

# THE WHITE SANDS PROOF

by  
Bruce Maccabee

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## INTRODUCTION

"no information was gained"

-Dr. Louis Elterman

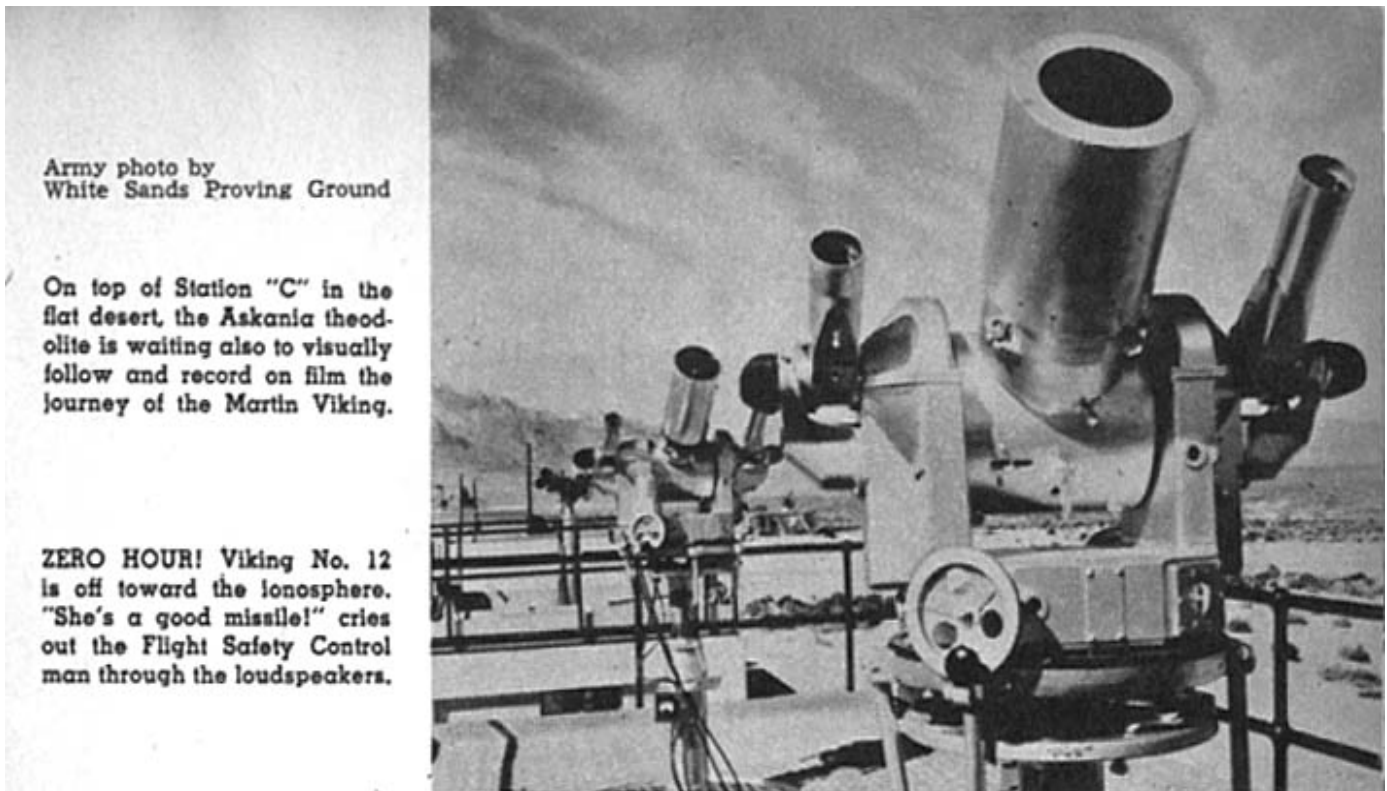
"objects are sighted in some number"

-from the White Sands Film report to

Dr. Anthony Mirarchi

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## ASKANIA CINETHEODOLITES AT THE WHITE SANDS PROVING GROUND



## PROLOGUE

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In December, 1948 a new and strange phenomenon began to be observed repeatedly in the southwestern United States in areas where Top Secret nuclear weapon research was being carried out. Particular areas were around Los Alamos, New Mexico, Sandia Base near Albuquerque, New Mexico, the White Sands Proving Ground in NM and, eventually around the nuclear weapon storage site called Killeen Base at Fort Hood, Texas.

This phenomenon consisted of (generally) bright green lights moving (generally) horizontally through the night sky and then dropping downward slightly and going out. These became to be known as "green fireballs." After these had been observed

many times in late 1948 and early 1949 Dr. Lincoln La Paz, a famous meteorist (a scientist who studies meteors and meteorites), declared that they weren't normal meteors. He told the Air Force and the FBI (see Appendix) that if these weren't special devices resulting from our own (United States) secret research, then they could be Russian and in any event were a potential threat to our "vital installations" (FBI terminology) where nuclear weapon research was carried out.

These fireballs were observed repeatedly throughout 1949 and Air Force scientists wanted to know what they were. (Also observed were objects which Dr. La Paz called the "disc variation"...but it almost seems that the Air Force scientists really didn't want to know what THEY were!) Finally, in 1950, they succeeded in setting up an observation program to scientifically record the fireballs. It is at this point that our present story begins, but, before leaving the fireballs behind, let me just point out that they are STILL a mystery!

**INTRODUCTION**

In the spring of 1950 a \$20,000, half-year contract was signed with the Land-Air Corporation which operated the phototheodolites at White Sands. Land-Air was to set up a 24 hour watch at a location in New Mexico to be specified by the Air Force and the phototheodolite operators at White Sands were to film any unusual objects which happened to fly past. The name of this project was Twinkle.

The investigation began on March 24, 1950. By this time there had been many sightings in the southwest according to the sighting catalogue compiled by Lt. Col. Rees of the 17th District Office of Special Investigations at Kirtland, AFB, many of them around Holloman Air Force Base. His catalogue shows the following data for New Mexico in 1949: the area of Sandia Base (Albuquerque) - 17 sightings, mostly in the latter half of the year; Los Alamos area - 26 sightings spread throughout the year; Vaughn area - none; Holloman AFB/Alamogordo/White Sands area - 12; other areas in southwest New Mexico- 20; total - 75. For the same areas in the first three months of 1950 there were: Sandia - 6 (all in February); Los Alamos - 7; Vaughn - 1; Holloman AFB/Alamogordo/White Sands - 6; others - 6; total - 26. With all these sightings, the scientists were quite confident that they could "catch" a fireball or a saucer.

On February 21 an observation post, manned by two people, was set up at Holloman with a theodolite, telescope and camera. The post was manned only from sunrise to sunset. The observers saw nothing unusual during a month of operation. Then the scientists decided to begin a constant 24 hour watch on the first of April that would last for six months, with Land-Air personnel operating cinetheodolites (theodolites with movie cameras) and with Holloman AFB personnel manning spectrographic cameras and radio frequency receivers. Thus began Project Twinkle with the high hopes of solving the fireball/saucer mystery.

.....

