	49	1	Angular, non-limestone rock fragment, ca. 25 x 12 mm, with possible evidence of burning and some fine white fibers on one side — natural?	?
15	3	50	1	Angular, non-limestone rock fragment, ca. 30 x 25 mm, with possible evidence of burning and some fine white fibers on one side — natural?	?
17	1	57	2	Fragment of apparent man-made white plastic tube (15 mm, wall thickness ca. 1.5 mm, est. outside diameter 19 mm [0.75 in]), flared at one end, dark stain on inside; probably not PVC. Assagai Labs ID: A white piece of plastic was observed that exhibited synthetic optical properties and appeared to be "manmade".	?
17	1	58	1	Triangular piece (ca. 18 mm) of very thin (less than .3 mm), translucent gray plastic(?), slightly shiny (between dull and glossy) on both sides; color of duct tape but lacks fibers; flexible and tough; reminiscent of gray refuse bag material Assagai Labs ID: A piece of silver plastic was observed, is synthetic in nature and was felt to be possibly a piece of duct tape or a trash bag.	YES
17	1	59	1	2 pieces (10, 12 mm) of very thin translucent white plastic(?), rolled, split and fragile; reminiscent of plastic drop cloth material Assagai Labs ID: A piece of white fibrous material was observed that was determined to be cellulose.	YES
n/a	n/a	31	1	2 pieces (originally 1?) of bright orange "plastic-like" material in the shape of flattened "blobs", ca. 12 and 23 mm by 5-8 mm thick; slightly flexible; surface has fine coral-like or lichen-like surface texture; fresh break is brighter and more vitreous; possibly modern plastic but otherwise unidentifiable Assagai Labs ID: An orange agglomeration (blob) of material was observed and appeared to be an adhesive or glue material. It is partially translucent, weakly birefringent (anisotropic) and had a refractive index in the 1.53 to 1.54 range. This material is not fibrous and based upon the range of refractive indices mimics "modacrylic" a manmade synthetic material.	YES

Notes: *Study Unit* (SU) is the unique identifying number assigned to each excavation unit (e.g., test pit); *Level* indicates depth, with 1 indicating 0-5 cm, 2=5-10 cm, etc.; *FS number* is the unique number assigned to each SU and Level combination, *Item Numbers* are assigned to separate items from the same FS.