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TO SCHEDULE?

From : Widnall, Sheila E., Secretary Of The Air Force

Topic : Encloses the full Roswell Report and requests that it be passed onto Laurance Rockefeller; 2nd vol in the works to be sent to JHG.

Action: none

Division(s) Director's

:

Assnd1 :

Copy1 : Dr. Gibbons

Assnd2 :

File : Tech/UFOs

Remarks : Report mailed to Henry Diamond for Rockefeller on 3/5/96. . . .

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THE WHITE HOUSE
WASHINGTON

Dear Henry

Secretary Widmull asked me to pass the attached report on to Lawrence Rockefeller. I thought that you might make a good "first step" in that process.

I have just received the UFO Briefing Document by Don Berliner and will peruse it before sending a communication in response to Lawrence's letter of Feb. 29.

With very best regards -

Sincerely

3/5/96

**REPORT OF AIR FORCE RESEARCH
REGARDING THE
"ROSWELL INCIDENT"**



JULY 1994

REPORT OF AIR FORCE RESEARCH REGARDING THE "ROSWELL INCIDENT"

EXECUTIVE SUMMARY

The "Roswell Incident" refers to an event that supposedly happened in July, 1947, wherein the Army Air Forces (AAF) allegedly recovered remains of a crashed "flying disc" near Roswell, New Mexico. In February, 1994, the General Accounting Office (GAO), acting on the request of a New Mexico Congressman, initiated an audit to attempt to locate records of such an incident and to determine if records regarding it were properly handled. Although the GAO effort was to look at a number of government agencies, the apparent focus was on the Air Force. SAF/AAZ, as the Central Point of Contact for the GAO in this matter, initiated a systematic search of current Air Force offices as well as numerous archives and records centers that might help explain this matter. Research revealed that the "Roswell Incident" was not even considered a UFO event until the 1978-1980 time frame. Prior to that, the incident was dismissed because the AAF originally identified the debris recovered as being that of a weather balloon. Subsequently, various authors wrote a number of books claiming that, not only was debris from an alien spacecraft recovered, but also the bodies of the craft's alien occupants. These claims continue to evolve today and the Air Force is now routinely accused of engaging in a "cover-up" of this supposed event.

The research located no records at existing Air Force offices that indicated any "cover-up" by the USAF or any indication of such a recovery. Consequently, efforts were intensified by Air Force researchers at numerous locations where records for the period in question were stored. The records reviewed did not reveal any increase in operations, security, or any other activity in July, 1947, that indicated any such unusual event may have occurred. Records were located and thoroughly explored concerning a then-TOP SECRET balloon project, designed to attempt to monitor Soviet nuclear tests, known as Project Mogul. Additionally, several surviving project personnel were located and interviewed, as was the only surviving person who recovered debris from the original Roswell site in 1947, and the former officer who initially identified the wreckage as a balloon. Comparison of all information developed or obtained indicated that the material recovered near Roswell was consistent with a balloon device and most likely from one of the Mogul balloons that had not been previously recovered. Air Force research efforts did not disclose any records of the recovery of any "alien" bodies or extraterrestrial materials.

INTRODUCTION

Air Force involvement in the alleged UFO-related incident popularly known as the "Roswell Incident" began as the result of a January 14, 1994, Washington Post article (Atch 1) which announced Congressman Steven Schiff's intent to initiate a General Accounting Office (GAO) effort to resolve this controversial matter. Having previously been involved in numerous Freedom of Information Act (FOIA) and Congressional

requests on "unusual aircraft," to include Unidentified Flying Objects (UFOs), The Director, Security and Special Program Oversight, Office of the Secretary of the Air Force, (SAF/AAZ) believed the Air Force would become involved in any GAO effort involving this subject.

Thus, in late January, 1994, SAF/AAZ directed its research/declassification team, SAF/AAZD, to attempt to locate any official records relative to this matter. These initial research efforts focused on records at the Air Force Historical Research Agency (AFHRA), Maxwell AFB, AL, the Air Force Safety Agency (AFSA) at Kirtland AFB, NM and the National Archives and Records Administration (NARA).

On February 15, 1994, the GAO officially notified Secretary of Defense William J. Perry that, it was initiating an audit of the Department of Defense (DoD) policies and procedures for acquiring, classifying, retaining, and disposing of official government documents dealing with weather balloon, aircraft, and similar crash incidents (Atch 2). This notification was subsequently passed to the Department of Defense Inspector General who in turn officially notified the Secretaries of the Services and other affected parties of the audit in a February 23, 1994, memo (Atch 3). This memorandum indicated that the "GAO is anxious to respond to Representative Schiff's request and to dispel any concerns that the DoD is being unresponsive." These were the first official US Government documents that indicated that the purpose of the GAO was to review "crash incidents involving weather balloons and unknown aircraft, such as UFOs and foreign aircraft, and (2) the facts involving the reported crash of an UFO in 1949 (sic, 1947) at Roswell, New Mexico ... (and an) alleged DoD cover-up."

An entrance meeting of potentially concerned parties was held in the offices of the DoD Inspector General on February 28, 1994. During this meeting it was learned that, while the audit officially would be reviewing the records of a number of DoD (and possibly other Executive Branch entities), the bulk of the effort would be focused on Air Force records and systems. The audit was officially given the GAO code 701034, and entitled "Records Management Procedures Dealing With Weather Balloon, Unknown Aircraft, and Similar Crash Incidents." Although this official title appeared rather broad, there was no misunderstanding that the real purpose was to attempt to locate records and/or information on the "Roswell Incident." This incident, explained later in more detail, generally dealt with the claim that in July of 1947, the US Army Air Forces (USAAF) recovered a flying saucer and /or its alien occupants which supposedly crashed near Roswell, New Mexico. When the USAAF ultimately became the United States Air Force (USAF) in September, 1947, the USAF inherited equipment, personnel, records, policies, and procedures from the AAF. In this particular case, the Air Force also inherited the allegation that it had "covered up" the "Roswell Incident" and has continued to do so for the next 47 years.

Within the Air Force, the Office of the Administrative Assistant to the Secretary of the Air Force (SAF/AA) is responsible both for information management procedures (SAF/AAI) and security policy and oversight (SAF/AAZ). Because of this organization, SAF/AA was

the logical entity to assist the GAO in its audit and SAF/AAZ was officially named as the Central Point of Contact for this endeavor (Atch 4). Subsequently, the then-Administrative Assistant, Mr. Robert J. McCormick, issued a tasking memorandum dated March 1, 1994 (Atch 5), to a number of current Air Staff and Secretariat offices that might possibly have records related to such an incident if, indeed, something had actually occurred. This search for records was purposely limited to Air Force records and systems since:

- (a) The Air Force had no authority to compel other agencies to review their records;
- (b) The Air Force would have no way to monitor the completeness of their efforts if they did; and
- (c) the overall effort was the task and responsibility of the GAO--not the Air Force.

During the in-briefing process with GAO, it was learned that this audit was, indeed, generated at the specific request of Congressman Steven Schiff of New Mexico. Earlier, Congressman Schiff had written to the Department of Defense Legislative Liaison Office for information on the "Roswell Incident" and had been advised that it was part of the former UFO "Project Bluebook" that had previously been turned over to NARA by the Air Force. Congressman Schiff subsequently learned from NARA that, although they did, indeed, have the "Bluebook" materials, the "Roswell Incident" was not part of that report. Congressman Schiff, apparently perceiving that he had been "stonewalled" by the DoD, then generated the request for the aforementioned audit.

It is within this context that the following research and assistance efforts were conducted in support of the GAO. This report is intended to stand as the final official Air Force response regarding this matter.

THE "ROSWELL INCIDENT"--WHAT WAS ORIGINALLY REPORTED IN 1947

The modern preoccupation with what ultimately came to be called Unidentified Flying Objects (UFOs) actually began in June, 1947. Although some pro-UFO researchers argue that sightings of UFOs go back to Biblical times, most researchers will not dispute that anything in UFO history can compare with the phenomenon that began in 1947. What was later characterized as "the UFO Wave of 1947" began with 16 alleged sightings that occurred between May 17 and July 12, 1947, (although some researchers claim there were as many as 800 sightings during that period). Interestingly, the "Roswell Incident" was not considered one of these 1947 events until the 1978-1980 time frame. There is no dispute, however, that something happened near Roswell in July, 1947, since it was reported in a number of contemporary newspaper articles; the most famous of which were the July 8 and July 9 editions of the Roswell Daily Record. The July 8 edition reported "RAAF Captures Flying Saucer On Ranch In Roswell Region," while the next day's edition reported, "Ramey Empties Roswell Saucer" and "Harassed Rancher Who Located 'Saucer' Sorry He Told About It."

The first story reported that the Intelligence Officer of the 509th Bomb Group, stationed at Roswell AAF, Major Jesse A. Marcel, had recovered a "flying disc" from the range lands of an unidentified rancher in the vicinity of Roswell and that the disc had been "flown to higher headquarters." That same story also reported that a Roswell couple claimed to have seen a large unidentified object fly by their home on July 2, 1947.

The July 9 edition of the paper noted that Brigadier General Roger Ramey, Commander of the Eighth Air Force at Fort Worth, Texas, stated that upon examination the debris recovered by Marcel was determined to be a weather balloon. The wreckage was described as a "...bundle of tinfoil, broken wood beams, and rubber remnants of a balloon...." The additional story of the "harassed rancher" identified him as W.W. Brazel of Lincoln County, New Mexico. He claimed that he and his son, Vernon, found the material on June 14, 1947, when they "came upon a large area of bright wreckage made up of rubber strips, tinfoil, a rather tough paper, and sticks." He picked up some of the debris on July 4 and "...the next day he first heard about the flying discs and wondered if what he had found might have been the remnants of one of these." Brazel subsequently went to Roswell on July 7 and contacted the Sheriff, who apparently notified Major Marcel. Major Marcel and "a man in plain clothes" then accompanied Brazel home to pick up the rest of the pieces. The article further related that Brazel thought that the material:

"...might have been as large as a table top. The balloon which held it up, if that is how it worked, must have been about 12 feet long, he felt, measuring the distance by the size of the room in which he sat. The rubber was smoky gray in color and scattered over an area about 200 yards in diameter. When the debris was gathered up the tinfoil, paper, tape, and sticks made a bundle about three feet long and 7 or 8 inches thick, while the rubber made a bundle about 18 or 20 inches long and about 8 inches thick. In all, he estimated, the entire lot would have weighed maybe five pounds. There was no sign of any metal in the area which might have been used for an engine and no sign of any propellers of any kind. Although at least one paper fin had been glued onto some of the tinfoil. There were no words to be found anywhere on the instrument although there were letters on some of the parts. Considerable scotch tape and some tape with flowers printed upon it had been used in the construction. No string or wire were to be found but there were some eyelets in the paper to indicate that some sort of attachment may have been used. Brazel said that he had previously found two weather balloons on the ranch, but that what he found this time did not in any way resemble either of these."

EVOLUTION OF THE EVENT FROM 1947 TO THE PRESENT

Consistently, however, the AAF was accused of securing these sites, recovering all the material therefrom, keeping locals away, and returning the recovered wreckage (and bodies) to Roswell under extremely tight security for further processing and later exploitation.

Once back at Roswell AAF, it is generally alleged that special measures were taken to notify higher headquarters and arrangements made to have recovered materials shipped to other locations for analysis. These locations include Ft. Worth, Texas, the home of the Eighth Air Force Headquarters; possibly Sandia Base (now Kirtland AFB), New Mexico; possibly Andrews AAF, Maryland, and always to Wright Field, now known as Wright-Patterson AFB, Ohio. The latter location was the home of "T-2" which later became known as the Air Technical Intelligence Center (ATIC) and the Air Materiel Command (AMC), and would, in fact, be a logical location to study unknown materials from whatever origin. Most of the Roswell stories that contain the recovery of alien bodies also show them being shipped to Wright Field. Once the material and bodies were dispersed for further analysis and/or exploitation, the government in general, and the Army Air Forces in particular, then engaged in covering up all information relating to the alleged crash and recovery, including the use of security oaths to military persons and the use of coercion (including alleged death threats) to others. This, as theorized by some UFO researchers, has allowed the government to keep the fact that there is intelligent extraterrestrial life from the American public for 47 years. It also supposedly allowed the US Government to exploit recovered extraterrestrial materials by reverse engineering them, ultimately providing such things as fiber optic and stealth technology. The "death threats," oaths, and other forms of coercion alleged to have been meted out by the Army Air Forces personnel to keep people from talking have apparently not been very effective, as several hundred people are claimed to have come forward (without harm) with some knowledge of the "Roswell Incident" during interviews with non-government researchers and the media.

Adding some measure of credibility to the claims that have arisen since 1978 is the apparent depth of research of some of the authors and the extent of their efforts. Their claims are lessened somewhat, however, by the fact that almost all their information came from verbal reports many years after the alleged incident occurred. Many of the persons interviewed were, in fact, stationed at, or lived near Roswell during the time in question, and a number of them claim military service. Most, however, related their stories in their older years, well after the fact. In other cases, the information provided is second or third-hand, having been passed through a friend or relative after the principal had died. What is uniquely lacking in the entire exploration and exploitation of the "Roswell Incident" is official positive documentary or physical evidence of any kind that supports the claims of those who allege that something unusual happened. Conversely, there has never been any previous documentary evidence produced by those who would debunk the incident to show that something did not happen; although logic dictates that bureaucracies do not spend time documenting non-events.

SEARCH STRATEGY AND METHODOLOGY

To insure senior Air Force leadership that there were no hidden or overlooked files that might relate to the "Roswell Incident;" and to provide the GAO with the best and most complete information available, SAF/AAZ constructed a strategy based on direct tasking from the Office of the Secretary, to elicit information from those functional offices and organizations where such information might logically be contained. This included directing searches at current offices where special or unusual projects might be carried out, as well as historical organizations, archives, and records centers over which the Air Force exerted some degree of control. Researchers did not, however, go to the US Army to review historical records in areas such as missile launches from White Sands, or to the Department of Energy to determine if its forerunner, the Atomic Energy Commission, had any records of nuclear-related incidents that might have occurred at or near Roswell in 1947. To do so would have encroached on GAO's charter in this matter. What Air Force researchers did do, however, was to search for records still under Air Force control pertaining to these subject areas.

In order to determine parameters for the most productive search of records, a review was first conducted of the major works regarding the "Roswell Incident" available in the popular literature. These works included: The Roswell Incident, (1980) by William Moore and Charles Berlitz; "Crashed Saucers: Evidence in Search of Proof," (1985) by Moore; The UFO Crash at Roswell, (1991) by Kevin Randle and Donald Schmitt; The Truth About the UFO Crash at Roswell, (1994) also by Randle and Schmitt; The Roswell Report: A Historical Perspective, (1991), George M. Eberhart, Editor; "The Roswell Events," (1993) compiled by Fred Whiting; Crash at Corona (1992) by Stanton T. Friedman and Don Berliner, as well as numerous other articles written by a combination of the above and other researchers. Collectively, the above represent the "pro" UFO writers who allege that the government is engaged in a conspiracy. There are no specific books written entirely on the theme that nothing happened at Roswell. However, Curtis Peebles in Watch the Skies! (1994) discussed the development of the UFO story and growth of subsequent claims as a phenomenon. There has also been serious research as well as a number of detailed articles written by so-called "debunkers" of Roswell and other incidents, most notably Philip J. Klass who writes The Skeptical Inquirer newsletter, and Robert Todd, a private researcher. The concerns and claims of all the above authors and others were considered in conducting the USAF records search.