**SIGHTINGS BY OBSERVERS OF SUPERIOR RELIABILITY**

or  
**TWINKLE, TWINKLE LITTLE CRAFT**

Dr. Anthony Mirarchi was not the average scientist. He knew about the fireball sightings in the southwest and he was skeptical, all right, but he was also skeptical of the glib explanations that had been offered. Before deciding what the fireballs and "disc variation" might be he wanted more data. In early 1950 he was the Chief of the Air Composition Branch at Geophysical Research Division (GRD) at the Air Force Cambridge Research Laboratory (AFCRL) in Cambridge, Mass. Twinkle began as Dr. Mirarchi's project. However, he retired from AFCRL in October, 1950, so he did not write the final report. That duty fell to the next project director, Dr. Louis Elterman. This final report has an important place in UFO history. Had Mirarchi written the report the history of early UFO research might be different. However, as you will see, Elterman did write it and, in doing so, left out the important information you are about to read. (Dr. Elterman and the project's final report are discussed below.)

Dr. Mirarchi visited Holloman Air Force Base in late May, 1950, and requested a brief report on sightings which had occurred on April 27 and May 24. Fortunately for "the truth," this brief report to Mirarchi survived in the National Archives microfilm record where it was found in the late 1970's, long after the Twinkle report had had its...intended?... debunking effect on the green fireball and disc sightings! The report reads as follows (see also copies from the Archives microfilm below):

" 1. Per request of Dr. A. O. Mirarchi, during arecent visit to this base, the following information is submitted.

2. Sightings were made on 27 April and 24 May 1950 of aerial phenomena during morning daylight hours at this station. The sightings were made by Land-Air, Inc., personnel while engaged in tracking regular projects with Askania Phototheodolites. It has been reported that objects are sighted in some number; as many as eight have been visible at one time. The individuals making these sightings are professional observers. Therefore I would rate their reliability superior. In both cases photos were taken with Askaniias.

3. The Holloman AF Base Data Reduction Unit analyzed the 27 April pictures and made a report, a copy of which I am enclosing with the film for your information. It was believed that triangulation could be effected from pictures taken on 24 May because pictures were taken from two stations. The films were rapidly processed and examined by Data Reduction. However, it was determined that sightings were made on two different objects and triangulation could not be effected. A report from Data Reduction and the films from the sighting are enclosed.

4. There is nothing further to report at this time."

UNCLASSIFIED

EHO 00.92/1

31 May 50

JUL 13 1950

SUBJECT: Aerial Phenomena

TO: Commanding Officer  
AF Cambridge Research Laboratory  
Attn: Base Directorate, Geophysical Research  
230 Albany St.,  
Cambridge, Massachusetts

1. Per request of Dr. A. O. Mirarchi, during recent visit to this base, the following information is submitted.

2. Sightings were made on 27 April and 24 May 1950 of aerial phenomena during morning daylight hours at this station. The sightings were made by Land-air, Inc., personnel while engaged in tracking regular projects with Askania Photo-theodolites. It has been reported that objects are sighted in some number; as many as eight have been visible at one time. The individuals making these sightings are professional observers therefore I would rate their reliability superior. In both cases photos were taken with Askaniias.

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4. There is nothing further to report at this time.

Incls:  
Incl #1-Data Red Rpt #1  
Incl #2-Data Red Report #2  
Incl #3-Film, P-10, 24 May 50  
Film, P-3, 24 May 50  
Film, P-10, 27 Apr 50  
Incl #4-Map of HFB Range

UNCLA

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POD DIR 08/10

COPY eps  
7-3712-29

The writer of this cover letter is not known (no signature). It might have been the Lt. Albert mentioned in the document below. The Data Reduction report attached to the letter reads as follows:

"Objects observed following MX776A test of 27 April 1950"

2nd Lt. (name censored)

EHOSIR

15 May 50

1. According to conversation between Col. Baynes and Capt. Bryant, the following

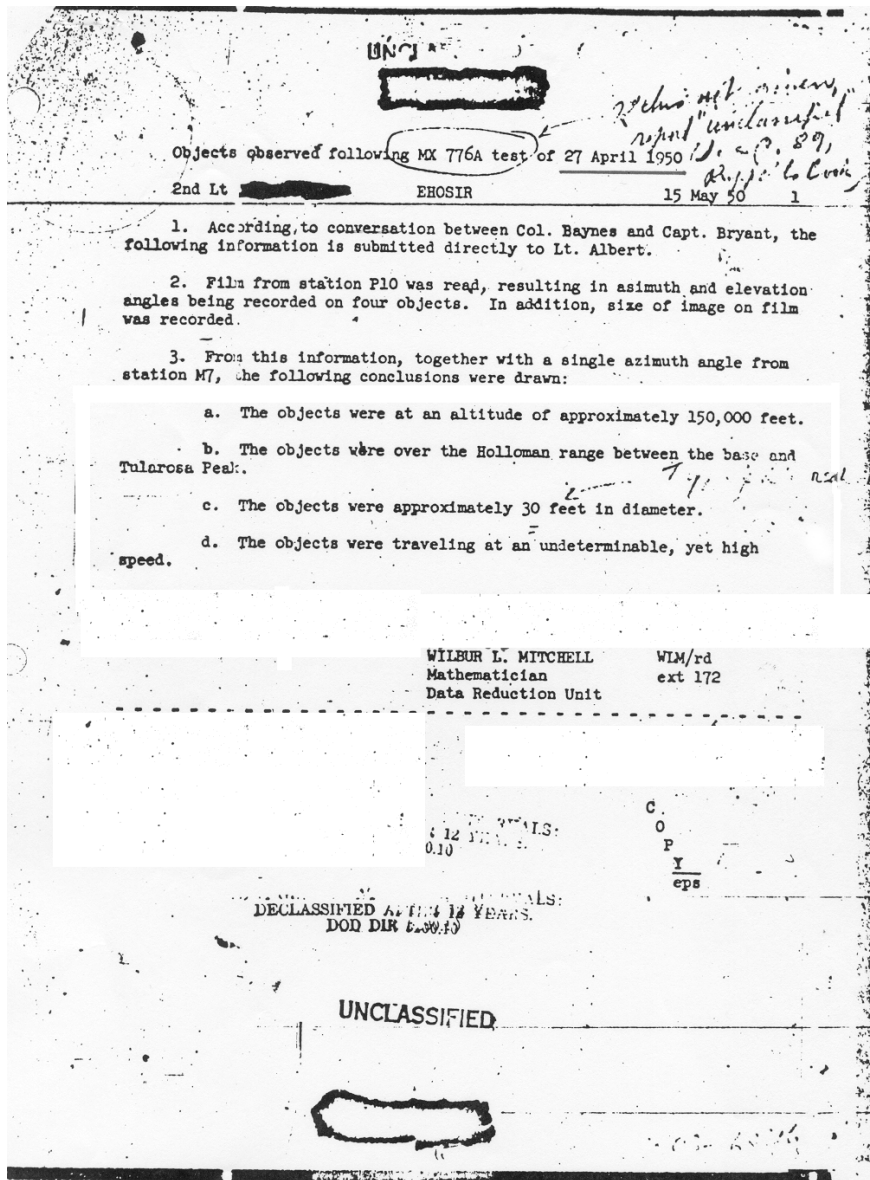
information is submitted directly to Lt. Albert.

2. Film from station P10 was read, resulting in azimuth and elevation angles being recorded on four objects. In addition, size of image on film was recorded.

