

16 August 1966

AIRMAIL

Mr. Charles Bowen
8 Paxton Gardens
Woodham Lane
Woking, Surrey
England

Dear Mr. Bowen:

Enclosed herewith is a report with diagrams on the Socorro Case
which took place in New Mexico on April 24, 1964.

Very truly yours,

William T. Powers

WTP:lp
encl.

THE SOCORRO CASE: SOME BACKGROUND AND DEDUCTIONS

W. T. Powers

The well-known sighting of a landing and takeoff of a UFO on April 24, 1964, by Officer Zamorra of the Socorro, New Mexico Police Department, has been discussed previously, but there remains some information that has not yet been published. In this paper are presented a transcript of Zamorra's initial report, written as Zamorra talked to several investigators. The initial portion of the report, written by the principal investigator, is somewhat edited, because one of the persons present happened to be a member of a government agency and did not wish any implication that this agency was officially investigating the incident - he was there purely by accident, acting as a private citizen. The agency is therefore not identified.

Also presented here are some interesting deductions from the information gathered by the officers who turned up on the scene immediately after departure of the object.

UFO REPORT, 24 April 1964: I, Richard T. Holder, Captain, USA, 095042, Up-Range Commander, was notified by 1/Lt. Hicks, Executive Officer, Co C, USAG, that he had just been notified by Mr. B. of a reported UFO in the area. Lt. Hicks said the Mr. B would like for me to contact him at the State Police Office, Socorro, if possible. I tried to call, unsuccessfully, then started dressing. While dressing, approximately 3 minutes later, Mr. B. called me, informed me of the UFO report. I stated that I would be at the office (State Police) in about 5 minutes. When I arrived Mr. B introduced himself, we each examined the others credentials and found them satisfactory. Officer Lonnie Zamora, Socorro Police Department, was present, and was introduced by

Mr. B. as the witness (only witness initially) to the UFO. We both then interviewed Officer Zamora, and this is substantially represented in entirety by the enclosed statements. We then departed for the scene of the reported landing of the UFO. En route (Mr. B. and I went by the same vehicle) we stopped by the residence of Sgt. Castle, NCOIC SRC M.P., who then accompanied us to the site and assisted in taking the enclosed measurements and observations. Present when we arrived were Officer Zamora, Officers Melvin Ratzlaff, Bill Pyland, all of the Socorro Police Department, who assisted in making the measurements. When we had completed examination of the area, Mr. B., Officer Zamora and I returned to the State Police Office in Socorro, then completed these reports. Upon arrival at the office location in the Socorro County Building, we were informed by Nep Lopez, Sheriff's Office radio operator, that approximately three reports had been called in by telephone of a blue flame of light in the area. Initial sighting was made by Officer Zamora at approximately 1750 -- I was notified by Lt. Hicks at approximately 1910. These reports were not entered on the dispatcher's log so no time on these reports is available -- the dispatcher indicated that the times were roughly similar. Reports were completed at approximately 0100 25 April. I requested that I be notified in the event of a similar occurrence or report.

Richard T. Holder
Captain Ord/C

NOTE: By request of _____ please do not refer to _____ as participating in any fashion -- use of local law enforcement authorities is acceptable.

Zamora's interview follows: Socorro, New Mexico; April 24, 1964.

Lonnie Zamora, 606 Reservoir St., Socorro, New Mexico, 835-1134, Officer at Socorro Police Department about five years, office phone 835-6941, now on

2:00 p.m. to 10:00 p.m. shift.

About 5:45 p.m., April 24, 1964, while in Socorro 2 Police Car ('64 Pontiac white) started to chase a car due south from west side of Court House. Car was apparently speeding and was about three blocks in front. At point on Old Rodeo Street (extension of Park St., south) near George Morillo residence (about one-half mile south of Spring Street) the chased car was going straight ahead toward rodeo grounds. Car chased was a new black Chevrolet (it might have been [boy's name] who is about 17). Chased car still about three blocks ahead. Lonnie Zamora alone.

At this time, heard a roar and saw a flame in the sky to the southwest some distance away - possibly one-half mile or a mile. Came to mind that a dynamite shack in that area had blown up, decided to leave chased car go.

Flame was bluish and sort of orange, too. Could not tell size of flame. Sort of motionless flame, slowly descending. Was still driving car and could not pay too much attention to the flame. It was a narrow type of flame. It was like a "stream down" - a funnel type - narrower at top than at bottom. Flame possibly three degrees or so in width - not wide.