It was also decided, particularly after a review of the above popular literature, that no specific attempt would be made to try to refute, point by point, the numerous claims made in the various publications. Many of these claims appear to be hearsay, undocumented, taken out of context, self-serving, or otherwise dubious. Additionally, many of the above authors are not even in agreement over various claims. Most notable of the confusing and now ever-changing claims is the controversy over the date(s) of the alleged incident, the exact location(s) of the purported debris and the extent of the wreckage. Such discrepancies in claims made the search much more difficult by greatly expanding the volume of records that had to be searched.

An example of trying to deal with questionable claims is illustrated by the following example: One of the popular books mentioned that was reviewed claimed that the writers had submitted the names and serial numbers of "over two dozen" personnel stationed at Roswell in July, 1947, to the Veterans Administration and the Defense Department to confirm their military service. They then listed eleven of these persons by name and asked the question: "Why does neither the Defense Department nor the Veteran's Administration have records of any of these men when we can document that each served at Roswell Army Air Field." That claim sounded serious so SAF/AAZD was tasked to check these eleven names in the Personnel Records Center in St. Louis. Using only the names (since the authors did not list the serial numbers) the researcher quickly found records readily identifiable with eight of these persons. The other three had such common names that there could have been multiple possibilities. Interestingly, one of the listed "missing" persons had a casualty report in his records reflecting that he died in 1951, while the writers claimed to have interviewed him (or a person of the exact same name) in 1990.

While the historical document search was in progress, it was decided to attempt to locate and interview several persons identified as still living who could possibly answer questions generated by the research. This had never been officially done before, although most of the persons contacted reported that they had also been contacted in the past by some of the listed authors or other private researchers. In order to counter possible future arguments that the persons interviewed were still "covering up" material because of prior security oaths, the interviewees were provided with authorization from either the Secretary of the Air Force or the Senior Security Official of the Air Force that would officially allow discussion of classified information, if applicable, or free them from any prior restriction in discussing the matter, if such existed. Again, the focus was on interviewing persons that could address specific issues raised by research and no consideration was given to try and locate every alleged witness claimed to have been contacted by the various authors. For example, one of the interviewees thought vital to obtain an official signed, sworn statement from was Sheridan Cavitt, Lt Col, USAF (Retired) who is the last living member of the three persons universally acknowledged to have recovered material from the Foster Ranch. Others were also interviewed as information developed (discussed in detail later). Additionally, in some cases survivors of deceased persons were also contacted in an attempt to locate various records thought to have been in the custody of the deceased.

Even though Air Force research originally started in January, 1994, the first official Air Force-wide tasking was directed by the March 1, 1994, memorandum from SAF/AA, (Atch 5) and was addressed to those current Air Staff elements that would be the likely repository for any records, particularly if there was anything of an extraordinary nature involved. This meant that the search was not limited to unclassified materials, but also would include records of the highest classification and compartmentation.

The specific Air Staff/Secretariat offices queried included the following:

- (a) SAF/AAI, Directorate of Information Management
- (b) SAF/AQL, Directorate of Electronics and Special Programs

- (c) AF/SE, Air Force Safety
- (d) AF/HO, Air Force Historian
- (e) AF/IN, Air Force Intelligence (including Air Force Intelligence Agency--AFIA, and the National Air Intelligence Center, NAIC)
- (f) AF/XOW, Directorate of Weather
- (g) (added later) The Air Force Office of Special Investigations (AFOSI)

In addition to the above Air Staff and Secretariat offices, SAF/AAZ also reviewed appropriate classified records for any tie-in to this matter. With regards to highly classified records, it should be noted that any programs that employ enhanced security measures or controls are known as a Special Access Programs (SAPs). The authority for such programs comes from Executive Order 12356 and flows from the Department of Defense to the Services via DoD Directive 5205.7. These programs are implemented in the Air Force by Policy Directive 16-7, and Air Force Instruction 16-701. These directives contain detailed requirements for controlling and reporting, in a very strict manner, all SAPs. This includes a report from the Secretary of the Air Force to the Secretary of Defense (and ultimately to Congress) on all SAPs submitted for approval, and a certification that there are no "SAP-like" programs being operated. These reporting requirements are stipulated in public law.

It followed then, that if the Air Force had recovered some type of extraterrestrial spacecraft and/or bodies and was exploiting this for scientific and technology purposes, then such a program would be operated as a SAP. SAF/AAZ, the Central Office for all Air Force SAPs, has knowledge of, and security oversight over, all SAPs. SAF/AAZ categorically stated that no such Special Access Program(s) exists that pertain to extraterrestrial spacecraft/aliens.

Likewise, the Secretary of the Air Force and the Chief of Staff, who head the Special Program Oversight Committee which oversees all sensitive programs in the Air Force, had no knowledge of the existence of any such program involving, or relating to the events at Roswell or the alleged technology that supposedly resulted therefrom. Besides the obvious irregularity and illegality of keeping such information from the most senior Air Force officials, it would also be illogical, since these officials are responsible for obtaining funding for operations, research, development, and security. Without funding such a program, operation, or organization could not exist. Even to keep such a fact "covered-up" in some sort of passive "caretaker status" would involve money. More importantly, it would involve people and create paperwork.

The aforementioned March 1, 1994, SAF/AA tasking generated negative responses (Atch 6-12) from all recipients; i.e. all offices reported that they had no information that would explain the incident. Consequently, these negative responses led to an increase in the already on-going historical research at records centers and archives.

The extensive archival and records center search was systematically carried out at by the SAF/AAZD Declassification Review Team. This team is composed entirely of Air Force

Reserve personnel who have extensive training and experience in large scale review of records. (Previous efforts include the Southeast Asia Declassification Review, declassification of POW/MIA records, and the review of the Gulf War Air Power Survey records). The team members all had the requisite security clearances for classified information and had the authority of the Secretary of the Air Force to declassify any classified record they found that might be related to Roswell. SAF/AAZD conducted reviews at a number of locations, including: the National Archives in Washington, DC; the National Personnel Records Center, St. Louis, MO; the National Archives, Suitland MD; the National Records Center, Suitland, MD; Naval Research Laboratory, Washington, DC; Federal Records Center, Ft Worth, TX; the INSCOM Archives, Ft. Meade, MD; National Air and Space Museum, Washington, DC; Air Force Historical Research Agency, Maxwell AFB, AL; Center for Air Force History, Bolling AFB, DC; Phillips Laboratory, Hanscom AFB, MA and Kirtland AFB, NM; Rome Laboratory, Griffiss AFB, NY; and the Library of Congress, Washington, DC.

A listing of the specific record areas searched is appended as Atch 13. The areas included all those subject areas logically believed to possibly contain any reference to activities at Roswell AAF during the period of time in question. It is anticipated that detractors from this effort will complain that "they did not search record group x, box y, or reel z, etc.; that's where the real records are!" Such complaints are unavoidable and there is no possible way that the millions of records under Air Force control could be searched page by page. The team endeavored to make logical searches in those places where records would likely be found. They were assisted in this task by archivists, historians, and records management specialists, including experienced persons who have continually worked in Army and Air Force records systems since 1943. The team also searched some record areas that were recommended by serious private researchers such as Robert Todd, who had independently obtained almost encyclopedic knowledge of the complexities of Air Force records systems, particularly as related to this subject area.

Not surprisingly, the research team found the usual number of problems in many of the records centers (particularly St. Louis) with misfiling, lost or misplaced documents, mismarking of documents, or the breaking up of record groups over the years and refileing in different systems. This included, for example, a small amount of missing "decimal files" from the 509th Bomb Group at Roswell that covered the years 1945-1949, that were marked on the index as "destroyed." The researchers noted that there was no pattern to any anomalies found and that most discrepancies were minor and consistent with what they had found in the past on similar projects.

WHAT THE ROSWELL INCIDENT WAS NOT

Before discussing specific positive results that these efforts revealed, it is first appropriate to discuss those things, as indicated by information available to the Air Force, that the "Roswell Incident" was not:

An Airplane Crash

Of all the things that are documented and tracked within the Air Force, among the most detailed and scrupulous are airplane crashes. In fact, records of air crashes go back to the first years of military flight. Safety records and reports are available for all crashes that involved serious damage, injury, death, or a combination of these factors. These records also include incidents involving experimental or classified aircraft. USAF records showed that between June 24, 1947, and July 28, 1947, there were five crashes in New Mexico alone, involving A-26C, P-51N, C-82A, P-80A and PQ-14B aircraft; however, none of these were on the date(s) in question nor in the area(s) in question.

One of the additional areas specifically set forth by GAO in its efforts was to deal with how the Air Force (and others) specifically documented "...weather balloon...and other crash incidents." In this area, the search efforts revealed that there are no air safety records pertaining to weather balloon crashes (all weather balloons "crash" sooner or later); however, there are provisions for generating reports of "crashes" as ground safety incidents in the unlikely chance that a balloon injures someone or causes damage. However, such records are only maintained for five years.

A Missile Crash

A crashed or errant missile, usually described as a captured German V-2 or one of its variants, is sometimes set forth as a possible explanation for the debris recovered near Roswell. Since much of this testing done at nearby White Sands was secret at the time, it would be logical to assume that the government would handle any missile mishap under tight security, particularly if the mishap occurred on private land. From the records reviewed by the Air Force, however, there was nothing located to suggest that this was the case. Although the bulk of remaining testing records are under the control of the US Army, the subject has also been very well documented over the years within Air Force records. There would be no reason to keep such information classified today. The USAF found no indicators or even hints that a missile was involved in this matter.

A Nuclear Accident

One of the areas considered was that whatever happened near Roswell may have involved nuclear weapons. This was a logical area of concern since the 509th Bomb Group was the only military unit in the world at the time that had access to nuclear weapons. Again, reviews of available records gave no indication that this was the case. A number of records still classified TOP SECRET and SECRET-RESTRICTED DATA having to do with nuclear weapons were located in the Federal Records Center in St. Louis, MO. These records, which pertained to the 509th, had nothing to do with any activities that could have been misinterpreted as the "Roswell Incident." Also, any records of a nuclear-related incident would have been inherited by the Department of Energy (DOE), and, had one occurred, it is likely DOE would have publicly reported it as part of its recent declassification and public release efforts. There were no ancillary records in Air Force files to indicate the potential existence of such records within DOE channels, however.

An Extraterrestrial Craft

The Air Force research found absolutely no indication that what happened near Roswell in 1947, involved any type of extraterrestrial spacecraft. This, of course, is the crux of this entire matter. "Pro-UFO" persons who obtain a copy of this report, at this point, most probably begin the "cover-up is still on" claims. Nevertheless, the research indicated absolutely no evidence of any kind that a spaceship crashed near Roswell or ~~that~~ any alien occupants were recovered therefrom, in some secret military operation or otherwise. This does not mean, however, that the early Air Force was not concerned about UFOs. However, in the early days, "UFO" meant Unidentified Flying Object, which literally translated as some object in the air that was not readily identifiable. It did not mean, as the term has evolved in today's language, to equate to alien spaceships. Records from the period reviewed by Air Force researchers as well as those cited by the authors mentioned before, do indicate that the USAF was seriously concerned about the inability to adequately identify unknown flying objects reported in American airspace. All the records, however, indicated that the focus of concern was not on aliens, hostile or otherwise, but on the Soviet Union. Many documents from that period speak to the possibility of developmental secret Soviet aircraft overflying US airspace. This, of course, was of major concern to the fledgling USAF, whose job it was to protect these same skies.

The research revealed only one official AAF document that indicated that there was any activity of any type that pertained to UFOs and Roswell in July, 1947. This was a small section of the July Historical Report for the 509th Bomb Group and Roswell AAF that stated: "The Office of Public Information was quite busy during the month answering inquiries on the 'flying disc,' which was reported to be in possession of the 509th Bomb Group. The object turned out to be a radar tracking balloon" (included with Atch 11). Additionally, this history showed that the 509th Commander, Colonel Blanchard, went on leave on July 8, 1947, which would be a somewhat unusual maneuver for a person involved in the supposed first ever recovery of extraterrestrial materials. (Detractors claim Blanchard did this as a ploy to elude the press and go to the scene to direct the recovery operations). The history and the morning reports also showed that the subsequent activities at Roswell during the month were mostly mundane and not indicative of any unusual high level activity, expenditure of manpower, resources or security.

Likewise, the researchers found no indication of heightened activity anywhere else in the military hierarchy in the July, 1947, message traffic or orders (to include classified traffic). There were no indications and warnings, notice of alerts, or a higher tempo of operational activity reported that would be logically generated if an alien craft, whose intentions were unknown, entered US territory. To believe that such operational and high-level security activity could be conducted solely by relying on unsecured telecommunications or personal contact without creating any records of such activity certainly stretches the imagination of those who have served in the military who know that paperwork of some kind is necessary to accomplish even emergency, highly classified, or sensitive tasks.

An example of activity sometimes cited by pro-UFO writers to illustrate the point that something unusual was going on was the travel of Lt. General Nathan Twining, Commander of the Air Materiel Command, to New Mexico in July, 1947. Actually,

records were located indicating that Twining went to the Bomb Commanders' Course on July 8, along with a number of other general officers, and requested orders to do so a month before, on June 5, 1947 (Atch 14).

Similarly, it has also been alleged that General Hoyt Vandenberg, Deputy Chief of Staff at the time, had been involved directing activity regarding events at Roswell. Activity reports (Atch 15), located in General Vandenberg's personal papers stored in the Library of Congress, did indicate that on July 7, he was busy with a "flying disc" incident; however this particular incident involved Ellington Field, Texas and the Spokane (Washington) Depot. After much discussion and information gathering on this incident, it was learned to be a hoax. There is no similar mention of his personal interest or involvement in Roswell events except in the newspapers.

The above are but two small examples that indicate that if some event happened that was one of the "watershed happenings" in human history, the US military certainly reacted in an unconcerned and cavalier manner. In an actual case, the military would have had to order thousands of soldiers and airman, not only at Roswell but throughout the US, to act nonchalantly, pretend to conduct and report business as usual, and generate absolutely no paperwork of a suspicious nature, while simultaneously anticipating that twenty years or more into the future people would have available a comprehensive Freedom of Information Act that would give them great leeway to review and explore government documents. The records indicate that none of this happened (or if it did, it was controlled by a security system so efficient and tight that no one, US or otherwise, has been able to duplicate it since. If such a system had been in effect at the time, it would have also been used to protect our atomic secrets from the Soviets, which history has showed obviously was not the case). The records reviewed confirmed that no such sophisticated and efficient security system existed.

WHAT THE "ROSWELL INCIDENT" WAS

As previously discussed, what was originally reported to have been recovered was a balloon of some sort, usually described as a "weather balloon," although the majority of the wreckage that was ultimately displayed by General Ramey and Major Marcel in the famous photos (Atch 16) in Ft. Worth, was that of a radar target normally suspended from balloons. This radar target, discussed in more detail later, was certainly consistent with the description of July 9 newspaper article which discussed "tinfoil, paper, tape, and sticks." Additionally, the description of the "flying disc" was consistent with a document routinely used by most pro-UFO writers to indicate a conspiracy in progress--the telegram from the Dallas FBI office of July 8, 1947. This document quoted in part states: "...The disc is hexagonal in shape and was suspended from a balloon by a cable, which balloon was approximately twenty feet in diameter. ...the object found resembles a high altitude weather balloon with a radar reflector. ...disc and balloon being transported..."