3. From this information, together with a single azimuth angle from station M7, the following conclusions were drawn:

- a). The objects were at an altitude of approximately 150,000 ft.
- b). The objects were over the Holloman range between the base and Tularosa Peak.
- c). The objects were approximately 30 feet in diameter
- d). The objects were traveling at an undeterminable, yet high speed.

(signed)  
 Wilbur L. Mitchell  
 Mathematician  
 Data Reduction Unit



So, there you have it, four unidentified objects... UFOs... were flying at 150,000 ft near the White Sands Proving Ground. Each was roughly 30 ft in size. (The sighting was similar to that of Charles B. Moore while tracking a high altitude balloon in April, 1949.) Could Mr. Mitchell and the Askania operators have made a mistake? Not likely. Their business was tracking fast moving rockets and calculating the trajectories of the rockets. As the writer of the above letter stated, "The individuals making these sightings are professional observers. Therefore I would rate their reliability superior."

Human beings had made no objects that could fly at 150,000 ft in the spring of 1950. So, what were they? Whose were they?

The skeptical scientist might, at this point, question the ability of Askania cameras to accurately image some object at 150,000 ft (28 statute miles). Just what was the capability of a phototheodolite? In fact, one might wonder just what IS a phototheodolite?

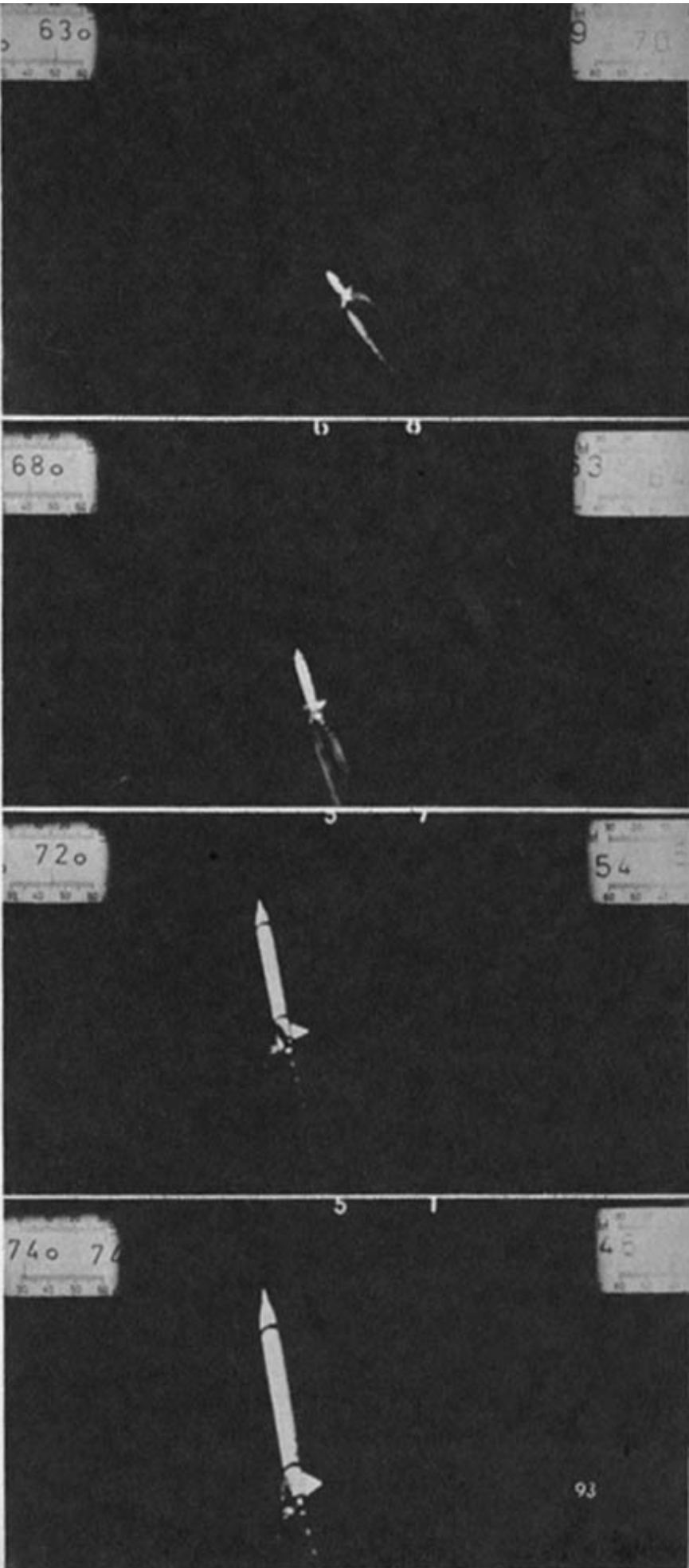
The phototheodolite is a telescope which does two things at once as the operator points it toward the object of interest (usually a rocket). First, the phototheodolite (or cinetheodolite) makes a series of photos (or a movie) of what is being seen through the telescope. Typically the camera takes a picture (or many pictures) every second. The shutter (exposure) times for all active phototheodolites at a test site such as White Sands are controlled electronically by a central "time keeper". Thus all the camera pictures are synchronized. The phototheodolite also accurately measures and records on the film, the azimuth and elevation (horizontal and vertical pointing directions) as time goes on. When two or more of these cameras are pointed at the same object, say a rocket traveling into space, the elevation and azimuth information that is recorded can be used to accurately determine the position (altitude and horizontal position relative to the cameras) every second by triangulation (a well known trigonometric technique). Thus these cameras can provide information on the flight of a rocket, i.e., at any instant how high it is, how far it has traveled downrange, what the exhaust of the rocket looks like (an important "diagnostic" for determining how well the fuel was burning, how accurately the rocket nozzles were directing the exhaust, etc.) and whether or not the rocket was rotating or tumbling as it traveled. As an example of such a camera in action, consider the following composite photograph:

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The four rare photos at right, showing different stages of the Viking's flight, were made by the Askania theodolite. From bottom to top, they not only record the angle of climb but, more important, report on rocket efficiency by detailing action of engine exhaust through upper atmosphere. When rocket engine operates at its top best, hypersonic shock cones in tail flame appear shaped perfectly as diamonds. If diamonds are in any way distorted, this indicates lack of smoothness in operation. Not too much is yet known about the stability of flames in special regions of the atmosphere. Until there is perfect knowledge of flame stability under all conditions, it would be hazardous to send a manned rocket using chemical fuels into space. Viking flights and tracking telescopes at White Sands are adding to such knowledge. This Viking was perfect. Bottom two photos show the neat shock-diamonds. Third photo up is beginning of fuel burnout. Note last few diamonds and perfect blob of fire exploding out of the nozzle. Top photo is final act of burnout: rocket is still stable, continues on for another 110 miles.

Photos by Ballistic Research Laboratory, White Sands Proving Ground



many seconds later as it climbed upward. The number at the upper left is the azimuth and the number at the upper right is the angular elevation. According to the text that accompanies the picture, the top photo was taken when the rocket was nearing burnout. Burnout of a V-2 occurred when the altitude was about 20 miles and the rocket was about 2 miles downrange. However, the actual altitude when that photo may have been less than that. (Apparently this camera was quite far from the takeoff point in order to capture a reasonable "side shot" of the rocket at burnout.)