Flame about twice as wide at bottom as top, and about four times as high as top was wide. Did not notice any object at top, did not note if top of flame was level. Sun was to west and did not help vision. Had green sunglasses over prescription (sic) glasses. Could not see bottom of flame because it was behind the hill.

No smoke noted. Noted some "commotion" at bottom - dust? Possibly from windy day - wind was blowing hard. Clear sunny sky otherwise - just a few clouds scattered over area.

Noise was a roar, not a blast. Not like a jet. Changed from high frequency to low frequency and then stopped. Roar lasted possibly ten seconds, was going towards it at that time on the rough gravel road. Saw flame about as long as heard the sound. Flame same color as best as recall. Sound distinctly from high to low until disappeared. Windows both were down. No other spectators noted - no traffic except the car in front - and car in front might have heard it but possibly did not see it because car in front was too close to hill in front, to see flame.

After the roar and flame, did not note anything, while going up the somewhat steep rough hill - had to back up and try again, two more times. Got up about halfway first time, wheels started skidding, roar still going on, had to back down and try again before made the hill. Hill about 60 feet long, fairly steep and with loose gravel and rock. While beginning third time, noise and flame not noted.

After got to top, traveled slowly on the gravel road westwardly. Noted nothing for awhile - for possibly ten or fifteen seconds, went slow, looking around for the shack - did not recall exactly where the dynamite shack was.

Suddenly noted a shiny type object to south about 150 to 200 yards. It was off the road. At first glance, stopped. It looked, at first, like a car turned upside down. Thought some kids might have turned it over. Saw two people in white coveralls very close to object. One of these persons seemed to turn and look straight at my car and seemed startled - seemed to quickly jump somewhat.

At this time I started moving my car towards them quickly, with idea to help. Had stopped about only a couple of seconds. Object was like aluminum

-- it was whitish against the mesa background, but not chrome. Seemed like (oval, long axis vertical) in shape and I, at first glance took it to be an overturned white car. Car appeared turned up like standing on radiator or on trunk, at this first glance.

The only time I saw these two persons was when I had stopped, for possible two seconds or so, to glance at the object. I don't recall noting any particular shape or possibly any hats, or headgear. Those persons appeared normal in shape - but possibly they were small adults or large kids.

Then paid attention to road while drove toward scene. Radio'd to sheriff's office "Socorro 2 to Socorro, possible 10-44 (accident). I'll be 10-6 (busy) out of the car, checking the car down in the arroyo."

Stopped car, was still talking on radio, started to get out, mike fell down, reached back to pick up mike, then replaced radio mike in slot, got out of car and started to go down to where knew the object (car) was.

Hardly turned around from car, when heard roar (was not exactly a blast), very loud roar - at that close was real loud. Not like a jet - knows what jets sound like. Started low frequency quickly, then roar rose in frequency (higher tone) and in loudness - from loud to very loud. At same time as roar saw flame. Flame was under the object. Object was starting to go straight up -- slowly up. Object slowly rose straight up. Flame was light blue and at bottom was sort of orange color. From this angle, saw what might be the side of object (not end, as first noted). Difficult to describe flame. Thought, from roar, it might blow up. Flame might have come from underside of object, at middle, possibly a four feet area - very rough guess. Cannot describe flame farther except blue and orange. No smoke, except dust in immediate area.

As soon as saw flame and heard roar, turned away, ran away from object but did turn head toward object. Bumped leg on car - back fender area. Car facing southwest.

Object was (oval with long axis horizontal) in shape. It was smooth -- no windows or doors. As roar started, it was still on or near ground. Noted red lettering of some type, like (see later diagram of insignia). Insignia about 2-1/2 feet high and two feet wide, guess. Was in middle of object, like (shows insignia centered in object oval). Object still like aluminum - white.

After fell by car and glasses fell off, kept running to north, with car between me and object. Glanced back couple of times. Noted object to rise to about level of car, about 20 to 25 feet guess - took, I guess, about six seconds when object started to rise and I glanced back. I guess I ran about halfway to where I ducked down - about fifty feet from the car - is where I ducked down, just over the edge of hill. I guess I had run about 25 feet when I glanced back and saw the object about level with the car and it appeared directly over the place where it rose from.