Similarly, while conducting the popular literature review, one of the documents reviewed was a paper entitled "The Roswell Events" edited by Fred Whiting, and sponsored by the

Fund for UFO Research (FUFOR). Although it was not the original intention to comment on what commercial authors interpreted or claimed that other persons supposedly said, this particular document was different because it contained actual copies of apparently authentic sworn affidavits received from a number of persons who claimed to have some knowledge of the Roswell event. Although many of the persons who provided these affidavits to the FUFOR researchers also expressed opinions that they thought there was something extraterrestrial about this incident, a number of them actually described materials that sounded suspiciously like wreckage from balloons. These included the following:

Jesse A. Marcel, MD (son of the late Major Jesse Marcel; 11 years old at the time of the incident). Affidavit dated May 6, 1991. " ... There were three categories of debris: a thick, foil like metallic gray substance; a brittle, brownish-black plastic-like material, like Bakelite; and there were fragments of what appeared to be I-beams. On the inner surface of the I-beam, there appeared to be a type of writing. This writing was a purple-violet hue, and it had an embossed appearance. The figures were composed of curved, geometric shapes. It had no resemblance to Russian, Japanese or any other foreign language. It resembled hieroglyphics, but it had no animal-like characters...."

Loretta Proctor (former neighbor of rancher W.W. Brazel). Affidavit dated May 5, 1991. "...Brazel came to my ranch and showed my husband and me a piece of material he said came from a large pile of debris on the property he managed. The piece he brought was brown in color, similar to plastic...'Mac' said the other material on the property looked like aluminum foil. It was very flexible and wouldn't crush or burn. There was also something he described as tape which had printing on it. The color of the printing was a kind of purple..."

Bessie Brazel Schreiber (daughter of W.W. Brazel; 14 years old at the time of the incident). Affidavit dated September 22, 1993. "...The debris looked like pieces of a large balloon which had burst. The pieces were small, the largest I remember measuring about the same as the diameter of a basketball. Most of it was a kind of double-sided material, foil-like on one side and rubber-like on the other. Both sides were grayish silver in color, the foil more silvery than the rubber. Sticks, like kite sticks, were attached to some of the pieces with a whitish tape. The tape was about two or three inches wide and had flower-like designs on it. The 'flowers' were faint, a variety of pastel colors, and reminded me of Japanese paintings in which the flowers are not all connected. I do not recall any other types of material or markings, nor do I remember seeing gouges in the ground or any other signs that anything may have hit the ground hard. The foil-rubber material could not be torn like ordinary aluminum foil can be torn..."

Sally Strickland Tadolini (neighbor of WW Brazel; nine years old in 1947). Affidavit dated September 27, 1993. "...What Bill showed us was a piece of what I still think as fabric. It was something like aluminum foil, something like satin, something like well-tanned leather in its toughness, yet was not precisely like any one of those materials. ...It

was about the thickness of very fine kidskin glove leather and a dull metallic grayish silver, one side slightly darker than the other. I do not remember it having any design or embossing on it..."

Robert R. Porter (B-29 flight Engineer stationed at Roswell in 1947). Affidavit dated June 7, 1991. "...On this occasion, I was a member of the crew which flew parts of what we were told was a flying saucer to Fort Worth. The people on board included...and Maj Jesse Marcel. Capt. William E. Anderson said it was from a flying saucer. After we arrived, the material was transferred to a B-25. I was told they were going to Wright Field in Dayton, Ohio. I was involved in loading the B-29 with the material, which was wrapped in packages with wrapping paper. One of the pieces was triangle-shaped, about 2 1/2 feet across the bottom. The rest were in small packages, about the size of a shoe box. The brown paper was held with tape. The material was extremely lightweight. When I picked it up, it was just like picking up an empty package. We loaded the triangle shaped package and three shoe box-sized packages into the plane. All of the packages could have fit into the trunk of a car. ...When we came back from lunch, they told us they had transferred the material to a B-25. They told us the material was a weather balloon, but I'm certain it wasn't a weather balloon..."

In addition to those persons above still living who claim to have seen or examined the original material found on the Brazel Ranch, there is one additional person who was universally acknowledged to have been involved in its recovery, Sheridan Cavitt, Lt Col, USAF, (Ret). Cavitt is credited in all claims of having accompanied Major Marcel to the ranch to recover the debris, sometimes along with his Counter Intelligence Corps (CIC) subordinate, William Rickett, who, like Marcel, is deceased. Although there does not appear to be much dispute that Cavitt was involved in the material recovery, other claims about him prevail in the popular literature. He is sometimes portrayed as a closed-mouth (or sometimes even sinister) conspirator who was one of the early individuals who kept the "secret of Roswell" from getting out. Other things about him have been alleged, including the claim that he wrote a report of the incident at the time that has never surfaced.

Since Lt Col Cavitt, who had first-hand knowledge, was still alive, a decision was made to interview him and get a signed sworn statement from him about his version of the events. Prior to the interview, the Secretary of the Air Force provided him with a written authorization and waiver to discuss classified information with the interviewer and release him from any security oath he may have taken. Subsequently, Cavitt was interviewed on May 24, 1994, at his home. Cavitt provided a signed, sworn statement (Atch 17) of his recollections in this matter. He also consented to having the interview tape-recorded. A transcript of that recording is at Atch 18. In this interview, Cavitt related that he had been contacted on numerous occasions by UFO researchers and had willingly talked with many of them; however, he felt that he had oftentimes been misrepresented or had his comments taken out of context so that their true meaning was changed. He stated unequivocally, however, that the material he recovered consisted of a reflective sort of material like aluminum foil, and some thin, bamboo-like sticks. He thought at the time, and continued

to do so today, that what he found was a weather balloon and has told other private researchers that. He also remembered finding a small "black box" type of instrument, which he thought at the time was probably a radiosonde. Lt Col Cavitt also reviewed the famous Ramey/Marcel photographs (Atch 16) of the wreckage taken to Ft. Worth (often claimed by UFO researchers to have been switched and the remnants of a balloon substituted for it) and he identified the materials depicted in those photos as consistent with the materials that he recovered from the ranch. Lt Col Cavitt also stated that he had never taken any oath or signed any agreement not to talk about this incident and had never been threatened by anyone in the government because of it. He did not even know the "incident" was claimed to be anything unusual until he was interviewed in the early 1980's.

Similarly, Irving Newton, Major, USAF, (Ret) was located and interviewed. Newton was a weather officer assigned to Fort Worth, who was on duty when the Roswell debris was sent there in July, 1947. He was told that he was to report to General Ramey's office to view the material. In a signed, sworn statement (Atch 30) Newton related that "...I walked into the General's office where this supposed flying saucer was lying all over the floor. As soon as I saw it, I giggled and asked if that was the flying saucer...I told them that this was a balloon and a RAWIN target..." Newton also stated that "...while I was examining the debris, Major Marcel was picking up pieces of the target sticks and trying to convince me that some notations on the sticks were alien writings. there were figures on the sticks, lavender or pink in color, appeared to be weather faded markings, with no rhyme or reason (sic). He did not convince me that these were alien writings." Newton concluded his statement by relating that "...During the ensuing years I have been interviewed by many authors, I have been quoted and misquoted. The facts remain as indicated above. I was not influenced during the original interview, nor today, to provide anything but what I know to be true, that is, the material I saw in General Ramey's office was the remains of a balloon and a RAWIN target."

Balloon Research

The original tasking from GAO noted that the search for information included "weather balloons." Comments about balloons and safety reports have already been made, however the SAF/AAZ research efforts also focused on reviewing historical records involving balloons, since, among other reasons, that was what was officially claimed by the AAF to have been found and recovered in 1947.

As early as February 28, 1994, the AAZD research team found references to balloon tests taking place at Alamogordo AAF (now Holloman AFB) and White Sands during June and July 1947, testing "constant level balloons" and a New York University (NYU)/Watson Labs effort that used "...meteorological devices ... suspected for detecting shock waves generated by Soviet nuclear explosions"--a possible indication of a cover story associated with the NYU balloon project. Subsequently, a 1946 HQ AMC memorandum was surfaced, describing the constant altitude balloon project and specified that the scientific data be classified TOP SECRET Priority 1A. Its name was Project Mogul (Atch 19).

Project Mogul was a then-sensitive, classified project, whose purpose was to determine the state of Soviet nuclear weapons research. This was the early Cold War period and there was serious concern within the US government about the Soviets developing a weaponized atomic device. Because the Soviet Union's borders were closed, the US Government sought to develop a long range nuclear explosion detection capability. Long range, balloon-borne, low frequency acoustic detection was posed to General Spaatz in 1945 by Dr. Maurice Ewing of Columbia University as a potential solution (atmospheric ducting of low frequency pressure waves had been studied as early as 1900).

As part of the research into this matter, AAZD personnel located and obtained the original study papers and reports of the New York University project. Their efforts also revealed that some of the individuals involved in Project Mogul were still living. These persons included the NYU constant altitude balloon Director of Research, Dr. Athelstan F. Spilhaus; the Project Engineer, Professor Charles B. Moore; and the military Project Officer, Colonel Albert C. Trakowski .

All of these persons were subsequently interviewed and signed sworn statements about their activities. A copy of these statements are appended at Atch 20-22. Additionally, transcripts of the interview with Moore and Trakowski are also included (equipment malfunctioned during the interview of Spilhaus) (Atch 23-24). These interviews confirmed that Project Mogul was a compartmented, sensitive effort. The NYU group was responsible for developing constant level balloons and telemetering equipment that would remain at specified altitudes (within the acoustic duct) while a group from Columbia was to develop acoustic sensors. Doctor Spilhaus, Professor Moore, and certain others of the group were aware of the actual purpose of the project, but they did not know of the project nickname at the time. They handled casual inquiries and/or scientific inquiries/papers in terms of "unclassified meteorological or balloon research." Newly hired employees were not made aware that there was anything special or classified about their work; they were told only that their work dealt with meteorological equipment.

An advance ground team, led by Albert P. Crary, preceded the NYU group to Alamogordo AAF, New Mexico, setting up ground sensors and obtaining facilities for the NYU group. Upon their arrival, Professor Moore and his team experimented with various configurations of neoprene balloons; development of balloon "trains" (see illustration, Atch 25); automatic ballast systems; and use of Naval sonobuoys (as the Watson Lab acoustical sensors had not yet arrived). They also launched what they called "service flights." These "service flights" were not logged nor fully accounted for in the published Technical Reports generated as a result of the contract between NYU and Watson Labs. According to Professor Moore, the "service flights" were composed of balloons, radar reflectors and payloads specifically designed to test acoustic sensors (both early sonobuoys and the later Watson Labs devices). The "payload equipment" was expendable and some carried no "REWARD" or "RETURN TO..." tags because there was to be no association between these flights and the logged constant altitude flights which were fully acknowledged. The NYU balloon flights were listed sequentially in their reports (i.e.,

A,B, 1,5,6,7,8,10 ...) yet gaps existed for Flights 2-4 and Flight 9. The interview with Professor Moore indicated that these gaps were the unlogged "service flights."

Professor Moore, the on-scene Project Engineer, gave detailed information concerning his team's efforts. He recalled that radar targets were used for tracking balloons because they did not have all the necessary equipment when they first arrived in New Mexico. Some of the early developmental radar targets were manufactured by a toy or novelty company. These targets were made up of aluminum "foil" or foil-backed paper, balsa wood beams that were coated in an "Elmer's-type" glue to enhance their durability, acetate and/or cloth reinforcing tape, single strand and braided nylon twine, brass eyelets and swivels to form a multi-faced reflector somewhat similar in construction to a box kite (see photographs, Atch 26). Some of these targets were also assembled with purplish-pink tape with symbols on it (see drawing by Moore with Atch 21).

According to the log summary (Atch 27) of the NYU group, Flight A through Flight 7 (November 20, 1946-July 2, 1947) were made with neoprene meteorological balloons (as opposed to the later flights made with polyethylene balloons). Professor Moore stated that the neoprene balloons were susceptible to degradation in the sunlight, turning from a milky white to a dark brown. He described finding remains of balloon trains with reflectors and payloads that had landed in the desert: the ruptured and shredded neoprene would "almost look like dark gray or black flakes or ashes after exposure to the sun for only a few days. The plasticizers and antioxidants in the neoprene would emit a peculiar acrid odor and the balloon material and radar target material would be scattered after returning to earth depending on the surface winds." Upon review of the local newspaper photographs from General Ramey's press conference in 1947 and descriptions in popular books by individuals who supposedly handled the debris recovered on the ranch, Professor Moore opined that the material was most likely the shredded remains of a multi-neoprene balloon train with multiple radar reflectors. The material and a "black box," described by Cavitt, was, in Moore's scientific opinion, most probably from Flight 4, a "service flight" that included a cylindrical metal sonobuoy and portions of a weather instrument housed in a box, which was unlike typical weather radiosondes which were made of cardboard. Additionally, a copy of a professional journal maintained at the time by A.P. Crary, provided to the Air Force by his widow, showed that Flight 4 was launched on June 4, 1947, but was not recovered by the NYU group. It is very probable that this TOP SECRET project balloon train (Flight 4), made up of unclassified components; came to rest some miles northwest of Roswell, NM, became shredded in the surface winds and was ultimately found by the rancher, Brazel, ten days later. This possibility was supported by the observations of Lt Col Cavitt (Atch 17-18), the only living eyewitness to the actual debris field and the material found. Lt Col Cavitt described a small area of debris which appeared, "to resemble bamboo type square sticks one quarter to one half inch square, that were very light, as well as some sort of metallic reflecting material that was also very light ... I remember recognizing this material as being consistent with a weather balloon."

Concerning the initial announcement, "RAAF Captures Flying Disc," research failed to locate any documented evidence as to why that statement was made. However, on July

10, 1947, following the Ramey press conference, the Alamogordo News published an article with photographs demonstrating multiple balloons and targets at the same location as the NYU group operated from at Alamogordo AAF. Professor Moore expressed surprise at seeing this since his, was the only balloon test group in the area. He stated, "It appears that there was some type of umbrella cover story to protect our work with Mogul." Although the Air Force did not find documented evidence that Gen. Ramey was directed to espouse a weather balloon in his press conference, he may have done so because he was either aware of Project Mogul and was trying to deflect interest from it, or he readily perceived the material to be a weather balloon based on the identification from his weather officer, Irving Newton. In either case, the materials recovered by the AAF in July, 1947, were not readily recognizable as anything special (only the purpose was special) and the recovered debris itself was unclassified. Additionally, the press dropped its interest in the matter as quickly as they had jumped on it. Hence, there would be no particular reason to further document what quickly became a "non-event."

The interview with Colonel Trakowski (Atch 23-24) also proved valuable information. Trakowski provided specific details on Project Mogul and described how the security for the program was set up, as he was formerly the TOP SECRET Control Officer for the program. He further related that many of the original radar targets that were produced around the end of World War II were fabricated by toy or novelty companies using a purplish-pink tape with flower and heart symbols on it. Trakowski also recounted a conversation that he had with his friend, and superior military officer in his chain of command, Colonel Marcellus Duffy, in July, 1947. Duffy, formerly had Trakowski's position on Mogul, but had subsequently been transferred to Wright Field. He stated: "...Colonel Duffy called me on the telephone from Wright Field and gave me a story about a fellow that had come in from New Mexico, woke him up in the middle of the night or some such thing with a handful of debris, and wanted him, Colonel Duffy, to identify it. ...He just said 'it sure looks like some of the stuff you've been launching at Alamogordo' and he described it, and I said 'yes, I think it is.' Certainly Colonel Duffy knew enough about radar targets, radiosondes, balloon-borne weather devices. He was intimately familiar with all that apparatus."

Attempts were made to locate Colonel Duffy but it was ascertained that he had died. His widow explained that, although he had amassed a large amount of personal papers relating to his Air Force activities, she had recently disposed of these items. Likewise, it was learned that A.P. Crary was also deceased; however his surviving spouse had a number of his papers from his balloon testing days, including his professional journal from the period in question. She provided the Air Force researchers with this material. It is discussed in more detail within Atch 32. Overall, it helps fill in gaps of the Mogul story.