The rocket itself was about 46 ft long and 5 ft in diameter (at its widest). Looking at the top photo of the rocket one can clearly see the general shape, although it is distorted (foreshortened) by the perspective view (from below and to one side). Had the rocket presented the same perspective view but from a distance of about 30 miles (150,000 ft) the image would not be as large as in the upper photo, but the general shape could still be determined from the image (which would have been clearer in the original film than in this copy).

The focal length of the typical telescope was 60 cm. One may assume that the 35 mm film used had an image size resolution, determined by the average film grain size, of 0.001 cm (0.01 mm or 10 microns), or less (if high resolution film was used the grain size could be as small as about 5 microns). Assuming 0.001 cm resolution at the film plane, the angular resolution was on the order of  $0.001 \text{ cm}/60 \text{ cm} = 1.6 \times 10^{-5} \text{ radians} = 0.0009 \text{ degrees}$  which is about 3 arc-second resolution (1 arc-sec = 0.00028 deg). When this distance is projected to 150,000 ft it corresponds to about 2 1/2 ft. This is a "resolution element" at that distance. Hence it is not surprising that the film image discussed above is a quite good representation of the shape of the V-2 rocket at a high altitude.

An object 30 ft in diameter would have 12 of these resolution elements across its width, and about 140 such elements over the whole image area (if roughly round) which would be more than enough to assure that the film image would clearly show the overall shape of the object. (If the film resolution were better than 10 microns the number of resolution elements in the image would be even greater. The more resolution elements there are, the more accurate is the depiction of the actual shape of the object.) The bottom line is that it is very UNLIKELY that the expert analysts at White Sands were wrong when they stated that the objects were about 150,000 ft high and about 30 ft in diameter (and traveling at a high speed).

## A DISMAL FAILURE?

### ...or a COVER UP?

Enter Dr. Louis Elterman, a well known atmospheric physicist. Elterman was known for using powerful searchlights to study the upper atmosphere (density, dust loading, etc.). He also wrote a report on ball lightning for Project Grudge, the second Air Force project to collect and analyze flying saucer sightings, so he obviously knew the official opinion of the Air Force on flying saucers, namely that there weren't/aren't any. (The Project Grudge personnel did not look favorably on saucer reports.) A year and a half after the above sightings, in November, 1951, Dr. Elterman, who was at that time the Director of Project Twinkle, and who worked at the Atmospheric Physics Laboratory (APL) of the Geophysical Research Division (GRD) of the Air Force Cambridge Research Laboratory (AFCL), wrote the final report on Project Twinkle. According to Dr. Elterman's report, Project Twinkle was a dismal failure: "no information was gained." He recommended it be discontinued. His recommendation was accepted.

But, was it a failure? Was there really no information gained? Notice that the above document says that as many as 8 objects were sighted at one time on May 24, 1950. This statement is confirmed in an FBI report entitled "Information Concerning Phenomena in New Mexico," written on August 23, 1950. According to the report, "On May 24, 1950, personnel of Land-Air, Incorporated, sighted eight to ten objects of aerial phenomena." Isn't the fact of the sighting "information?" Of course it is. Then, why did Elterman write "no information was gained?" Let us look more carefully at Elterman and his Project Twinkle report.

According to Dr. Elterman, before Twinkle began there had been "an abnormal number of reports" from Vaughn, New Mexico, so it was decided to place a lookout post there. Why this place was chosen is a mystery to me. It is about 120 air miles from Los Alamos, about 90 from Sandia Base and nearly 150 from Alamogordo/Holloman AFB. I have listed above the sighting

statistics for the various New Mexico areas, being careful to list the sightings around Vaughn separately. Note that Vaughn had only 1 sighting in the whole previous year. So why did they "waste" a lookout post at Vaughn? Why didn't they put one at Los Alamos or at White Sands? Did they think that they could triangulate over a very large baseline distance with the lookout post at Holloman AFB or were they actually trying to avoid sightings? These are questions which must forever remain unanswered. (Note: Elterman was not responsible for this poor choice of location since he did not become the Project director until about 7 months after the project started.)

Anyway, it was a mistake. After Project Twinkle began the sighting rate dropped precipitously. The Project Blue Book sighting list shows 1 sighting in April, 1 in May and 1 in August in the Holloman area. There were also fewer sightings in the other areas. In fact, for the period from April 1 to October 1 covered by the first Land Air contract there were only about 8 sightings in the whole of New Mexico as compared with the roughly 30 sightings during the previous 6 months.

The effect of this sudden decrease in sighting rate is reflected in the Twinkle Final Report which says that there were very few observations. However, of more importance is what is not reflected in the report, that is, what is ignored or *covered up* (?) in the report, namely the fact that Twinkle *was successful*.

To demonstrate that Dr. Elterman "ignored information" or was just plain dishonest, I quote here one part of the report verbatim. Commenting on the "*first contractual period, 1 April 1950 to 15 September 1950*" Dr. Elterman wrote:

***"Some photographic activity occurred on 27 April and 24 May, but simultaneous sightings by both cameras were not made, so that no information was gained. On 30 August 1950, during a Bell aircraft missile launching, aerial phenomena were observed over Holloman Air Force Base by several individuals; however, neither Land-Air nor Project personnel were notified and, therefore, no results were acquired. On 31 August 1950, the phenomena were again observed after a V-2 launching. Although much film was expended, proper triangulation was not effected, so that again no information was acquired."***

During the second contractual period, 1 October 1950 to 31 March 1951 there were no sightings. It was as if the phenomenon had reacted to the setting up of observation posts by moving elsewhere. There were continuing sightings in other parts of the country and even a few in the other parts of New Mexico, but none near Holloman AFB. The lack of sightings was enough to end the contract. After the contract ended there were discussions about what to do with the data and whether or not to continue observations at at some low level of effort. It was decided in the late spring of 1951 not to continue the special effort. Elterman, writing in November, 1951, recommended "no further expenditure" of time and effort...and there was none.

But, what about the sightings during the first half of the contract, the sightings at Holloman Air Force base in April, May and August, 1950? Even Elterman admits that ***things were seen!***

According to Eltermann, **no information was gained**, to which I respond,

**WHAT?**

What do you mean, Dr. Elterman, Sir?  
Oh, Great and Exalted Guru of the Upper Atmosphere,

***isn't the fact that something unusual was sighted by experienced observers "information"?***

Something WAS up in the sky...

**something that was sufficiently unusual as to attract attention.**



Was Elterman justified in making such a comment?

No! Certainly information "is gained" when a number of qualified observers simultaneously view unidentified objects from various locations. And more information is gained if some of these observers film these objects through cinetheodolite telescopes. There is useful information even if a "proper triangulation" is not accomplished. And there is even more information gained if a proper triangulation is accomplished...and one was accomplished, only Elterman didn't mention it!

Farther on in the report Dr. Elterman indicates a serious deficiency in the operational plan for Project Twinkle. The project scientists knew that they might have some film to analyze, but according to Elterman there were insufficient funds built into the contract to analyze the film. After a discussion with Mr. Warren Kott, who was in charge of the Land-Air operations, Elterman estimated that it would take 30 man-days to analyze the film and do a time correlation study which "would assure that these records did not contain significant material." According to Elterman, "no provisions are contained in the contract" for this analysis.