I was still running and I jumped just over the hill - I stopped because I did not hear the roar. I was scared of the roar, and I had planned to continue running down the hill. I turned around toward the object and at same time put my head toward ground, covering my face with arms. Being that there was no roar, I looked up, and I saw the object going away from me, in a southwest direction. When the roar stopped, heard a sharp tone whine from high tone to low tone. At end of roar was this whine and the whine lasted maybe a second. Then there was complete silence about the object. That's when I lifted up my head and saw object going away from me. It did not come any

closer to me. It appeared to go in straight line and at same height - possibly 10 to 15 feet from the ground, and it cleared the dynamite shack by about three feet. Shack about eight feet high. Object was travelling very fast. It seemed to rise up, and take off immediately across country. I ran back to my car and as I ran back I kept an eye on the object. I picked up my glasses (I left the sun glasses on the ground), got into the car, and radio'd to Nep Lopez, radio operator, to "look out the window, to see if you could see an object". He asked, "what is it?" I answered, "It looks like a balloon." I don't know if he saw it. If Nep looked out his window, which faces north, he couldn't have seen it. I did not tell him at the moment which window to look out of.

As I was calling Nep, I could still see the object. The object seemed to lift up slowly, and to "get small" in the distance very fast. It seemed to just clear the Box Canyon or Six Mile Canyon mountain. It disappeared as it went over the mountains. It had no flame whatsoever as it was travelling over the ground, and made no smoke or noise.

Feeling in good health. Last drink - two or three beers - was over a month ago. Noted no odors. Noted no sounds other than described. Gave directions to Nep Lopez at radio and to Sergeant M. S. Chavez to get there. Went down to where object was (had been), and I noted the brush was burning in several places. At that time, I heard Sgt. Chavez (New Mexico State Police at Socorro) calling me on radio for my location, and I returned to my car, told him he was looking at me. Then Sgt. Chavez came up, asked me what the trouble was, because I was sweating and he told me I was white, very pale. I asked the Sergeant to see what I saw, and that was the burning brush. Then Sgt. Chavez and I went to the spot, and Sgt. Chavez pointed out the tracks.

When I first saw the object (when I thought it might be a car) I saw what appeared to be two legs of some type from the object to the ground. At the time, I didn't pay much attention to what it was - I thought it was an accident, I saw the two persons. I didn't pay attention to the two "legs". The two "legs" were at the bottom of the object, slanted outwards to the ground. The object might have been about three and half feet from the ground at that time. I just glanced at it.

Can't tell how long saw object second time (the "close" time), possibly twenty seconds - just a guess - from time got out of car, glanced at object, ran from object, jumped over edge of hill, then got back to car and radio as object disappeared.

As my mike fell as I got out of the car, at scene area, I heard about two or three loud "thumps", like someone possibly hammering or shutting a door or doors hard. These "thumps" were possibly a second or less apart. This was just before the roar. The persons were not seen when I got up to the scene area.

Just before Sgt. Chavez got to the scene, I got my pen and drew a picture of the insignia.

End of Narrative

Distances from Object

First sighting of flame approximately $3/4$ mile.

First sighting of object with people (2) by object - 0.15 miles

Second sighting of object where insignia observed - 103 feet

Object started to depart or lift off surface

Third sighting of object; object left surface, object departing, approximately 200 feet.

Followed by diagram showing two footprints; indentations $1/2$ to 2 inches in soft sand.

After the sighting was first reported to Holder, as mentioned in the text, a trip was made to the site, where measurements of the marks left in the ground were taken. These measurements did not seem to match the sketch on which they were drawn, the proportions being obviously wrong, so a scale drawing was made. My wife remarked that the diagonals of the quadrilateral seemed to cross at right angles.

This remark led me to wonder just how accurate the measurements had been; since six measurements were made when any five would suffice to define the figure, there was a possibility of checking the internal consistency of the measurements.

The procedure was as follows: First, the angles formed by each diagonal and one side of the figure were calculated, from the trigonometric formula giving the sine of one angle of a triangle as a function of the lengths of the three sides; this led to eight angles, having values as follows (see Fig. 1):

$$A = 62^{\circ} 48'$$

$$B = 40^{\circ} 24'$$

$$D = 49^{\circ} 10'$$

$$E = 27^{\circ} 33'$$

$$A' = 42^{\circ} 30'$$

$$B' = 22^{\circ} 01'$$

$$D' = 67^{\circ} 18'$$

$$E' = 47^{\circ} 53'$$

From these angles the four central angles could be computed. These angles were:

Angle 1 = $89^{\circ} 39'$

Angle 2 = $90^{\circ} 26'$

Angle 3 = $89^{\circ} 37'$

Angle 4 = $90^{\circ} 41'$

The mean difference between each angle and 90° was 28 minutes of arc. Knowing this, one may ask how much deviation of the location of a mark (at right angles to one end of a diagonal) would produce this angular error: at the end of the 19-foot diagonal, the allowable error is two inches.