During the period the Air Force conducted this research, it was discovered that several others had also discovered the possibility that the "Roswell Incident" may have been generated by the recovery of a Project Mogul balloon device. These persons included Professor Charles B. Moore, Robert Todd, and coincidentally, Karl Pflock, a researcher who is married to a staffer who works for Congressman Schiff. Some of these persons

provided suggestions as to where documentation might be located in various archives, histories and libraries. A review of Freedom of Information Act (FOIA) requests revealed that Robert Todd, particularly, had become aware of Project Mogul several years ago and had doggedly obtained from the Air Force, through the FOIA, a large amount of material pertaining to it; long before the AAZD researchers independently seized on the same possibility.

Most interestingly, as this report was being written, Pflock published his own report of this matter under the auspices of FUFOR, entitled "Roswell in Perspective" (1994). Pflock concluded from his research that the Brazel Ranch debris originally reported as a "flying disc" was probably debris from a Mogul balloon; however, there was a simultaneous incident that occurred not far away, that caused an alien craft to crash and that the AAF subsequently recovered three alien bodies therefrom. Air Force research did not locate any information to corroborate that this incredible coincidence occurred, however.

In order to provide a more detailed discussion of the specifics of Project Mogul and how it appeared to be directly responsible for the "Roswell Incident," a SAF/AAZD researcher prepared a more detailed discussion on the balloon project which is appended to this report as Atch 32.

Other Research

In the attempt to develop additional information that could help explain this matter, a number of other steps were taken. First, assistance was requested from various museums and other archives (Atch 28) to obtain information and/or examples of the actual balloons and radar targets used in connection with Project Mogul and to correlate them with the various descriptions of wreckage and materials recovered. The blueprints for the "Pilot Balloon Target ML307C/AP Assembly" (generically, the radar target assembly) were located at the Army Signal Corps Museum at Fort Monmouth and obtained. A copy is appended as Atch 29. This blueprint provides the specification for the foil material, tape, wood, eyelets, and string used and the assembly instructions thereto. An actual device was also obtained for study with the assistance of Professor Moore. (The example actually procured was a 1953-manufactured model "C" as compared to the Model B which was in use in 1947. Professor Moore related the differences were minor). An examination of this device revealed it to be simply made of aluminum-colored foil-like material over a stronger paper-like material, attached to balsa wood sticks, affixed with tape, glue, and twine. When opened, the device appears as depicted in Atch 31 (contemporary photo) and Atch 25 (1947 photo, in a "balloon train"). When folded, the device is in a series of triangles, the largest being four feet by two feet ten inches. The smallest triangle section measures two feet by two feet ten inches. (Compare with descriptions provided by Lt Col Cavitt and others, as well as photos of wreckage).

Additionally, the researchers obtained from the Archives of the University of Texas-Arlington (UTA), a set of original (i.e. first generation) prints of the photographs taken at the time by the Fort Worth Star-Telegram, that depicted Ramey and Marcel with the

wreckage. A close review of these photos (and a set of first generation negatives also subsequently obtained from UTA) revealed several interesting observations. First, although in some of the literature cited above, Marcel allegedly stated that he had his photo taken with the "real" UFO wreckage and then it was subsequently removed and the weather balloon wreckage substituted for it, a comparison shows that the same wreckage appeared in the photos of Marcel and Ramey. The photos also depicted that this material was lying on what appeared to be some sort of wrapping paper (consistent with affidavit excerpt of crew chief Porter, above). It was also noted that in the two photos of Ramey he had a piece of paper in his hand. In one, it was folded over so nothing could be seen. In the second, however, there appears to be text printed on the paper. In an attempt to read this text to determine if it could shed any further light on locating documents relating to this matter, the photo was sent to a national level organization for digitizing and subsequent photo interpretation and analysis. This organization was also asked to scrutinize the digitized photos for any indication of the flowered tape (or "hieroglyphics, depending on the point of view) that were reputed to be visible to some of the persons who observed the wreckage prior to it getting to Fort Worth. This organization reported on July 20, 1994, that even after digitizing, the photos were of insufficient quality to visualize either of the details sought for analysis. This organization was able to obtain measurements from the "sticks" visible in the debris after it was ascertained by an interview of the original photographer what kind of camera he used. The results of this process are provided in Atch 33, along with a reference diagram and the photo from which the measurements were made. All these measurements are compatible with the wooden materials used in the radar target previously described.

CONCLUSION

The Air Force research did not locate or develop any information that the "Roswell Incident" was a UFO event. All available official materials, although they do not directly address Roswell *per se*, indicate that the most likely source of the wreckage recovered from the Brazel Ranch was from one of the Project Mogul balloon trains. Although that project was TOP SECRET at the time, there was also no specific indication found to indicate an official pre-planned cover story was in place to explain an event such as that which ultimately happened. It appears that the identification of the wreckage as being part of a weather balloon device, as reported in the newspapers at the time, was based on the fact that there was no physical difference in the radar targets and the neoprene balloons (other than the numbers and configuration) between Mogul balloons and normal weather balloons. Additionally, it seems that there was over-reaction by Colonel Blanchard and Major Marcel, in originally reporting that a "flying disc" had been recovered when, at that time, nobody for sure knew what that term even meant since it had only been in use for a couple of weeks.

Likewise, there was no indication in official records from the period that there was heightened military operational or security activity which should have been generated if this was, in fact, the first recovery of materials and/or persons from another world. The post-War US Military (or today's for that matter) did not have the capability to rapidly

identify, recover, coordinate, cover-up, and quickly minimize public scrutiny of such an event. The claim that they did so without leaving even a little bit of a suspicious paper trail for 47 years is incredible.

It should also be noted here that there was little mentioned in this report about the recovery of the so-called "alien bodies." This is for several reasons: First, the recovered wreckage was from a Project Mogul balloon. There were no "alien" passengers therein. Secondly, the pro-UFO groups who espouse the alien bodies theories cannot even agree among themselves as to what, how many, and where, such bodies were supposedly recovered. Additionally, some of these claims have been shown to be hoaxes, even by other UFO researchers. Thirdly, when such claims are made, they are often attributed to people using pseudonyms or who otherwise do not want to be publicly identified, presumably so that some sort of retribution cannot be taken against them (notwithstanding that nobody has been shown to have died, disappeared or otherwise suffered at the hands of the government during the last 47 years). Fourth, many of the persons making the biggest claims of "alien bodies" make their living from the "Roswell Incident." While having a commercial interest in something does not automatically make it suspect, it does raise interesting questions related to authenticity. Such persons should be encouraged to present their evidence (not speculation) directly to the government and provide all pertinent details and evidence to support their claims if honest fact-finding is what is wanted. Lastly, persons who have come forward and provided their names and made claims, may have, in good faith but in the "fog of time," misinterpreted past events. The review of Air Force records did not locate even one piece of evidence to indicate that the Air Force has had any part in an "alien" body recovery operation or continuing cover-up.

During the course of this effort, the Air Force has kept in close touch with the GAO and responded to their various queries and requests for assistance. This report was generated as an official response to the GAO, and to document the considerable effort expended by the Air Force on their behalf. It is anticipated that that they will request a copy of this report to help formulate the formal report of their efforts. It is recommended that this document serve as the final Air Force report related to the Roswell matter, for the GAO, or any other inquiries.


RICHARD L. WEAVER, COL, USAF
DIRECTOR, SECURITY AND SPECIAL
PROGRAM OVERSIGHT

Attachments

1. Washington Post Article, "GAO Turns to Alien Turf in New Probe,"
January 14, 1994
2. GAO Memo, February 15, 1994
3. DoD/IG Memo, February 23, 1994
4. SAF/FM Memo, February 24, 1994, w/Indorsement

5. SAF/AA Memo, March 1, 1994, w/ March 16, 1994 Addendum
6. AF/IN Memo, March 14, 1994
7. AF/SE Memo, March 14, 1994
8. SAF/AQL Memo, March 22, 1994
9. AF/XOWP Memo, March 9, 1994
10. SAF/AAI Memo, March 10, 1994
11. AFHRA/CC Memo, March 8, 1994
12. AFOSI/HO Memo, May 11, 1994
13. List of Locations and Records Searched
14. HQ AAF "Issuance of Orders," June 5, 1947
15. Copy of Vandenberg's Appointment Book and Diary, July 7-9, 1947
16. July 9, 1947 Photos of Balloon Wreckage, Ft Worth Star Telegram
17. Signed Sworn Statement of Cavitt, May 24, 1994
18. Transcript of Cavitt Interview, May 24, 1994
19. Letter, July 8, 1946, Project Mogul
20. Signed Sworn Statement of Spilhaus, June 3, 1994
21. Signed Sworn Statement of Moore, June 8, 1994
22. Signed Sworn Statement of Trakowski, June 29, 1994
23. Transcript of Interview with Moore, June 8, 1994
24. Transcript of Interview with Trakowski, June 29, 1994
25. Illustration of Project Mogul "Balloon Trains"
26. Two Photos of Project Mogul "Balloon Trains"
27. Log Summary, NYU Constant Level Balloon Flights
28. List of Museums Contacted
29. Copy of Blueprint for "Pilot Balloon Target, ML-307C/AP Assembly"
30. Signed Sworn Statement of Newton, July 21, 1994
31. Photos of ML-307C/AP Device, With Vintage Neoprene Balloon and Debris
32. Synopsis of Balloon Research Findings by 1LT James McAndrew
33. "Mensuration Working Paper," With Drawing and Photo

**REPORT OF AIR FORCE RESEARCH
REGARDING THE
"ROSWELL INCIDENT"**



**ATTACHMENT 32
SYNOPSIS OF BALLOON RESEARCH FINDINGS
BY 1st Lt JAMES McANDREW**

JULY 1994

THE ROSWELL INCIDENT

On July 7, 1947, W.W. (Mac) Brazel, a rancher from approximately 75 miles northwest of Roswell, NM contacted the local sheriff and reported that some metallic debris had come to rest on the ranch on which he worked near the town of Corona, NM. This was during the "UFO Wave of 1947" and he told the sheriff that he thought this debris may be part of a "flying disc."¹ The sheriff contacted Roswell AAF, which in turn sent intelligence officer, Maj Jesse Marcel, and two Counterintelligence Corps Agents, Capt Sheridan Cavitt and MSgt William Rickett to evaluate the debris. The officers collected a portion of the material and brought it back to Roswell AAF on the evening of July 7.² The following day, the Public Information Office released a statement saying that the Army Air Forces had recovered a flying disc. This press release was provided to local newspapers who sent it out to wire services. Meanwhile, Brigadier General Roger Ramey, 8th Air Force Commander, ordered that the debris be flown to 8th AF Headquarters at Fort Worth AAF for his personal inspection. Upon viewing the debris, he and his staff recognized parts which looked similar to a weather balloon. He then summoned the base weather officer, who identified the debris as the remnants of a weather balloon and attached metallic radar target.³ General Ramey then invited the local press to view and take photographs of the materials and declared the episode to be a misunderstanding (Atch 1).

The above summarizes the previously reported information of what happened on July 7 and 8, 1947. Before now, however, a larger portion of the story was never told. Recent research indicates that the debris recovered from the ranch on July 7, 1947, was a weather balloon--but it was not being used strictly for weather purposes; its real purpose was to carry classified payloads for a TOP SECRET US Army Air Forces project. The project's classified code name was MOGUL.

The current investigation discovered that an experimental balloon project was conducting operations from nearby Alamogordo Army Airfield (now Holloman AFB) during the summer of 1947.⁴ An examination of unclassified technical and progress reports prepared by the balloon project revealed that a highly classified program, Project MOGUL was the ultimate reason for the balloon experiments. Project MOGUL was classified TOP SECRET and carried a priority level of 1A.⁵ **It is Project MOGUL which provides the ultimate explanation for the "Roswell Incident."**

¹ Roswell Daily Record, July 9, 1947, p. 1

² Intvw, Col Richard L. Weaver, with LtCol Sheridan Cavitt, USAF (ret), May 24, 1994.

³ Intvw, LtCol Joseph V. Rogan with Irving Newton, July 21, 1994.

⁴ Ltr, Lt Col Edward A. Doty to Mr David Bushnell, March 3, 1959.

⁵ Ltr, B/G E. O'Donnell, Deputy Chief Engineering Division, HQ AMC to Commanding General, Army Air Forces, Subj: Change in Classification of MOGUL, Item 188-5, July 8, 1946.

PROJECT MOGUL

Project MOGUL was first conceived by Dr Maurice Ewing of Columbia University and Woods Hole Oceanographic Institution. Dr. Ewing had conducted considerable research for the Navy during World War II; studying, among other things, the "sound channel" in the ocean. He proved that explosions could be heard thousands of miles away with underwater microphones placed at a predetermined depth within the sound channel. He theorized that sound waves generated by explosions could be carried by currents deep in the ocean, they might be similarly transmitted within a sound channel in the upper atmosphere. The military application of this theory was the long range detection of sound waves generated by Soviet nuclear detonations and the acoustical signatures of ballistic missiles as they traversed the upper atmosphere. He presented his theory to Gen Carl Spaatz, Chief of Staff of the Army Air Forces in the fall of 1945.⁶ The project was approved and research was begun by the scientific research agency of the US Army Air Forces (USAAF), the Air Materiel Command (AMC), early in 1946. The project was assigned to HQ AMC, Engineering Division, Electronics Subdivision which in turn assigned the project to AMCs Watson Laboratories, Engineering Division, Applied Propagation Subdivision, located in Red Bank, NJ.

Scope

Project MOGUL initially focused on three areas of technology: (1) an expendable microphone, capable of detecting, at long range, low frequency sound transmissions generated by explosions and missiles; (2) a means of telemetering these sounds to a ground or airborne receiver; and (3) a system from which to suspend the microphone and telemetering device in the upper atmosphere for an extended period of time. To meet these criteria, contracts were awarded by AMC to Columbia University (AMC contract # W28-099-ac-82), for the acoustical equipment and to New York University for the development of constant level balloons (AMC contract# W28-099-ac-241). After the initial contracts were awarded, Project MOGUL branched out into many areas related to the geophysical properties of the upper atmosphere, including: radiowave propagation; radar propagation; ionospheric physics; solar physics; terrestrial magnetism; meteorological physics; and weather forecasting. Considerable resources were devoted to Project MOGUL including numerous bomber and transport aircraft, and two oceangoing vessels. At one point the staff, exclusive of contractors, numbered over 100 persons. To accommodate this sensitive, high priority project, facilities of the secluded Oakhurst Field Station of Watson Laboratories were used. Balloon operations associated with Project Mogul were conducted at various locations throughout the United States and the Pacific, the latter in reference to acoustical detection research associated with the Sandstone atomic tests at Entiwetok Atoll in April and May 1948.⁷

By December, 1948, serious concerns had arisen regarding the feasibility of the project as first conceived. Even though the principle on which the project was based was determined to be sound, questions concerning cost, security and practicality were discussed that ultimately led to

⁶ Maurice Ewing, Long Range Sound Transmission in the Atmosphere.

⁷ Rprt, Sonic Ballon Test Kwajaiein, May 17, 1948.

the disbandment of the project and Project MOGUL as first conceived was never put into operational use. However, MOGUL did serve as the foundation for a comprehensive program in geophysical research from which the USAF, and the scientific community have benefited to the present time. These benefits included constant level balloon technology, first developed by NYU for Project MOGUL.