One reads this previous statement with some *astonishment*. They set up a photographically instrumented search for unknown objects and then failed to provide for the film analysis if they were lucky enough to get film. *What sort of a scientific project is that? Did they want to succeed or did they want to fail?*

Furthermore, Elterman's statement that a time correlation study should be done to assure that the records contained *no significant material* sounds as if Elterman had already concluded that there was no worthwhile evidence in the film. Does this sound like an unbiased investigation?

Near the end of the report Elterman supported his statement that "no information was gained" by offering explanations for the sightings: "Many of the sightings are attributable to natural phenomena such as flights of birds, planets, meteors and possibly cloudiness." Note that he wrote "many." He did not write "all." What about the sightings that were NOT attributable to birds, planets, meteors and cloudiness?

The typical scientist reading the Project Twinkle Final Report would assume Elterman was telling the truth, that there was "no information gained" and that all the sightings were misidentifications. The typical reader would accept Dr. Elterman's opinion as the final word on the subject. Only the perceptive person would realize that he had not actually proven his statement to be true, even though he presumably had access to the photographic evidence which would prove it, if it were true.

Compare the above letter/report to Dr. Mirarchi with the first paragraph of Elterman's statement where he says "...simultaneous sightings by both cameras were not made so that no information was gained." It seems that Elterman got his information on these sightings from this report to Dr. Mirarchi. Yet he did not even give a hint of the existence of the most important result of Project Twinkle, the April 27 triangulation which yielded information on altitude and size. Could it be that he didn't know about the Data Reduction Unit report? Or did he know and choose to purposely ignore or withhold the information? Was this part of a "cover up" or simply the "ostrich effect" kicking in (if you stick your head deep enough into the sand the problem will go away)?

Capt. Edward Ruppelt, who was the director of Project Blue book during 1952 and 1953, in his landmark 1955 book, The Report on Unidentified Flying Objects, described the April 27 event in more detail. A guided missile had just been tracked and the cinetheodolite crews were starting to unload their cameras when someone spotted objects moving through the sky. The camera stations were linked by a telephone network, so that crew alerted the others. Unfortunately all but one camera had been unloaded and the UFOs had departed before the other cameras could be reloaded. According to Ruppelt, "The photos from the one station showed only a smudgy dark object. About all the film proved was that something was in the air and, whatever it was, it was moving." Evidently Ruppelt didn't know that a triangulation had been accomplished. But at least Ruppelt did not claim that "no information was gained."

Ruppelt also discussed the May 24 event and its failure at triangulation due to the fact that the two cameras were looking at different objects. Ruppelt wrote that in February, 1951, when he first learned of these sightings (this was about 9 months before he became the director of Project Grudge and over a year before the name was changed to Blue Book), "The records at AMC [the Air Materiel Command headquartered at Wright-Patterson Air Force Base] didn't contain the analysis of these films but they did mention the Data Reduction Group at White Sands. So, when I later took over the UFO investigation I made several calls in an effort to run down the actual film and analysis." Unfortunately, he was not successful even though he did manage to contact, through a "major who was very cooperative," two men who had

analyzed what was either the May 24, or the August 31, film or both (see Elterman's statement above regarding the August 31 sighting). Ruppelt writes as follows:

***"(the major's) report.... was what I had expected - nothing concrete except that the UFOs were unknowns. He did say that by putting a correction factor in the data gathered by the two cameras they were able to arrive at a rough estimate of speed, altitude and size. The UFO was 'higher than 40,000 feet, traveling over 2,000 miles per hour, and it was over 300 feet in diameter.' He cautioned me that these figures were only estimates, based on the possibly erroneous correction factor; therefore they weren't proof of anything - except that something was in the air."***

Obviously Ruppelt underplayed the importance of this report by suggesting that the films didn't prove anything. My response to this is

***So what, if the size, distance and speed estimates might be wrong.... something was there, obviously large, fast and unusual or the camera crews wouldn't have bothered to film it!***

Since Ruppelt apparently was not aware that a triangulation had been accomplished for the April 27 sighting one wonders if he would have tried to downplay that film, also, as not "proof of anything."

At the bottom of the report to Dr. Mirarchi is a list of enclosures which shows that two reports (Data Red Report #1 and Data Red Report #2) and three films (P-10 and P-8 of May 24 and P-10 of April 27) were sent to Mirarchi along with a map of the Holloman range showing, I presume, the locations of the cameras. There is a hand written note at the right of the list of films which says "Film on repository with AFCRL" and a few other undecipherable scribbles. Attempts (in the late 1970's) to locate these films failed. (Mirarchi died in the 1960's.)

Incidentally, the Project Blue Book master sighting list indicates that all four of the sightings listed by Elterman had "insufficient information" for evaluation.

## EPILOGUE

Although Dr. Mirarchi retired in October 1950 and had no part in writing the final Twinkle report that was completed over a year later, his involvement with the green fireballs and saucers did not end when he retired. In early 1951 he returned to "action" in a public way and his actions nearly got him into serious trouble almost two years after that!

In the middle of February, 1951 Time magazine published an article that featured a well known scientist, Dr. Urner Liddel of the Naval Research Laboratory near Washington, DC. In the article Dr. Liddel stated that he had studied around 2,000 saucer reports and, in his opinion, the only credible saucer sightings were actually sightings of misidentified Skyhook balloons, balloons which had been kept secret by the armed services. Apparently Dr. Liddel wasn't aware of the several sightings by balloon project scientists (e.g, C. B. Moore mentioned above).

Evidently Dr. Mirarchi felt it was his civic duty to repudiate Liddel's claims and two weeks later he responded publicly. According to a United Press story filed on February 26, 1951 Mirarchi said he believed, after investigating 300 reports of flying saucers, that the saucers were missiles from Russia which had photographed our atomic bomb test sites. According to the United Press article the 40 year old scientist who "for more than a year conducted a top secret investigation into the weird phenomena said that he had worked with balloons and balloons did not leave an exhaust trail." Another reason given against the balloon explanation was that balloons could not be seen at night. Mirarchi explained how "scientists had picked up dust particles containing copper which could have come from no other source than the saucer motive plants (the engines)." (This was a reference to efforts by Dr. La Paz to have air samples taken after a green fireball sighting to see if there were any small

particles of copper or copper compounds "burn green" or give off a characteristic green color when heated, so La Paz had conjectured that the green color could be attributed to burning copper compounds associated with the fireballs. In one case there was success in detecting such particles, although La Paz was not completely convinced that the particles were from the fireball.)

According to the newspaper article "flying saucers or 'fireballs' as he terms them, were regularly observed near Los Alamos until he set up a system of phototheodolites to measure their speed, size and distance away.... but the fireballs mysteriously ceased appearing before the theodolites could go to work. Dr. Mirarchi concludes that spies must have tipped off the saucers' home base." Mirarchi referred to two sightings for which there was photographic evidence: a single photo of a round glowing object and a motion picture which "showed one streaking across the sky for one and a half minutes." Mirarchi went on to say that he was aware that some sightings were actually sightings of balloons, but that "there was too much evidence in favor of saucers to say they could have all been balloons. 'I was conducting the main investigation. The government had to depend on me or my branch for information.' He said he did not see how the Navy (i.e., Dr Liddel) could say that there had been no concrete evidence on the existence of the phenomena."