Computing the length of each diagonal from the two adjacent sides and the opposite angle, discrepancies of $1/2$ inch at most are found. This indicates that the measurements were internally consistent to within that figure, which is certainly reasonable for a tape measurement over rough ground. This fact may seem at first to indicate that the central angles depart significantly from 90 degrees, since a two-inch error (at worst) is required to give the observed deviation from 90 degrees. The marks that were measured, however, were about two feet square; it is not at all unreasonable to suppose that a cumulative error equivalent to two inches at the end of one diagonal occurred in the process of determining the centers of the marks before measurement. Thus we may conclude that the discrepancy between the central angles and ninety degrees is meaningful, but that this discrepancy is within errors one might reasonably expect in choosing the points defining the quadrilateral, within the two-foot square area of each mark.

It is not reasonable, however, to suppose that a hoaxer would be either lucky enough or subtle enough to have placed the marks with such precision - the probabilities seem heavily in favor of the hypothesis that the

marks were made by four objects designed so as to remain in a particular relationship with one another.

Why, one might ask, is the right angle formed by the diagonals significant? By pure luck, my wife's remark jogged loose an old memory, and I was able to recover a reference, from Brand's "Vector and Tensor Analysis" (which, I hasten to add, I did not learn very much from):

"Theorem: When the diagonals of a quadrilateral are perpendicular, the midpoints of its sides and the feet of the perpendiculars dropped from them on the opposite sides all lie on a circle described about the mean center of the vertices."

This theorem is interesting because only three points are required to define completely a circle: a four-sided figure, in general, can have only three of its midpoints on one circle, the remaining one lying off the circle. A figure having all four midpoints on the same circle, therefore, is a very special case. If we suppose that the marks were made by landing gear, it then becomes of interest to ask what might be the reason for giving them this singular relationship, since otherwise their arrangement seems to be quite haphazard, and not like any design one normally would encounter. Indeed, the only aspect of the arrangement of the marks that gives one any feeling at all of orderliness is in the apparently exact orientation of the diagonals.

To see how the theorem applied, the circle was actually constructed - as advertized, it did indeed intersect the midpoints of the sides, as closely as the figure could be plotted. This is shown on Figure 2 - Figure 2 also shows the locations of the "footprints" and the four burn-marks; reproduced on the figure are the remarks which were found on the original sketch.

As is apparent, the center of the circle is directly over Burn No. 1, one of the two which were apparently applied in a straight-down direction. A straight-down burn puts one in mind either of the final moment of landing or of takeoff: in either case, the burn would have to be directly under the center of gravity of an object arriving or departing vertically - the departure, at least, was observed to take place vertically at first.

This means, of course, that the center of gravity of the alleged vehicle was directly over Burn No. 1, and very nearly if not exactly over the center of the circle drawn on the Figure. By examination of the Figure, it is apparent that if the weight were supported by struts going to the midpoints of the four sides, equal weight would be supported by each midpoint. By the same token, if equal weight is supported by each midpoint, then equal weight would be supported by a pad at each vertex.

In other words, this random-looking placement of landing pads would result in equal distribution of the weight of whatever those pads were supporting!

Is this merely numerology? I think not. The four marks were in fact very similar: three of them were about two inches deep in the center, with a burn of dirt two inches high pushed up away from the quadrilateral's center. The third mark was only one inch deep, but was ill-defined, as if whatever made it had rocked sideways as it was removed, and so should not be evaluated as indicating lesser weight. The objects making the marks either supported a large weight or hit very hard, since the soil is dense. NASA has concluded that the Surveyor pads sank about two inches into lunar soil with a bearing-strength of five pounds per square inch; the gravity is six times lower, but

the pads are only about one-fourth of the area of the marks at Socorro; we must assume that the force was equivalent to gentle settling of at least a ton on each mark. That, too, argues strongly against any hoax, or else in favor of a very clever and exceedingly energetic hoaxter.

We must conclude, I think, that everything argues in favor of the hypothesis that a vehicle landed near Socorro, on four pads; we must conclude also that whoever designed that landing gear must be an interesting fellow, because he seems to be able to place landing pads so as to serve the convenience of those using the vehicle (the footprints, and presumably the door, are located next to the mark that appears most "misplaced") rather than according to a compulsive attachment to symmetry - and to do so without sacrificing any requirements for good engineering.