Watson Laboratories

The organizational structure of Watson Laboratories Applied Propagation Subdivision, which was established primarily for MOGUL, as it appeared in January 1947, is shown in Attachment 2. Over the course of the project, MOGUL had three military project officers or "chiefs": Major Robert T. Crane, spring 1946-July 1946; Colonel Marcellus Duffy, August, 1946-January, 1947; and Captain Albert C. Trakowski, January, 1947-May 1949. Major Crane had been personally recommended by Dr. Ewing, originator of the project, but by June of 1947, MOGUL had not met the expectations of Headquarters USAAF and Major Crane was replaced by Colonel Duffy⁸. Colonel Duffy was a respected, highly capable career Army Air Forces officer. During World War II, Colonel Duffy had reported directly to General Hap Arnold, Chief of Staff USAAF, as the Army Air Forces Liaison Officer to the US Army Signal Corps, with primary duties for securing meteorological equipment from the Army for use by the USAAF. Colonel Duffy had a reputation for accomplishing difficult assignments by getting the most out of his personnel -- exactly what was desired by HQ USAAF to solve the numerous administrative and personnel problems which had arisen in Project MOGUL under Major Crane. In a short period, Colonel Duffy was able to make the necessary corrections and was reassigned to become the Assistant Chief, Electronics Plans Section, Electronics Subdivision, HQ AMC at Wright Field, OH. Colonel Duffy also continued to monitor "the upper air research program" (i.e. Project MOGUL) in addition to his duties as the Assistant Chief of the Electronics Plans Section.⁹ The primary scientist for MOGUL was Dr. James Peoples, who was assisted by Albert P. Crary, the Field Operations Director. Both scientists had previous associations with Dr. Ewing, Dr. Peoples at Columbia, and A.P. Crary at Woods Hole. Both scientists were assigned to MOGUL for the entire length of the project.

NEW YORK UNIVERSITY "BALLOON GROUP"

From September 30, 1946, until December 31, 1950, the Research Division of the College of Engineering of New York University conducted research under contract for the Army Air Forces, in conjunction with Project MOGUL.¹⁰ They were to develop and fly constant-level balloons while simultaneously developing telemetering equipment to transmit data obtained in the upper

⁸ Memo, B/G Tom C. Rives, Chief, Electronic Subdivision, Engineering Division, AMC, to Maj Gen Curtis LeMay, subj: Relief of Major Crane as Project Officer MOGUL and TORRID, June 18, 1946.

⁹ Memo, Maj Gen Curtis E. LeMay, Deputy Chief of Air Staff for Research and Development, to Maj Gen L.C. Craigie, Chief Engineering Division, AMC, April 16, 1947.

¹⁰ Research Division, College of Engineering, New York University, Technical Report No. 93.03, Constant Level Balloons Final Report, (New York, 1948), p.3.

atmosphere.¹¹ The NYU "balloon group" launched, tracked and recorded data only in regard to constant-level balloon flight and telemetering of information. NYU personnel did not have access to the observations and measurements which had military applications. MOGUL, in other words, was conducted as a compartmented and classified project in which participants knew only what they needed to know and no more. Due to the compartmentation, balloon flights made by NYU were divided into two categories, "research" and "service".¹² Research flights tested balloon controls and telemetering systems and were fully reported in the unclassified NYU reports.¹³ A total of 110 research flights were flown during the contract. Service flights were flown at the direction of Watson Laboratory personnel but the military purpose was TOP SECRET. These flights carried classified equipment, which could not be fully reported in the unclassified NYU documents. Further evidence of the exclusion of classified information from the reports is the lack of data for balloons flown in association with the Sandstone nuclear tests in April and May of 1948.¹⁴ In recent interviews with former NYU personnel, Dr. Athelstan F. Spilhaus, NYU Director of Research, and Prof Charles B. Moore, NYU Constant-Level Balloon Project Engineer, stated that they were never informed of the classified name, MOGUL, nor did they ever have access to the scientific data that was obtained by the USAAF as a result of their efforts. In response to inquires, professional or casual, project personnel simply said that they were engaged in balloon research.¹⁵

The first balloon launches associated with Project MOGUL were carried out at several locations on the east coast of the US.¹⁶ However, unfavorable winds, conflicts with commercial air traffic and the need to gather data on the V-2 flights currently being conducted at White Sands Proving Ground, led the NYU group to conduct further tests from Alamogordo AAF in New Mexico.¹⁷ The NYU group would make three "field trips" during the summer of 1947 for test and evaluation, labeling them Alamogordo I, II, and III. The majority of the balloon flights over the next four years originated from Alamogordo AAF.

New York University, in accordance with contractual requirements, produced monthly progress reports, technical reports, and final reports detailing the various aspects of the balloon and telemetering research. In addition, Cray maintained a detailed journal of his work throughout his professional career to include the summer of 1947. The following discussion is based on these

¹¹ Research Division, College of Engineering, New York University, Technical Report No. 93.03, Constant Level Balloons General (New York, 1948), p.5.

¹² Research Division, College of Engineering, New York University, Technical Report No. 93.03, Constant Level Balloons General (New York, 1948), p.13.

¹³ Research Division, College of Engineering, New York University, Technical Report No. 1 (New York, 1948), Table VII, and Technical Report No. 93.02, Constant Level Balloons, Section 3, Summary of Flights.

¹⁴ Rprt, Sonic Balloon Test Kwajaiein, May 17, 1948.

¹⁵ Athelstan F. Spilhaus, C.S. Schneider, C.B. Moore, "Controlled Altitude Free Balloons," Journal of Meteorology, Vol. 5, 1948.

¹⁶ Technical Report No. 1, Table VII.

¹⁷ Research Division, College of Engineering, New York University, Progress Report # 6, Section II (New York, 1948), p. 4.

two documents and interviews with Moore, who was present on all three of the Alamogordo field trips, and, with Trakowski, who was present at the Alamogordo II and III field trips.

NOTE: Technical Report No. 1, Table VII, "Summary of NYU Constant-Level Balloon Flights," and Technical Report No. 93.02, "Summary of Flights," do not fully account for all balloons flown during the initial stages of the contract to include the Alamogordo I field trip. Absent from the reports are service flights numbers 2, 3, and 4. Flight #2 was flown on April 18, 1947 at Bethlehem, PA, in an attempt to obtain acoustical data from the explosion of 5,000 tons of TNT by the British on the German island of Helgoland.¹⁸ NYU flight # 3 was flown on May 29 followed by NYU flight # 4 on June 4. Both launched from Alamogordo AAF.

Alamogordo I (May 28, 1947- June 7, 1947)

The first NYU "field trip" departed Olmstead Field, Middletown, PA, by C-47 for Alamogordo AAF on May 31, 1947, arriving on June 1, 1947.¹⁹ Present on this flight was C.B. Moore, NYU Project Engineer, Charles S. Schneider, NYU Project Director, and other supporting staff members from both NYU and Watson Laboratories. A.P. Crary, along with other personnel from Watson Laboratory, were already present in Alamogordo but did not conduct any balloon operations. During this time Crary and several technicians detonated ground explosives or "shots," for sound wave generation purposes, on the nearby White Sands Proving Ground. These detonations were monitored by ground based GR3 and GR8 sound ranging equipment at locations in New Mexico and West Texas.²⁰ On May 28, the advance party of the balloon group arrived by B-17.²¹ On May 29, the advance team made the first launch for Project MOGUL from Alamogordo, (NYU flight #3). The equipment carried on this flight was identified as essentially the same as NYU flight #2 (Atch 3).²² NYU flight #4 was launched on June 4, with a configuration the same as flights #2 and 3. Crary's diary indicated that Flight #4 consisted of a "cluster of (meteorological) balloons" and a "regular sonobuoy."²³ Presumably Flight #3 was configured the same.

The objective of this trip, so far as NYU was concerned, was to perfect the handling of large flight trains of meteorological balloons and to evaluate the operations of altitude controlling and telemetering devices.²⁴ It had been established before going to Alamogordo that the use of

¹⁸ Research Division, College of Engineering, New York University, Special Report #1, (New York, 1947), p.27.

¹⁹ Albert P. Crary, personal journal, p.12.

²⁰ Crary, pp 3- 15.

²¹ Crary, p. 12

²² Progress Report # 6, Section II, p.5

²³ Crary, p.12.

²⁴ Progress Report # 7, Section II, p 5.

standard, 350 gram meteorological balloons, constructed of neoprene, was, at best, a "stop gap" method of achieving constant level flight.²⁵ Balloons most suitable for this type of work were made of polyethylene, a very thin translucent plastic. These balloons, however, had just been developed and, although the NYU group had contracted for some of them, they had not been received until after the departure for Alamogordo.²⁶ For Watson Laboratory scientists Peoples and Crary, the purpose of this trip was to experiment with different types of equipment to collect and transmit sound waves in the upper atmosphere. Therefore, just as the "balloon group" was using meteorological balloons as a stop gap method in attaining constant-level flight, the Watson Laboratory scientists utilized an AN/CRT-1A Sonabuoy while awaiting the delivery of acoustical equipment specifically designed for Project MOGUL.²⁷ The NYU personnel developing the telemetering equipment experimented with components of the sonabuoy, which was cylindrical, nearly three feet long, 4 3/4 inches wide, and weighed 13 pounds (Atch 4). The sonabuoy contained both the acoustical pickups, known as hydrophones, and the means of telemetering the sounds by use of a FM transmitter, the T-1B/CRT-1.

Soon after arriving at Alamogordo AAF, a problem developed. Dr Peoples, the Project Scientist, decided not to bring the radiosonde recorder (an AN/FMQ1, which weighed approximately five hundred pounds), due to weight and space limitations of the B-17 aircraft that was originally scheduled to transport the equipment from Olmstead Field. Radiosondes were a widely used and accurate method of tracking weather balloons consisting of a transmitter, which was carried aloft by a balloon, and a ground-based receiver/recorder. Radiosondes, along with aircraft, were to be the primary method to track the Project MOGUL balloons.²⁸ Dr Peoples, however, believed that the radar currently in place at Alamogordo for tracking V-2 firings would be sufficient for tracking the balloons trains. However, this radar did not work well and often lost contact with the balloon while it was still within visual range. Accordingly, Moore, the project engineer, experimented with an "unorthodox" method, in the absence of a radiosonde recorder. He tried to track the balloons using multiple radar targets.²⁹ A radar target was a multi-sided object, which, in appearance, resembles a box kite constructed of balsa wood and metallicized paper (Atch 5). Moore and his technicians conducted test flights attempting to obtain a better radar return by attaching additional targets. They received satisfactory results when the number of targets were increased to 3 to 5.³⁰ Interestingly, during July of 1948, a similar test would be made at Alamogordo AAF by another organization.³¹ This test confirmed Moore's theory that when targets were increased to at least three, satisfactory returns were received by the radar. This procedure, according to Moore, was employed on flights #3 and #4, but was only marginally successful. This prompted Moore and his associates to configure the two remaining flights of Alamogordo I, flights #5 and #6, with radiosonde transmitters.

²⁵ Special Report # 1, p 26.

²⁶ Progress Report # 7, Section II, p 6.

²⁷ Progress Report # 4, Section I, p 1.

²⁸ Intvw, Col Jeffery Butler and 1Lt James McAndrew with Professor Charles B. Moore, June 8, 1994.

²⁹ Moore intvw, June 8, 1994.

³⁰ Moore intvw, June 8, 1994.

³¹ Rprt, Progress summary report on USAF Guided Missile Test Activities, Vol. 1, August 1, 1948.

For these two final flights, Moore devised a method of manually determining azimuth and elevation, in the absence of a radiosonde recorder, by counting clicks as pressure sensitive contacts closed. NYU Technical Report No. 1 shows two "interpretations" of the data which confirms that manual calculations were used. In regard to flight# 5, it appears there was a typographical error in Technical Report No. 1, Table VII, for the time of launch erroneously listed as 1517 MST, contrary to figures 32 and 33 in Technical Report No.1 and Crary's diary (Atch 6). The correct time of launch for Flight #5 appears to be 0516 MST. With the launching of flight # 6 at approximately 0530 on 7 June, the NYU group departed Alamogordo via B-17 for Newark AAF, NJ. NYU flights 1-6 are summarized below:

SUMMARY OF FLIGHTS 1-6

<u>FLT#</u>	<u>DATE</u>	<u>LAUNCH SITE</u>	<u>CONFIGURATION</u>	<u>LANDING SITE</u>
1	4/3/47	BETHLEHEM, PA	SEE NYU TECH. REPORT NO.1, TABLE VII	SANDY HOOK, NJ
2	4/18/47	BETHLEHEM, PA	SEE APPENDIX NYU SPECIAL REPORT # 1	UNKNOWN
3	5/29/47	ALAMOGORDO, NM	SAME AS FLIGHT #2*	UNKNOWN
4	6/4/47	ALAMOGORDO, NM	SAME AS FLIGHT #2*	UNKNOWN
5	6/5/47	ALAMOGORDO, NM	SEE NYU TECH. REPORT NO.1, TABLE VII	EAST OF ROSWELL, NM
6	6/7/47	ALAMOGORDO, NM	SEE NYU TECH. REPORT NO.1, TABLE VII	SOUTH OF HIGHROLLS, NM

* - DEPICTIONS OF FLIGHTS #3 AND #4 ARE NOT PROVIDED IN THE NYU REPORTS. ACCORDING TO NYU PROGRESS REPORT #6, SECTION II, P. 5, THE EQUIPMENT TO BE USED FOR THE ALAMOGORDO FIELD TRIP IN JUNE WAS CONSISTENT WITH THE DEPICTION OF FLIGHT #2. THIS INFORMATION ALSO CONCURRED WITH CRARY'S PARTIAL DESCRIPTION OF FLIGHT #4 IN HIS DIARY.

NOTE: AN ATTEMPT TO LAUNCH A BALLOON TRAIN ASSEMBLY WHICH WOULD HAVE BEEN NYU FLIGHT # 3 WAS MADE ON 8 MAY 47, BUT DUE TO STRONG WINDS RESTRAINING LINES FAILED BEFORE ACOUSTICAL PAYLOAD WAS ATTACHED. SINCE THE LAUNCH WAS UNSUCCESSFUL, NO FLIGHT NUMBER WAS ASSIGNED.

ALAMOGORDO II (June 27, 1947-July 8, 1947)

On the morning of June 28, 1947, personnel from NYU and Watson Laboratories arrived at Alamogordo AAF to resume balloon flights. Present during this field trip were Dr. Peoples, A. P. Crary, Colonel Trakowski, C.B. Moore, and Charles Schneider. The objective during this trip was to experiment with the newly developed polyethylene balloons which replaced the neoprene meteorological balloons used on the previous field trip. Also tested was an improved aluminum ballast reservoir that had been developed to replace the plastic tubes which had been used on the June field trip.³² Another improvement as a result of experiences in June, was the presence of a radiosonde receiver/recorder for improved balloon tracking and plotting. This eliminated the need

³² Progress Report # 7, Section II, p 5.

for radar "corner reflectors" on the balloon train since radar was not to be used as a primary method of tracking the flights. This is confirmed by Technical Report No. 1; Table VII, "Radiosonde Reception %", which indicates the use of the radiosonde recorder on all flights except #7. Flight #7 was not recorded by radiosonde because the equipment was not operable.³³ Also Figures 36, 39, 42, 44, in Technical Report No. 1, corresponding to the July flights do not depict corner reflectors. All numbered flights (except #9) flown during the July field trip were summarized in NYU Technical Report No 1, Table VII. Flight# 9 appeared to have been launched on July 3.³⁴ On July 8, their work completed, 23 members of the combined NYU and Watson Laboratory group boarded a C-54 aircraft at 1030 am and returned to the east coast.³⁵

Based on the above, it appeared likely that the debris found by the rancher and was subsequently identified as a "flying disc" by personnel from Roswell AAF was, with a great degree of certainty, MOGUL flight # 4, launched on June 4, 1947. This conclusion was based on the following:

1. Descriptions of the debris provided by Brazel, Cavitt, Crary's diary, and the photos of the material displayed in General Ramey's office. These materials were consistent with the components of a MOGUL service flight with neoprene balloons, parchment parachutes, plastic ballast tubes, corner reflectors, a sonabuoy, and a black electronics box that housed the pressure cutoff switch (Atch 3).
2. According to Brazel's July 8 statement, the debris was recovered on June 14, obviously eliminating any balloons launched in July.
3. Only two flights launched in June were unaccounted for, flights #3 and #4. Flight #3, most likely would not have had the "unorthodox" configuration of corner reflectors devised by Moore, who did not arrive until June 1, three days after flight #3 was launched.