Mirarchi concluded by accusing the government of committing "suicide by secrecy" for not admitting that the saucers were real and probably missiles from Russia.

Strong words! So strong they nearly got Mirarchi in trouble more than two years later. According to an Air Force document released in 1991(!), in 1953, during a time of espionage and spy hunting (the Rosenbergs, atomic spies, were executed in 1953) the FBI queried the Air Force as to whether or not Mirarchi should be investigated for breaking security. Lt. Col. Frederick Oder, who had been instrumental in getting Project Twinkle started, responded by writing that, because Mirarchi had released to the newspaper some information that was classified Confidential or Secret it "could cause serious harm to the internal security of the country...if it were to fall into unfriendly hands...both from the point of view of the prestige of our Government and the point of view of revealing our interest in certain classified projects." Brigadier General W. M. Garland, who was in charge of AMC in 1953, decided not to pursue Dr. Mirarchi because, in his opinion, the information was not that important. Furthermore, in Gen. Garlands' opinion, the facts about saucers being missiles, as stated in the newspaper article, had been "disproved or are, at best, personal opinions, and are not considered classified data." In other words, Gen. Garland apparently believed that the green fireball and saucer sightings were not Russian missiles, although he did not say what he thought they were.

Perhaps Gen. Garland let Mirarchi off the hook because he recalled that there had been a recommendation to declassify and release the results of Project Twinkle in December, 1951, a month after the final report was written. However, he could find no record of declassification in the files of AMC. Evidently he was not aware of the recommendation against declassification contained in a February 1952 letter to the Directorate of Intelligence from the Directorate of Research and Development which states

"The Scientific Advisory Board Secretariat has suggested that this project not be declassified for a variety of reasons, chief among which is that no scientific explanation for any of the 'fireballs' and other phenomena was revealed by the (Project Twinkle) report and that some reputable scientists still believe that the observed phenomena are man-made."

Another letter, this time from the Directorate of Intelligence to the Research Division of the Directorate of Research and Development, dated March 11, 1952, adds another reason for withholding the information from the public:

"It is believed that a release of the information to the public in its present condition would cause undue speculation and give rise to unwarranted fears among the populace such as occurred in previous releases on unidentified flying objects. This results from releases when there has been no real solution."

In other words, Air Force Intelligence had realized that the public could see through the smokescreen of previous explanations and wanted real answers, so, if they couldn't come up with real answers it was better to say nothing.

Over a year after Mirarchi responded to Liddel, LIFE Magazine published an article on flying saucers. In that article the authors described some of the sightings which caused the Air Force to start Project Twinkle. One of the hundreds of letters which the magazine received in response to that article was from Captain Daniel McGovern who wrote "I was very closely associated with Projects 'Twinkle' and 'Grudge' at Alamogordo, N. Mexico where I was chief of the technical photographic facility at Holloman Air Force Base. I have seen several of these objects myself and they are everything you say they are as to shape, size and speed."

#### ACKNOWLEDGEMENTS

I thank Joel Carpenter and Brad Sparks for some of the phototheodolite information presented here.

A helpful reference was *200 MILES UP* by Dr. Gordon Vaeth, Ronald Press, NY (1955).

FOR FURTHER INFORMATION ON FLYING SAUCERS IN THE YEAR FOLLOWING  
MIRARCHI'S RESPONSE TO LIDDEL see

[click here](#)

#### APPENDIX

As a matter of historical interest I present here some of the information collected by the FBI before and during the time of Project Twinkle. The FBI was responsible for protecting "vital installations" (laboratories and military bases where nuclear weapons were designed and stored) from spies and Soviet communist subversive activities. Therefore FBI agents attended meetings of Air Force and Army intelligence and security organizations at these installations. As mentioned at the beginning of this article, a new phenomenon was reported numerous times starting in December, 1948: "green fireballs" were seen by numerous people including many security guards at the vital installations. The people who were in charge of security for installations in the southwest worried about the "green fireballs" (and "disc variation"). No one knew what these things were, leaving open the possibility that the Soviets could be involved. Therefore the FBI was interested in keeping track of the developments. The first mention in the FBI file of this fireball situation is in a document dated January 31, 1949, entitled "Protection of Vital Installations." This document is shown below. The name which was blacked out at the beginning of the fifth paragraph is that of Dr. Lincoln LaPaz, a famous meteoricist (a person who studies meteors and meteorites; the FBI document incorrectly refers to him as a "meteorologist"). (His name and other names were blacked out - censored - of the FBI documents before they were released to me under the Freedom of Information Act in the spring of 1977). Note that subject matter was considered "Top Secret" by intelligence officers of the Air Force and Army.

## Office Memorandum • UNITED STATES GOVERNMENT

TO : DIRECTOR, FBI

FROM : SAC, SAN ANTONIO

SUBJECT: PROTECTION OF VITAL INSTALLATIONS  
BUREAU FILE # 65-58300

January 31, 1949  
DATE:

At recent Weekly Intelligence Conferences of G-2, ONI, OSI, and F.B.I., in the Fourth Army Area, Officers of G-2, Fourth Army have discussed the matter of "Unidentified Aircraft" or "Unidentified Aerial Phenomena" otherwise known as "Flying Discs", "Flying Saucers", and "Balls of Fire". This matter is considered top secret by Intelligence Officers of both the Army and the Air Forces.

It is well known that there have been during the past two years reports from the various parts of the country of the sighting of unidentified aerial objects which have been called in newspaper parlance "flying discs" and "flying saucers". The first such sightings were reported from Sweden, and it was thought that the objects, the nature of which was unknown, might have originated in Russia.

*Chiles  
Wright*

In July 1948 an unidentified aircraft was "seen" by an Eastern Airlines Pilot and Co-Pilot and one or more passengers of the Eastern Airlines Plane over Montgomery, Alabama. This aircraft was reported to be of an unconventional type without wings and resembled generally a "rocket ship" of the type depicted in comic strips. It was reported to have had windows; to have been larger than the Eastern Airlines plane, and to have been traveling at an estimated speed of 2700 miles an hour. It appeared out of a thunder-head ahead of the Eastern Airlines plane and immediately disappeared in another cloud narrowly missing a collision with the Eastern Airlines plane. No sound or air disturbance was noted in connection with this appearance.

During the past two months various sightings of unexplained phenomena have been reported in the vicinity of the A.E.C. Installation at Los Alamos, New Mexico, where these phenomena now appear to be concentrated. During December 1948 on the 5th, 6th, 7th, 8th, 11th, 13, 14th, 20th and 28th sightings of unexplained phenomena were made near Los Alamos by Special Agents of the Office of Special Investigation; Airline Pilots; Military Pilots, Los Alamos Security Inspectors, and private citizens. On January 6, 1949, another similar object was sighted in the same area.

*[Redacted]* a meteorologist of some note, has been generally in charge of the observations near Los Alamos, attempting to learn characteristics of the unexplained phenomena.

Up to this time little concrete information has been obtained.

JBJ:md

Sa-100-7545

El Paso (2)

Dallas (2)

Houston (2)

Little Rock (2)

Oklahoma City (2)

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F B I  
43 MAR 16 1949



The subject was again brought to the attention of the FBI on Feb. 10, 1949. In the document below the research done by Dr. Lincoln LaPaz is again mentioned. Moreover, LaPaz by this time had generated a rather frightening theory to explain the green fireballs: they could be Soviet missiles (suborbital bombs) that were being used to target the "vital installations."



# Office Memorandum • UNITED STATES GOVERNMENT

Mr. Tolson.....
Mr. Clegg.....
Mr. Glavin.....
Mr. Ladd.....
Mr. Nichols.....
Mr. Rosen.....
Mr. Tracy.....
Mr. Egan.....
Mr. Gurnea.....
Mr. Harbo.....
Mr. Hendon.....
Mr. Pennington.....
Mr. Quinn Tamm.....
Mr. Nease.....
Miss Gandy.....

TO : DIRECTOR, FBI

DATE: February 10, 1949

FROM : SAC, EL PASO

SUBJECT: PROTECTION OF VITAL INSTALLATIONS  
Bureau file #65-58300

~~CONFIDENTIAL~~

*X Flying Discs*

*8-4  
10/24*

Reference is made to the letter from the San Antonio Office to the Director dated 1/31/49. *u*

On 2/6/49 PAUL RYAN, Office of Special Investigations, Roswell, New Mexico, advised the resident agent at Roswell that he had just left a conference with Dr. LINCOLN LA PAZ, Meteorologist, who has written a letter summarizing the search for the "Unidentified Aerial Phenomena".

RYAN advised that Dr. LA PAZ came to Roswell after one of these objects had been observed by several persons in the Roswell area the night of January 30, 1949, at approximately 6:00 P.M. One of these persons who witnessed the object was an OSI Investigator who stated the object appeared to explode or *(disseminate)* near the Walker Air Force Base at Roswell, New Mexico.

RYAN informed that all of his agents had been searching the area around Roswell, Artesia, Tatum, and Kenna, New Mexico; Amherst, Brownfield, and Lamesa, Texas, where the phenomena had recently been observed. These searches all met with negative results.

Dr. LA PAZ advanced the theory to RYAN that the objects were controlled missiles traveling around the earth at an altitude of approximately 25 miles and at a speed of approximately 15 miles per second. The missile was probably controlled by agents stationed at various intervals who are able to bring the missile down over a designated area and explode it. He stated that Dr. LA PAZ added that he believed the Russians or some other country was practicing with these weapons which carried no war head and were being exploded at an altitude of approximately 10 miles. After the practice period LA PAZ assumed the weapons would be loaded with an atomic war head.

LA PAZ told RYAN that two men whom he interviewed at Kenna, New Mexico, who had observed phenomena which appeared to have disseminated near Tatum, New Mexico, had informed him "nothing will be found". LA PAZ stated he attached significance to the above statement and that the men apparently had some knowledge that the phenomena was not a meteorite.

RYAN advised his Office would keep this Office informed of any current developments.

CC: San Antonio

RRR/cm  
117-145

100-4562

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INDEXED - 105

65-58300-56

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MAR 4 1949

*5-3 mm  
Let to El Paso  
2-24-49*

51 MAR 18 1949 9

In a letter from the Special Agent in Charge (SAC) at San Antonio, TX, the FBI learned from the Fourth Army intelligence officers that the "flying discs, Flying saucers and "balls of light" were now referred to as "Unconventional Aircraft" and the effort to understand them was called "Project Grudge." (Students of UFO history will recall that the first publicly known Air Force project to investigate "flying saucers" was called Project Sign; it ran from January 1948 to early 1949 when the name was changed to Project Grudge.)



Office Memorandum • UNITED STATES GOVERNMENT

TO : DIRECTOR, FBI  
FROM : SAC, SAN ANTONIO  
SUBJECT: PROTECTION OF VITAL INSTALLATIONS  
BUREAU FILE 65-58300

DATE: March 22, 1949

Re San Antonio letter to the Director dated January 31, 1949, which outlined discussion had at recent weekly Intelligence Conferences of G-2, ONI, OSI and FBI in the Fourth Army Area concerning "Unidentified Aircraft" or "Unidentified Aerial Phenomena" otherwise known as "flying discs", "Flying saucers" and "balls of fire". It is repeated that this matter is considered secret by Intelligence Officers of both the Army and the Air Force.

G-2, 4th Army, has now advised that the above matter is now termed "Unconventional Aircraft" and investigations concerning such matters have been given the name "Project Grudge".

G-2, 4th Army, advised on February 16, 1949, a conference was held at Los Alamos, New Mexico, to consider the so-called "Green fire ball phenomena" which began about December 5, 1948. It was brought out this question has been classified "secret" and that investigation is now the primary responsibility of the U.S. Air Force, Air Materiel Command, T-2.

*Lincoln Co. Pa.*  
[REDACTED] of the University of New Mexico, discussed one sighting which he himself had made which was termed the "Starvation peak incident" and described the following characteristics which indicated that the phenomenon could not be classified as a normal meteorite fall.

1. There was an initial bright light (no period of intensity increase) and constant intensity during the duration of the phenomenon.
2. Yellow green color about 5200 Angstroms.
3. Essentially horizontal path.
4. Trajectory traversed at constant angular velocity.
5. Duration about two seconds.
6. No accompanying noise.

JEJ:md  
2 cc: El Paso (100-4562)  
2 cc: Dallas  
" " Houston  
" " Little Rock  
" " Oklahoma City

RECORDED - 40

APR. 4-1949

DIRECTOR, FBI

March 22, 1949

It was brought out that since December 5, 1948 there have been more than ten incidents analagous to the "green fireball" above described and some twenty others with minor deviations from the above. It is also pointed out that the only sitings which had occurred seemed to have been confined to the Los Alamos, Las Vegas, and West Texas triangle.

G-2 also advised that as of November 1, 1948, information had been received from higher Military authorities that the Air Force had advised that such sitings occur periodically and that another period of sitings was then imminent. Further, on February 14, 1949, higher Military authorities advised that it was believed that ultimately it would be found that the phenomena in question have a natural explanation.

It is further noted that about 7:30 p.m., March 6, 1949, what was at first thought to be a flare was seen approximately one-half mile north of Killeen Base in the area of the Vital Installation at Camp Hood, Texas, and a second flare was noticed at 1:45 a.m., March 7, 1949, approximately three miles from Killeen Base. It has since been concluded that the flares seen near Killeen are probably similar to the phenomena previously noted in the Los Alamos, Sandia Base Area although these are the first sitings of such phenomena near Camp Hood.

There appears to be reason to believe that the above-mentioned phenomena may be connected with secret experiments being conducted by some U.S. Government Agency as it is believed that the United States is farther advanced in guided missile development than any foreign power.

Although the primary responsibility for investigating such matters is now with the U.S. A.F. Air Materiel Command, G-2, 4th Army is still interested in being advised of any further sitings of such phenomena which might be observed.

→ where is this info?

Skipping over many months and many UFO sighting reports one finds the next major mention of this subject in an FBI letter dated August 23, 1950. (The reader will recall that Project Twinkle started in March, 1950.) During 1949 and 1950 the continued sightings of these strange phenomena had caused the security agencies some concern since there was no good explanation. Their concern is echoed in the document below. Evidently Dr. La Paz was still considering the possibility that the fireballs were Soviet guided missiles. The document mentions the contract with Land-Air to carry out a 24 hour skywatch called "Project Twinkle." This document also refers to the May 24 sighting of numerous "objects of aerial phenomena." The name that appears crossed out in the last page is probably that of Anthony Mirachi, the Project Engineer.