On July 7, as the NYU group were winding down their work and preparing to return to New York City, a train of events began to unfold at Roswell AAF, 60 miles away. Roswell AAF was home of the 509th Bomb Group of the Strategic Air Command's Eighth Air Force, the only unit in the world capable of delivering nuclear weapons. It now appears that the debris from MOGUL flight #4 had come to earth on the plains east of the Sacramento Mountains, about 70 miles from the launch point at Alamogordo AAF (Atch 7). The fact that it descended into that area was not unusual. Over the course of Project MOGUL, several balloons had landed and been recovered from that area. In fact, in August, 1947, the NYU group had to receive special permission from the Civil Aeronautics Administration to continue to launch balloons from Alamogordo AAF since "balloons have been descending outside of the area (White Sands Proving Ground) in the vicinity of Roswell, New Mexico."³⁶ According to the sole living participant in the recovery, Sheridan Cavitt, he, Major Jesse Marcel, and MSgt William Rickett gathered some of the material, which appeared to resemble "bamboo type square sticks, one quarter to one half inch square", that was "very light", --reflecting material, " and a "black box, like a weather instrument." Cavitt believed

³³ Crary, p 15.

³⁴ Crary, p 15

³⁵ Crary, p 16

³⁶ Technical Report No. 1, p 43.

this material to be consistent with what he knew to be a weather balloon. This debris, would soon become, for a short time the focus of national and even worldwide attention when it was thought to be a "flying disc".

On July 8, the same day that the NYU/Watson Laboratory group departed Alamogordo, the Public Information Office of Roswell AAF announced the recovery of a "flying disc" and that it would be flown to Ft. Worth AAF for further examination. How could experienced military personnel have confused a weather balloon for a "flying disc"? The answer was this was not an ordinary "weather balloon." Typical weather balloons employed a single 350 gram neoprene balloon and a radiosonde, for measuring temperature, atmospheric pressure, and humidity housed in a cardboard box. If it was to be tracked by radar for wind speed measurement, a single corner reflector was added (Atch 8). The balloon that was found on the Foster Ranch consisted of as many as 23 350 gram balloons spaced at 20 foot intervals, several radar targets (3 to 5), plastic ballast tubes, parchment parachutes, a black "cutoff" box containing portions of a weather instrument and a sonabuoy (Atch 3). After striking the ground, the radar reflectors, having been constructed of very light materials for minimum weight, would tear and break apart spreading out over a large area when pulled across the ground by the balloons that still possessed some buoyancy. It should also be understood that the term "flying disc" was not at this time synonymous with "space ship," It denoted a disc-shaped flying object of unknown or (suspected Soviet) origin.

Before the announcement was made, the "disc" was flown to Ft. Worth AAF, at the direction of Brigadier General Roger Ramey, Commander, Eighth Air Force. General Ramey personally inspected the "disc," became skeptical, and summoned the base weather officer, Warrant Officer Irving Newton, to make an identification. Newton positively identified the debris as the remnants of a balloon and RAWIN target.³⁷ With this identification, the incident officially closed.

THE "COVER STORY"

From the search, it appears that the wreckage displayed on Jul 8 consisted of unclassified components of a MOGUL balloon assembly. Possibly withheld, if it was indeed recovered, was the AN/CRT-1 Sonabuoy, which could have compromised Project MOGUL. Although the Sonabuoy was not itself classified, its association with a balloon would have exposed a specific military purpose, an obvious violation of project classification guidelines (Atch 9). A device which has been described in "crashed disc" publications as "a giant thermos jug" was allegedly transported from Ft. Worth AAF to Wright Field.³⁸ This description is consistent with the appearance of an AN/CRT-1 Sonabuoy such as was used on flight #4 (Atch 4). At some point General Ramey decided to forward the material to Wright Field, home of Air Materiel Command, the appropriate agency to identify either one of its own research devices or a device of unknown origin. If the debris was determined to be of an unknown source, the AMC, T-2, Intelligence or Analysis Division, would conduct scientific and/or intelligence analysis in an attempt to discover

³⁷ Rawin is short for radar wind. A technique in which a single corner reflector is towed aloft by a single neoprene balloon to measure wind speed by radar.

³⁸ Kevin Randall and Donald Schmitt, UFO Crash at Roswell (New York, 1991), p 103.

the origin. But since the balloons, reflectors, and Sonabuoy were from an AMC research project, it was forwarded to the appropriate division or subdivision, which would have been in this case the Electronics Subdivision of the Engineering Division. There, it was identified by Colonel Marcellus Duffy, under whose purview Project MOGUL operated. Colonel Duffy, having been a former project officer of MOGUL with specific directions to "continue to monitor upper air programs," was the appropriate headquarters officer to make an identification, which he apparently did. According to Colonel Albert Trakowski, the officer who succeeded Colonel Duffy as project officer on MOGUL, after returning from the Alamogordo II field trip, Colonel Duffy contacted him by phone at Watson Laboratories and informed him that the "stuff you've been launching at Alamogordo," had been sent to him for identification. He described the debris to Colonel Trakowski and Trakowski agreed that it was part of his project (MOGUL).³⁹

Another occurrence which is sometimes said to "prove" that General Ramey was part of a cover story is that portions of the debris were flown to Andrews AAF, MD. Andrews would have been a probable location to send the debris since it had components of weather observation equipment. Andrews AAF was headquarters of the Army Air Forces Weather Service. It is also interesting to note that, the commanding general of the Weather Service, Brigadier General Donald N. Yates was quoted in wire service newspaper articles on July 9, providing his opinion of the incident. Additionally, in 1949, General Yates was given a full briefing of the projects, including constant-level balloons, that made up Project MOGUL.⁴⁰ While crashed disc proponents claim that General Ramey ordered a "colonel courier" to transport portions of the debris in a briefcase handcuffed to his wrist for the inspection of his superior, Major General Clement McMullen, Deputy Commander of Strategic Air Command, it is more likely that any forwarding of such debris was another attempt to identify the research agency to which it belonged. If it did go to General McMullen, it would not have been difficult for him to have obtained the opinion of the Weather Service, since SAC and the Weather Service were located in the same building (#1535) at Andrews AAF.

"HIEROGLYPHICS"

One of the most puzzling aspects of the reports that a "UFO" crashed near Corona, New Mexico in 1947, were the later descriptions of "hieroglyphic-like" characters by seemingly reliable, first-hand witnesses. Research has revealed that the debris found on the ranch and displayed in General Ramey's office probably did have strange characters. These, however, were not hieroglyphics, but figures printed on the pinkish purple tape used to construct the radar targets used by the NYU group.

The witnesses have recalled small pink/purple "flowers" that appeared to be some sort of writing that couldn't be deciphered. These figures were printed on tape that sealed the seams of the of the radar target. The radar targets sometimes called corner reflectors, had been manufactured during or shortly after World War II, and due to shortages, the manufacturer, a toy company, used whatever resources were available. This toy company used plastic tape with pink/purple

³⁹ Intvw, Col Jeffery Butler and 1Lt James McAndrew with Col Albert C. Trakowski, 29 June 1994, p 4.

⁴⁰ Rprt, Review of Air Materiel Command Geophysical Activities by Brigadier General D.N. Yates, and Staff, of the Air Weather Service, February 10, 1949.

flowers and geometric designs in the construction of its toys and, in a time of shortage, used it on the government contract for the corner reflectors. A depiction of these figures, as described by C.B. Moore, are shown in (Atch 10).

Allegations have also been made that the debris displayed to the press on July 8 and subsequently photographed, was not the original wreckage; i.e., a switch had occurred sometime after the debris left Roswell AAF. However, statements made by Moore, Trakowski, attested that the corner reflectors they launched during that period had the same flowers and figures which were later reported by Marcel, Cavitt and Brazel as being having been found on the Foster ranch in Corona. In fact, Trakowski distinctly remembered the figures on the tape because, when the targets first were produced, much fanfare was made over the use of a toy manufacturer for production. He related that a fellow Army Air Forces officer, John E. Peterson, monitored the procurement of the targets and "thought it was the biggest joke in the world that they had to go to a toy manufacturer" to make the radar targets and "even a bigger joke when...the reflecting material on the balsa frames was some kind of a pinkish purple tape with hearts and flowers designs on it."⁴¹ Furthermore, the Ft. Worth Army Airfield Weather Officer, Irving Newton, who was called in to identify the wreckage, also remembers the purple/pink marks. Newton stated that when he was called to General Ramey's office he remembers meeting Marcel, who attempted to convince him that the wreckage on the floor of the office was a crashed "flying disc." Newton, having seen many weather balloons and targets, positively identified the debris as a weather device.⁴² In short, descriptions of the wreckage found on the ranch near Corona, NM and of the wreckage displayed in Gen Ramey's office are entirely consistent with each other.

THE REAL COVER STORY

On July 10, 1947, a newspaper article appeared in the Alamogordo Daily News, displaying for the press, the devices, neoprene balloons and corner reflectors, which had been misidentified as the "flying disc" two days earlier at Roswell AAF (Atch 11). The photographs, and accompanying article, quoted Maj Wilbur D. Pritchard, a Watson Laboratory Project Officer (not assigned to MOGUL), who was stationed at Alamogordo AAF. This article appeared to have been an attempt to deflect attention from the top secret MOGUL project by publicly displaying a portion of the equipment, and offering misleading information. If there was a "cover story" involved in this incident, it is this article, not the actions or statements of Ramey.

The article in the Alamogordo Daily News stated that the balloons and radar targets had been used for the last fifteen months for training of long range radar personnel and gathering of meteorological data. The article lists four officers: Major W.D. Pritchard, Lieutenant S.W. Seigel, Captain L. H. Dyvad, and Major C.W. Mangum, as being involved with the balloon project, which was false. Moore and Trakowski could not recall any of the officers in the photograph with the exception of Dyvad, whom Moore identified as a pilot who coordinated

⁴¹ Trakowski, Intvw, June 29, 1994.

⁴² Newton, Intvw, July 21, 1994.

radar activities.⁴³ Additionally, some of the details discussed (balloon sighting in Colorado, tracking by R-17s, recovery of equipment, launching balloons at 5 -6 am, balloon altitudes of 30,000 - 40,000 feet), relate directly to the NYU balloon project, indicating that they had detailed knowledge of MOGUL.⁴⁴ Moore's unorthodox technique of employing several balloons and several radar targets was shown in one of the photographs. Other techniques unique to Moore, including the boiling of balloons before launch (which he personally developed during World War II), and a photograph in which a stepladder is used to launch balloons, could not all have coincidentally been used by other organizations.⁴⁵

The details may have been provided to the radar officers by Crary, Project MOGUL Field Operations Director, who did not depart by C-54 with the rest of the NYU/Watson Laboratory group on July 8 but later left by car on July 9, the day the staged launch took place. Additionally, three of Crary's staff, Don Reynolds, Sol Oliva, and Bill Edmonston, resided permanently in Alamogordo. It was apparent from Crary's diary that he had worked very closely with Major Pritchard and reported to him on occasion (twelve documented meetings from December 1946 - April 1947). One instance, on April 7, 1947, Crary gave Maj Pritchard a "progress report for MOGUL to date," indicating that Maj Pritchard had access to MOGUL information.⁴⁶ Another statement which appeared to confirm a cover story was located in the caption below the balloon picture describing a typewritten tag which was stapled to the target identifying it as having come from Alamogordo Army Airfield. Moore believed this not to be true because any equipment found was not to be associated with the USAAF only NYU; therefore flights carried "return to" tags identifying NYU as the responsible agency.⁴⁷

CONCLUSION

Many of the claims surrounding the events of July, 1947, could be neither proved or disproved. Attempts were not made to investigate every allegation but rather to start with what was known and work toward the unknown. To complicate the situation the events described here took place nearly 50 years ago and were highly classified in nature. This TOP SECRET project appeared to have utilized the concept of compartmentalization very well. Interviews with individuals and review of documents of organizations revealed that the ultimate objective of the work, or even the name of the project, in many instances was not known. It was unlikely, therefore, that personnel from Roswell AAF, even though they possessed the appropriate clearances, would have known about project MOGUL. In fact, when the NYU/AMC group returned to Alamogordo in September, their first trip since the "incident" occurred, one of the first activities of the project scientists, Peoples and Crary, accompanied by Maj Pritchard and Capt Dyvad, was to brief the

⁴³ Moore, Intvw, June 8, 1994.

⁴⁴ Technical Report No. 1, Table VII.

⁴⁵ Moore, Intvw, June 8, 1994.

⁴⁶ Crary, p.10.

⁴⁷ Moore, Intvw and Research Division, College of Engineering, New York University, Technical Report No. 93.03, Constant Level Balloons, Operations (New York, 1948), pp. 36-38.

commanding officer of Alamogordo AAF and the 509th Bomb Group Operations Officer, LtCol Joseph Briley, on MOGUL.⁴⁸

When the civilians and personnel from Roswell AAF (Marcel, Cavitt and Rickett) “stumbled” upon the highly classified project and collected the debris, no one at Roswell had a “need to know” about information concerning MOGUL. This fact, along with the initial misidentification and subsequent rumors that the “capture” of a “flying disc” occurred, ultimately left many people with unanswered questions that have endured to this day.



JAMES McANDREW, ILT, USAFR
Declassification and Review Officer
SAF/AAZD

Attachments:

1. 4 Photographs of Balloon Debris
2. Organizational Chart - Watson Laboratories
3. Drawing - New York University Flight #2
4. 2 Depictions of AN/CRT-1 Sonabuoy
5. Drawing of Corner Reflector
6. New York University Technical Report No.1, Table VII
7. Map of New Mexico
8. Typical Empliment of Weather Balloon and Corner Reflector
9. Project MOGUL Classification Letter
10. Drawing of “hieroglyphics” by Prof. C.B. Moore
11. Alamogordo Daily News Article

⁴⁸ History of the 509th Bomb Group, September 1947, p.79, and Crary, untranscribed journal, September 4, 1947, p.64.