Office Memorandum • UNITED STATES GOVERNMENT

TO : D. M. Ladd

DATE: August 23, 1950

FROM : A. H. Belmont

SUBJECT: SUMMARY OF AERIAL PHENOMENA IN NEW MEXICO MISCELLANEOUS - INFORMATION CONCERNING

Tracy  
Ladd  
Belmont  
Mohr  
Tele. Room  
Nease  
Gandy

PURPOSE

To advise that: (1) OSI has expressed concern in connection with the continued appearance of unexplained phenomena described as green fireballs, discs and meteors in the vicinity of sensitive installations in New Mexico. (2) Meteor Expert of the University of New Mexico, reported that the phenomena does not appear to be of meteoric origin. (3) OSI has contracted with Land-Air Inc., Alamogordo, New Mexico, to make scientific study of the unexplained phenomena.

NATURE OF PHENOMENA

Observations of aerial phenomena occurring within the vicinity of sensitive installations have been recorded by the Air Force since December, 1948. The phenomena have been classified into 3 general types which are identified as follows:

1. Green fireballs, objects moving at high speed in shapes resembling half moons, circles and discs emitting green light.

2. Discs, round flat shaped objects or phenomena moving at fast velocity and emitting a brilliant white light or reflected light.

3. Meteors, aerial phenomena resembling meteoric material moving at high velocity and varying in color.

The above phenomena have been reported to vary in color from brilliant white to amber, red and green.

Since 1948, approximately 150 observations of aerial phenomena referred to above have been recorded in the vicinity of installations in New Mexico. A number of observations have been reported by different reliable individuals at approximately the same time.

KWD/mp

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52 SEP 18 1950

Handwritten notes and stamps, including a large '52' and other illegible markings.



RESULTS OF AN INQUIRY BY PROFESSOR LINCOLN LA PAZ

Dr. Lincoln La Paz

[redacted] Institute of Meteoritics, University of New Mexico, submitted an analysis of the various observations on May 23, 1950. He concluded, as a result of his investigation, that approximately half of the phenomena recorded were of meteoric origin. The other phenomena commonly referred to as green fireballs or discs he believed to be U.S. guided missiles being tested in the neighborhood of the installations. [redacted] pointed out that if he were wrong in interpreting the phenomena as originating with U.S. guided missiles that a systematic investigation of the observations should be made immediately. [redacted] pointed out that missiles moving with the velocities of the order of those found for the green fireballs and discs could travel from the Ural region of the USSR to New Mexico in less than 15 minutes. He suggested that the observations might be of guided missiles launched from bases in the Urals.

On the basis of the investigations made by [redacted] and the Air Force, it was concluded that the occurrence of the unexplained phenomena in the vicinity of sensitive installations was a cause for concern. The Air Force entered into a contract with Land-Air, Incorporated, Alamogordo, New Mexico, for the purpose of making scientific studies of the green fireballs and discs. It was pointed out in the summary furnished by OSI on July 19, 1950, that the unexplained green fireballs and discs are still observed in the vicinity of sensitive military and Government installations.

Didn't get this?

RESULTS OF AIR FORCE INVESTIGATION

The Air Force together with Land-Air, Incorporated, have established a number of observation posts in the vicinity of Vaughn, New Mexico, for the purpose of photographing and determining the speed, height and nature of the unusual phenomena referred to as green fireballs and discs. On May 24, 1950, personnel of Land-Air, Incorporated, sighted 8 to 10 objects of aerial phenomena. A 24-hour day watch is being maintained and has been designated "Project Twinkle."



CONCLUSIONS

not included?

The Albuquerque Office, in a letter dated August 10, 1950, advised that there have been no new developments in connection with the efforts to ascertain the identity of the strange aerial phenomena referred to as green fireballs and discs. The Albuquerque Office advised that [redacted] project Engineer, had been informed of the Bureau's jurisdiction relative to espionage and sabotage and arrangements have been made so that the Bureau will be promptly advised in the event additional information relative to this project indicates any jurisdiction on the part of the Bureau.

ACTION

None. The above is for your information.

Handwritten signatures and initials, including "AM" and "JH".

The last mention in the FBI file of Project Twinkle is in a letter dated October 9, 1950. Note that the FBI uses the term "complaints" to refer to reports of these unusual phenomena (saucers, discs, fireballs, etc.). According to the document there had been no new developments.



Office Memorandum • UNITED STATES GOVERNMENT

TO : THE DIRECTOR  
 FROM : MR. D. M. LADD  
 SUBJECT: *OK*  
 FLYING SAUCERS  
 FLYING DISCS  
 GREEN FIREBALLS

DATE: October 9, 1950

- Tolson
- Ladd
- Clegg
- Glavin
- Nichols
- Rosen
- Tracy
- Harbo
- Mohr
- Tele. Room
- Nease
- Gandy

PURPOSE

To advise you of the most recent information known to the Bureau concerning the captioned aerial phenomena.

BACKGROUND

You will recall that on August 23, 1950, I furnished to you a memorandum regarding Project Twinkle set up by the Department of the Air Force, with the assistance of Land-Air, Inc., at Vaughn, New Mexico, for the purpose of obtaining data regarding these unusual aerial phenomena which had been seen in the vicinity of sensitive installations in New Mexico. To date the Air Force has not advised us of any new developments in connection with this project.

*[Redacted]* Project Engineer of Project Twinkle, has been contacted by the Albuquerque Office and arrangements have been made in order that the Bureau will be advised in the event any information relative to these phenomena indicates any jurisdiction on the part of the Bureau.

According to Bureau files, an average of approximately three or four complaints have been received per month from June through September. These complaints were brought to the attention of OSI. A review of Bureau files does not indicate that there has been any increase in the sightings of these phenomena during or as a result of the war in Korea.

JURISDICTION FOR INVESTIGATION OF THESE PHENOMENA

You will recall the investigation to obtain information concerning these aerial phenomena is the jurisdiction of the Department of the Air Force. The Department of the Air Force is aware of our jurisdiction in matters relating to espionage, sabotage and internal security, and we have contacted OSI and requested them to advise us of any developments in connection with these phenomena which would be of interest to us as a result of our jurisdiction.

EHM:de

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OCT 10 1950

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*16 1950*

*FILE*

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C

POSSIBLE ORIGIN OF THESE AERIAL PHENOMENA

The Bureau has been advised in the past by OSI that many of the sightings reported to them were determined by investigation to have been of weather balloons, falling stars, meteorological phenomena and other air-borne objects.

INFORMATION OBTAINED BY BUREAU LIAISON FROM OSI, WASHINGTON, D. C.  
RE THE CAPTIONED MATTERS ON OCTOBER 9, 1950.

Bureau liaison determined on the morning of October 9, 1950 from OSI headquarters that the investigations of these aerial phenomena are being handled by OSI, Wright Field, Ohio. Their investigation of these phenomena fails to indicate that the sightings involved space ships or missiles from any other planet or country.

According to OSI, the complaints received by them have failed to indicate any definite pattern of activity. OSI further advised they are closely following the investigation of the captioned matters, and they will advise this Bureau of any matters of interest.

ACTION

None. The above is for your information.