CHIEF
CAPT A C TRAKOWSKI, JR
MR DOUGLAS RIGNEY (ASST)
#LECP #LEEW #LEEW #LEEW
WL REG 20-11 (APP NO 14) 0444PST 0300

COMPRESSIONAL WAVE LABORATORY
DR JAMES PEOPLES
#LECA #LECA
0444PST 0300

ELECTROMAGNETIC WAVE LABORATORY
DR PHILIP NEWMAN
#LEEW #LEEW
0444PST 0300

TECHNICAL SERVICES SECTION
LT M G BALL
LT H F STEVENS (ASST)
#LETS #LETS
0444PST 0300

ATMOSPHERIC BRANCH
DR ALBERT GRAY
#LECA #LECA
0444PST 0300

MICROWAVE AND VHF BRANCH
MR SAM PURE
#LEEW #LEEW
0444PST 0300

REQUIREMENTS AND SCHEDULING BRANCH
LT H F STEVENS
#LETS #LETS
0444PST 0300

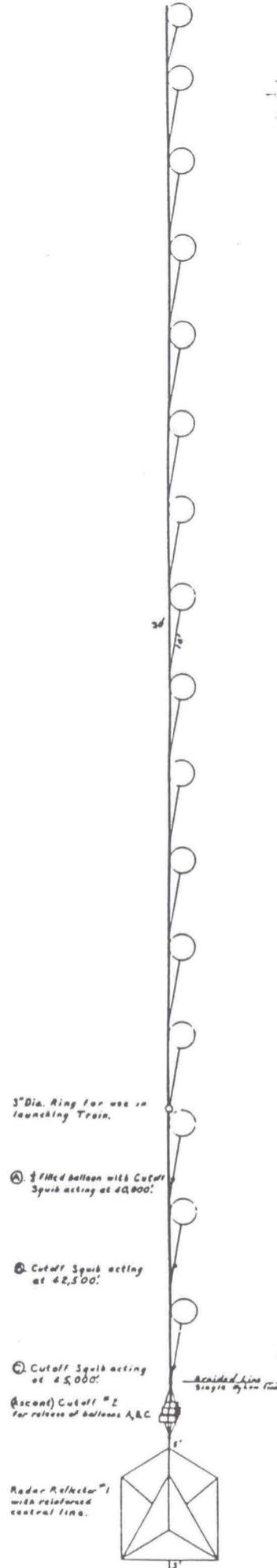
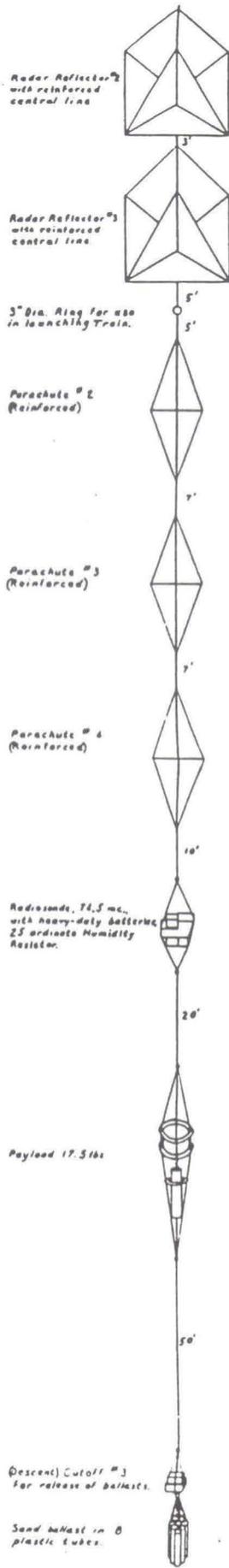
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FACILITIES BRANCH
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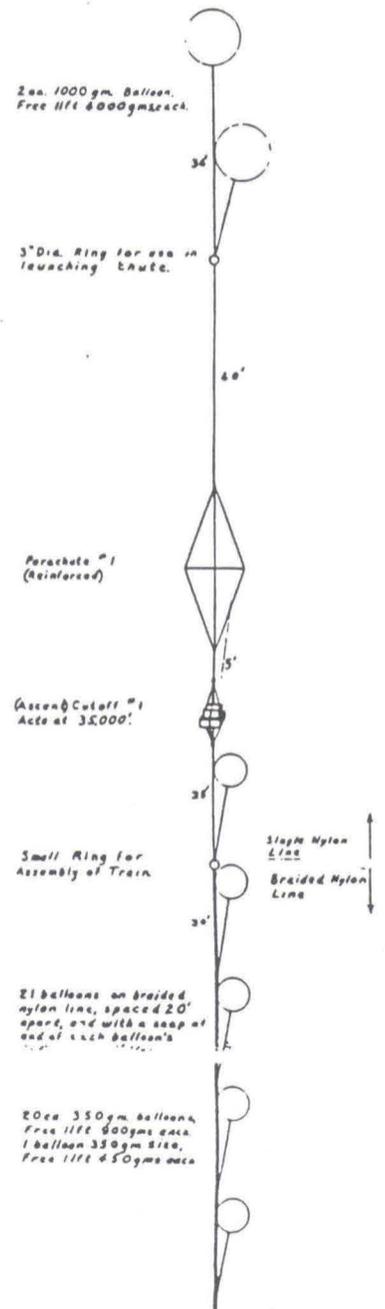
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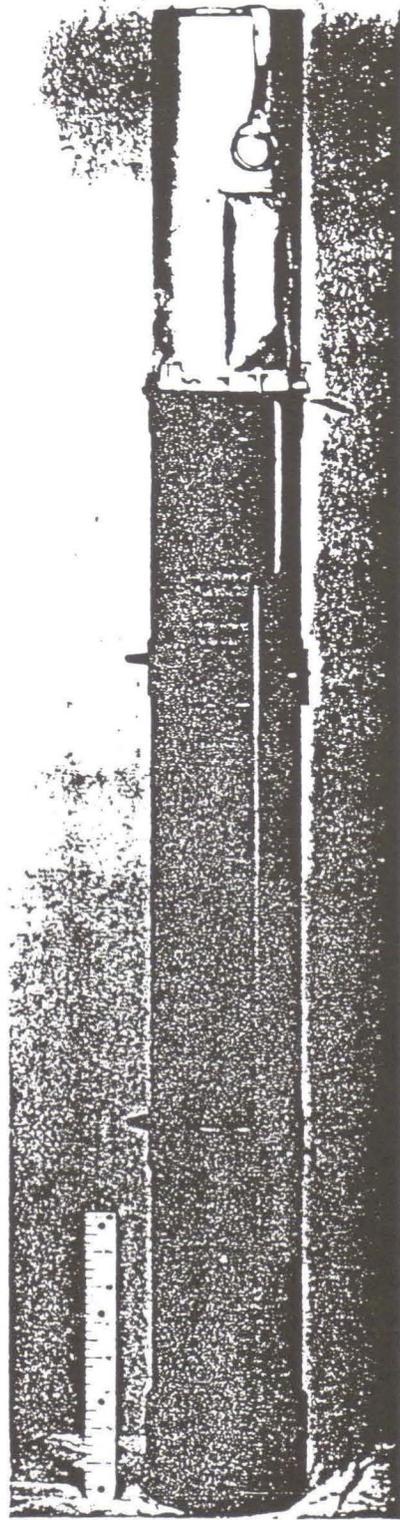


TRAIN FOR CLUSTER FLIGHT NO.2 TO BE FLOWN AT BETHLEHEM, PENNSYLVANIA

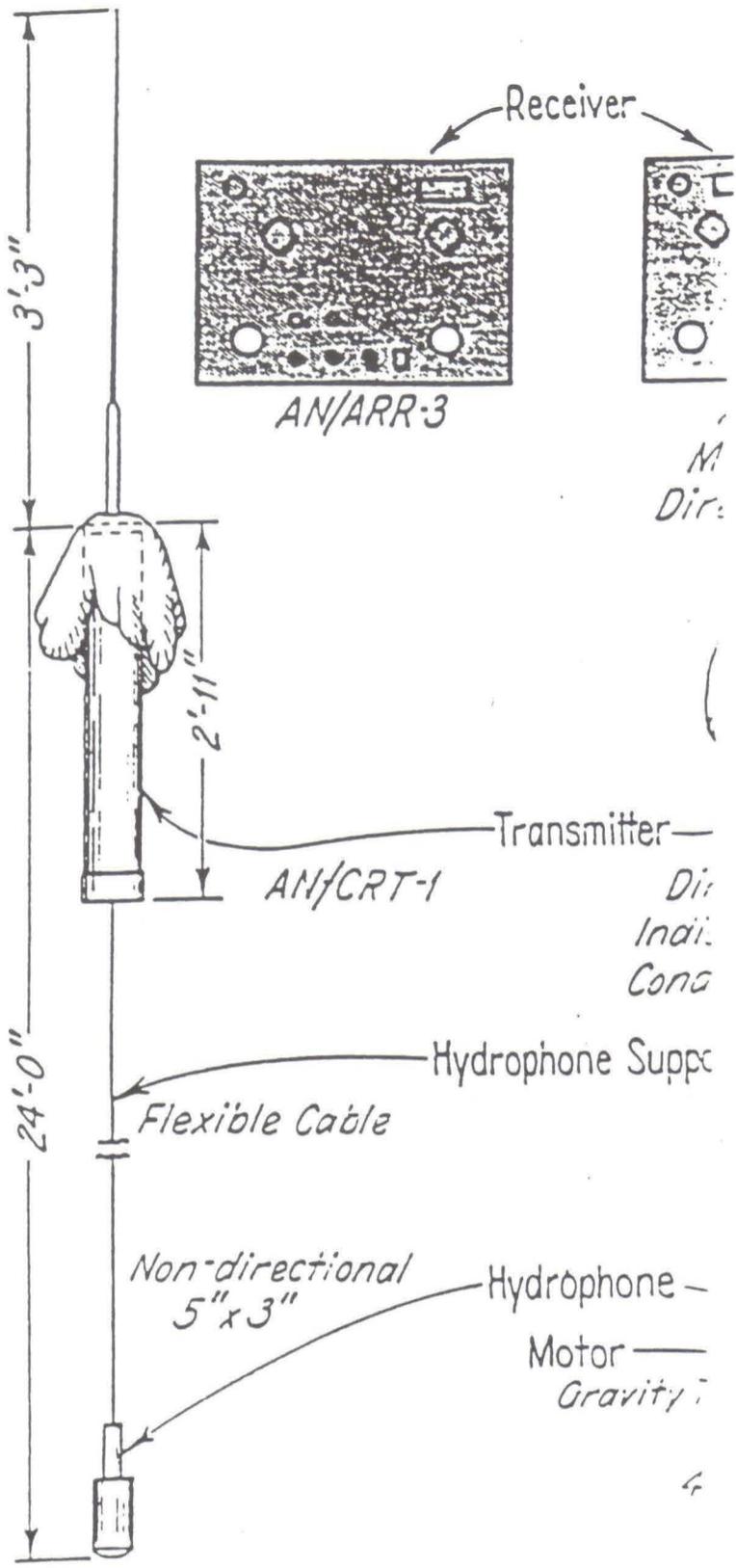
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All Equipment - 1" = 2' 0"

TOP



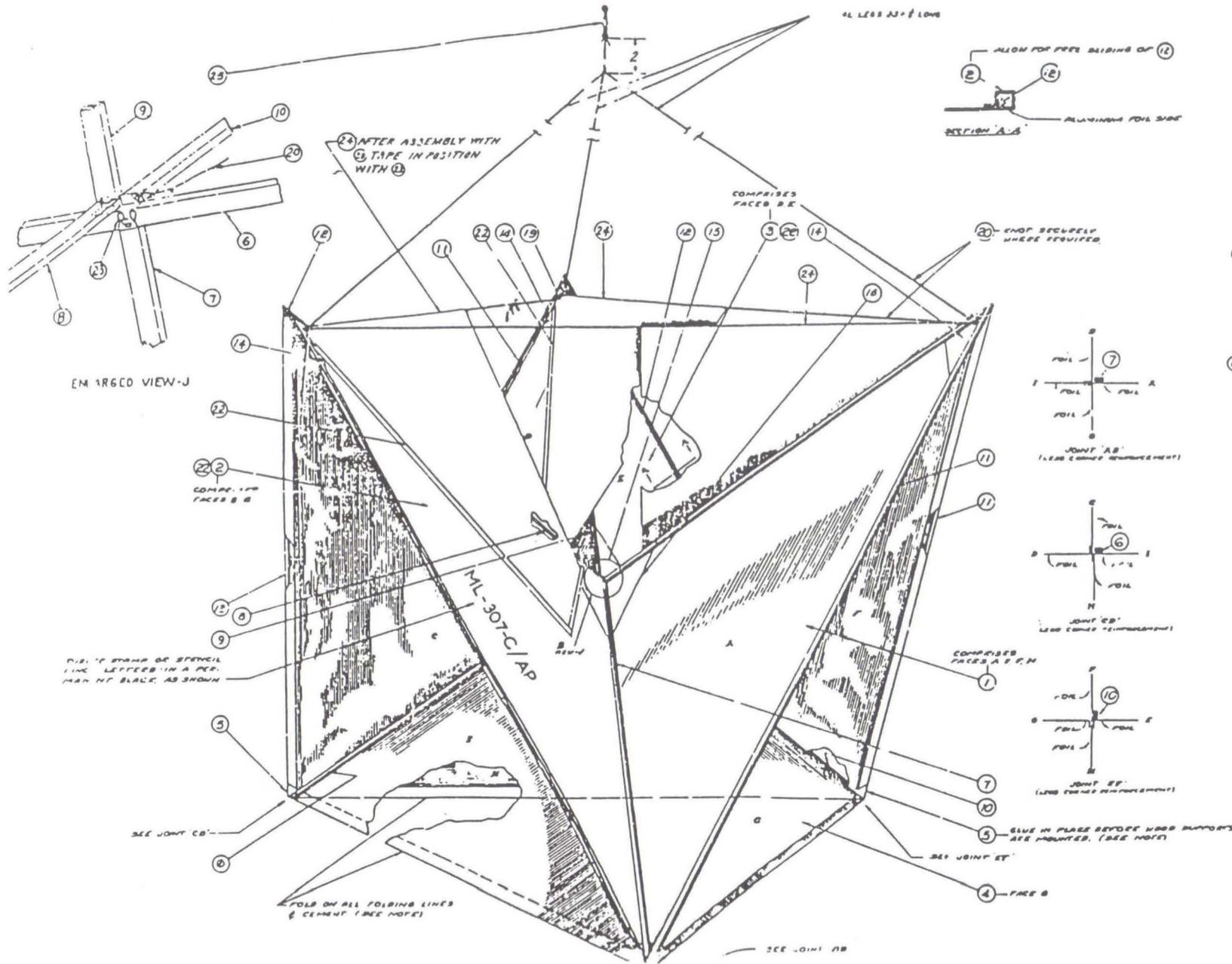


REDESIGN - EXPENDABLE RADIO BUOY
FULLY ASSEMBLED



E. R. S. B.

Figure 1 - Comparison of nondirecti



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D	REMOVE 12
E	ADDITIONAL HITS FOR JOINTS ADDED. INCLUDE TYPE 0.250 C-22" MATERIAL BY MECHANICAL STITCHING

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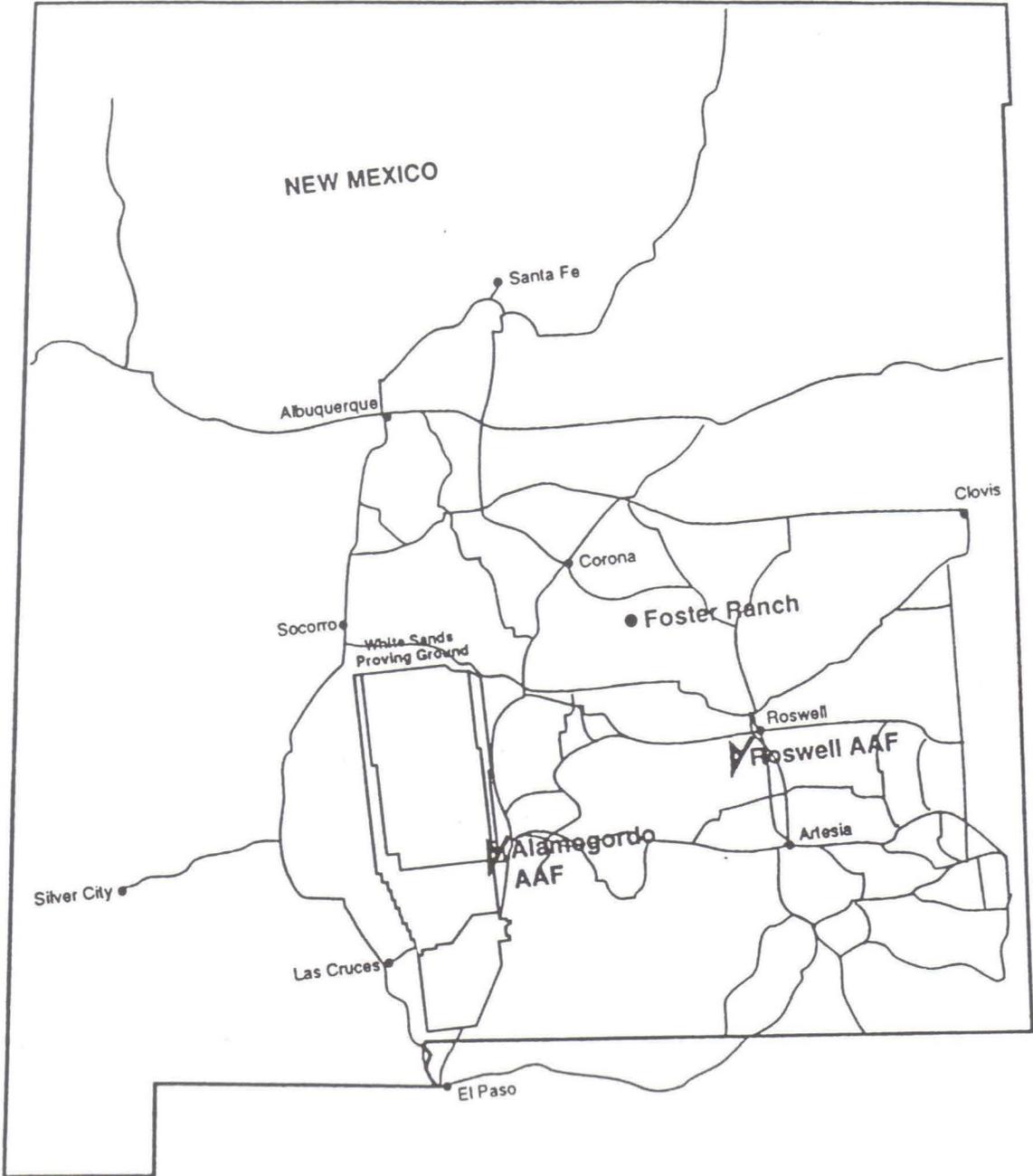
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7	WIRE	29	17
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TABLE VII

SUMMARY OF HYU CONSTANT-LEVEL BALLOON FLIGHTS

FLIGHT NO.	DATE AND TIME	LAUNCHER	DESCRIPTION OF BALLOON	BALLOON WEIGHT	WEIGHT OF APPENDIX	TOTAL WEIGHT OF BALLOON INCLUDING BALLAST	DESCRIPTION OF ATTITUDE CONTROL	BALLOON WEIGHT	FRESH LIFT	BALLOON LIFT	BARIOSCOPE RECAPTION %	TRACKING %	AIRCRAFT OBSERVATION %	FLIGHT DURATION	OPTIMUM C.A. ALTITUDE	MAXIMUM & CONSTANT LEVELS BAL	RECOVERY & LAMB. AND RATE	REMARKS
7	July 1947 0800 MST	Alamogordo New Mexico	7 - General Mills 1 - 15' .008" Polyethylene 6 - 7' .001" Polyethylene in Helium cluster below 15' balloon	17.3 kg	74.5 gm Radiocentre Ballast assembly	15.9 kg	Dribbler Compens fluid Fixed leak 300 gm/hr	3 kg	11.3 kg	27.8 kg	97% with recorder	Theodolite 30%	100% C-34	350 min.	423 min. 1500'	Max. 10800' Const. 10000'	0%	Balloons used in cluster to obtain higher altitude. In high wind at launching 3 small balloons deflated. Therefore cluster did not rise high enough to activate altitude control. Dribbler leak and balloon diffusion both 300 gm/hr. Therefore balloons remained at ceiling until ballast was expended.
1	5 Aug. 1947 0714 EST	Lakewood New Jersey	1 - General Mills - 20' .001 Polyethylene	4.1 kg	3 gm transmitter 39.7 gm Radiocentre 72.8 gm Radiocentre Ballast assembly	28.0 kg	Automatic and manual ballast valves and manual pressure switch	5 kg	3.8 kg	31.8 kg	100% Williams	Theodolite 15% SCR-650 80%	85%	407 min.	60 min. 400'	Max. 14100'	95% Bryan, Delaware 85 mi.	First flight with large thin balloon. Open appendix caused balloon dilation with air-cover over appendix thought to have caused balloon rupture, terminating flight early and low. Flight not successful no balloon test or altitude control test.
1	5 Sept. 1947 0847 MST	Alamogordo New Mexico	2 General Mills 20' .001" Polyethylene. 10' appendix inside shroud lines	8.4 kg	397 gm Radiocentre Data Gear Ballast release	24.8 kg	Automatic Ballast release assembly	10.0 kg	3.8 kg	28.0 kg	100%	Theodolite 100% SCR-650 100%	Not required Burst over desert	58 min.	None (burst)	Max. 47600'	0% White Sands, N. M.	Appendix twisted around shroud lines, preventing valving of gas at pressure altitude. Both balloons burst within 2 minutes and gas fell free to desert. Recovery not attempted.
4	4 Sept. 1947 0613 MST	Alamogordo New Mexico	1 General Mills 10' .001" Polyethylene. 10' appendix outside shroud lines	4.0 kg	397 gm Radiocentre Banner, Ballast release	15.1 kg	Automatic Ballast release assembly	5.0 kg	2.2 kg	17.3 kg	100%	Theodolite 100% SCR-650 100%	Not required 10% (1-5)	55 min.	None (burst)	Max. 49000'	100% 8 mi. north of Alamogordo AAP	Appendix again twisted around shroud lines, preventing valving of gas at pressure altitude, where balloon burst. Recovery retarded by banner.
5	4 Sept. 1947 1153 MST	Alamogordo New Mexico	1 General Mills 20' .001" Polyethylene. 1' appendix outside shroud lines.	4.0 kg	397 gm Radiocentre Banner, Ballast release	15.1 kg	Manual ballast valve. Fixed rate of leak 1000 gm/hr	5.0 kg	2.6 kg	17.7 kg	364 min.	Theodolite 175 min. SCR-650 364 min.	Not required Accurate data not required	More than 364 min.	71 min. 900'	Max. 45800' Const. 34000'	0%	First flight with large S. W. balloon which did not burst due to appendix. Ball valve holes in balloon due to high wind at launching caused slow descent after pressure height was reached. Slow ascent of art appendix and automatic ballast valve
4	8 Sept. 1947 0874 EST	Alamogordo New Mexico	1 General Mills 20' .001 Polyethylene. 2' appendix outside shroud lines	4.4 kg	397 gm Radiocentre Data gear Banner Ballast release	14.1 kg	Automatic Ballast Release assembly	3.3 kg	2.4 kg	16.5 kg	100%	Theodolite 100% SCR-650 100%	Not required A/c need to correct for gear	30 min.	None (burst)	Max. 31700'	0% NE Alamogordo AAP	Heavily loaded balloon with too much free lift inflated by valve outside in wind. High oscillations observed after release. Balloon burst due to blowing off top seal below pressure altitude. Balloon came down with free falling gear but was not found.
17	9 Sept. 1947 1647 MST	Alamogordo New Mexico	1 H. A. Smith 15' .004" Polyethylene with 18 lead points	4.4 kg	397 gm Radiocentre Banner Ballast release	11.3 kg	Automatic Ballast release assembly 100 gm/hr fixed leak	4.0 kg	2.1 kg	13.4 kg	301 min.	301 min.	Not required night flight	not noted 20 hrs.	181 min. 500'	Max. 28700' Const. 29100'	Craft, Kansas 555 miles	Successful controlled altitude flight demonstrating altitude control and drifting height through a sunset. Balloon descended near Craft, Kansas long after passing out of Roswell's reception range. Need for a barograph shown.

New Mexico



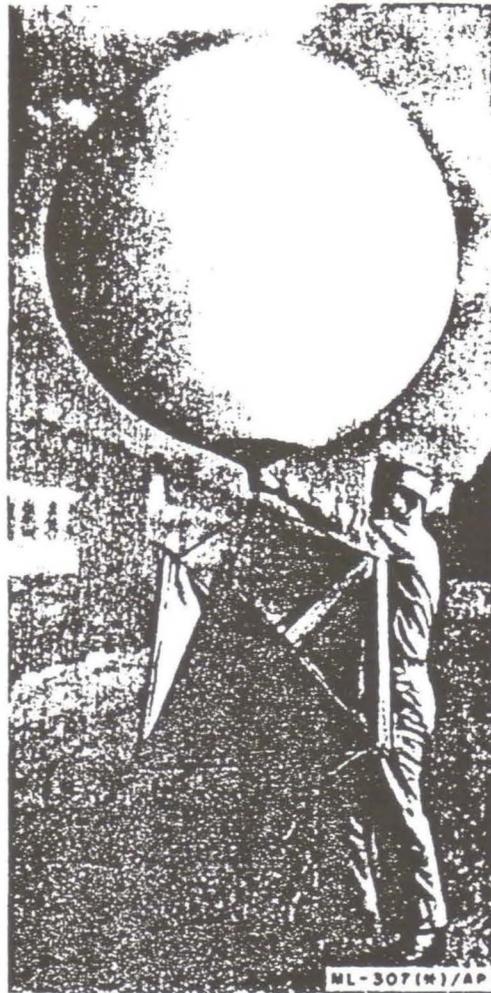


Figure 50. Pilot Balloon Target ML-307/AP or ML-307A/AP ready for flight.

Status: Standard. *Stock No.:* 7A1237. *Reference:* TM 1-235.

Pilot Balloon Target ML-307(*)/AP represents Pilot Balloon Targets ML-307/AP, ML-307A/AP, and ML-307B/AP. Pilot Balloon Target ML-307(*)/AP is a reflector which is attached to a 100- or 350-gram pilot balloon to assist in tracking it by radar. It is composed of a combination of triangular-shaped surfaces constructed of light, paper-backed aluminum foil supported by balsa sticks; it weighs approximately 100 grams. The target folds into a flat triangle for shipment. Pilot Balloon Target ML-307(*)/AP is designed to function best with Radio Sets SCR-584 (any model), SCR-545 (tracking components), and SCR-614 (any model). The targets are packed 24 to a shipping container.

Ltr Watson Labs. 14 Jun 46, subj: "Change in Class. of 'Mogul,' Item 188-5."

1st Ind.

TSELT-2/WHD/mch

Hq., Air Materiel Command, Wright Field, Dayton, Ohio. 8 July 1946.

TO: Commanding General, Army Air Forces, Washington 25, D.C.

THRU: (AC/AS-4)

1. To amplify the information given in the basic letter it is desired by Electronic Subdivision that the following information and scientific data pertaining to project "Mogul" be classified "TOP SECRET:"

a. Precise data as to the exact placement of measuring instruments.

b. Scientific observations and measurements that have military application.

c. Detailed methods of measuring results.

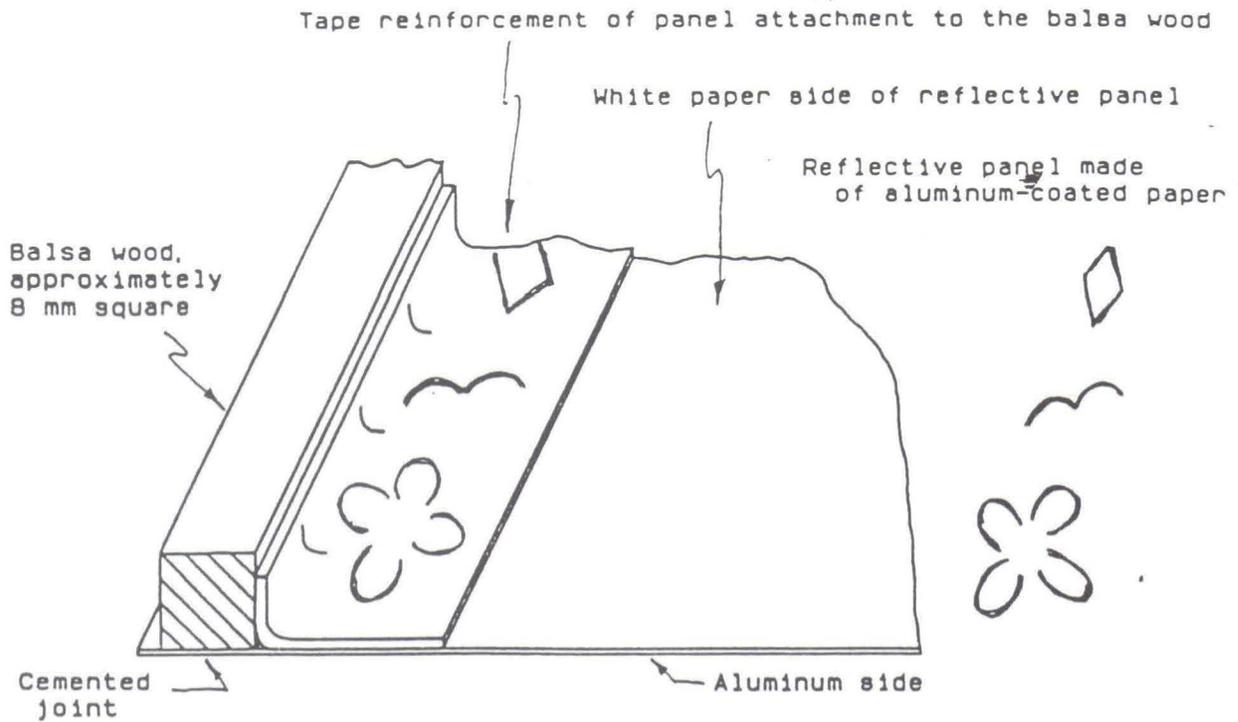
2. Engineering preparations for the final test that are not in conflict with the above will be classified "Confidential."

3. Contractual documents will be classified the same as the security classification of the equipments involved. Equipments used in project "Mogul" are common to other systems or sets that are now classified "Confidential," "Restricted," or "Unclassified;" contractual documents should be classified accordingly.

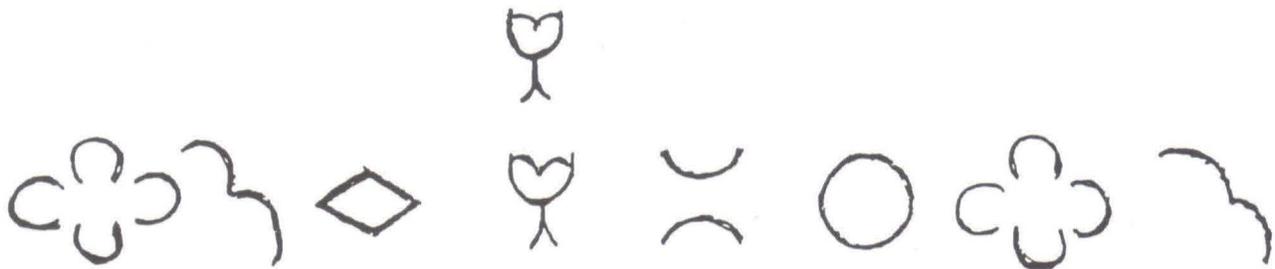
4. Authorization is requested to observe the security classifications proposed herein.

FOR THE COMMANDING GENERAL:

E. O'DONNELL
Brig.Gen., U.S.A.
Deputy Chief
Engineering Division



MY RECOLLECTION OF THE REFLECTOR MATERIAL ATTACHMENT TO THE Balsa WOOD PIECES ON THE ML-307/AP PILOT BALLOON RADAR TARGETS IN 1947.



AN APPROXIMATE REPRODUCTION OF THE FIGURES PRINTED ON THE TARGET-REINFORCING TAPE (This is not authoritative since I last saw one of these targets more than 20 years ago.)

C. B. Moore

C.B. Moore
August 28, 1992

