

# The Milwaukie Colorful, Transforming UFO

## An Oregon MUFON Case Study

by

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### Abstract

Keywords: Balloons—Balloon-like—Video—Color—Transformation

<b>Description</b>	Witness Don Andersberg (pseudonym) video-recorded a small, colorful, transforming UFO from his backyard in mostly blue sky daylight. He first spotted the UFO and then began video-recording it as it moved along in the sky.
<b>Witness(es)</b>	One witness: Don Andersberg (pseudonym).
<b>Date and Time</b>	On November 1, 2011, at 5:24 PM.
<b>Place</b>	Milwaukie, Oregon.
<b>Weather</b>	Temperature 46° F; winds calm; mostly cloudy; visibility 10 miles.
<b>Duration</b>	Two minutes and 37 seconds of video plus probably about 20 seconds before video started.

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## **Note**

*I am finally finishing up this case study after a year. Sometimes it just takes time! This year, 2012, turned out to be a real dousie in the number of UFO sightings received from MUFON. We only have so many Oregon MUFON investigators (as I write, this is eight total including me and the State Director) and we tend to be chronically shorthanded anyway. So when we are faced with a real increasing wave of UFO reports like this year, it can take months to dig out from under the load. But this case is a good one I think you'll agree, so read on and see if you agree that it is.*

## **INTRODUCTION**

This case is an analysis of one video of many UFO videos made by witness Don Andersberg (pseudonym). (In the year since I began this case study, I ended up completing three other case studies on Don's UFO videos, namely, the *Milwaukie "Sprouting Potato" UFO*, the *Milwaukie Green Snake UFO*, the *Milwaukie Pink, White, and Blue Orbs Cluster UFO*. These are all up on [oregonmufon.com](http://oregonmufon.com) for your perusal.) Don has a history of seeing UFOs off and on throughout his life. In the 2000s, he decided to try his hand at capturing on video some of the UFOs he has seen. He's been quite successful.

On November 18, 2011, Don came over to my house to give me a copy of some recently made videos he had taken in the last month. These, he believed, showed some of his UFOs along with some high flying airplanes and balloons. We had been in touch for a couple of years and he had given me some earlier videos that I just had not had time to analyze in my busy schedule. I had looked at them briefly and knew that he was recording some anomalous things, but too much was going on with other UFO cases.

In this case study, I have decided to highlight one of Don's better videos in the sense that the UFO is rich in details and is seen for over two minutes time at the maximum zoom extent of Don's camera of choice—a Sony Cybershot HX1 used in video capture mode. (In 2012, Don upgraded to a Nikon Coolpix P510. This camera has a longer maximum zoom extent and because of that Don has gotten somewhat higher resolution images of his UFOs.)

### **“Balloon Mimic” UFO Characteristics**

This case reveals yet another kind of balloon mimic UFO floating around in the skies over a major metropolitan area: the suburb of Milwaukie in the Portland, Oregon, metro area.

Much of the time, the case for the reality of balloon mimic UFOs does not rise to the level of “beyond a reasonable doubt,” but here I think that it is close. This UFO sighting offers some truly strange shape and behavior characteristics, which we document here.

Don and I know from his many hours of video that he is video-recording the genuine UFO phenomenon, but we will try to make that idea plausible here from the evidence in yet another one of his better videos to date. We believe that this colorful transforming Unidentified Flying Object is simply *not* the closest natural or human-made object/phenomenon that it somewhat resembles: some sort of bizarre-looking cluster of balloons. In other words, this UFO is a genuine UFO, that is, an intelligently behaving, guided, and created aerial object and not at all some natural or human-made IFO. In this report, you are looking at images of a genuine UFO, we believe.

## **Thank You, Don Andersberg**

I thank UFO witness and video-recorder, Don Andersberg, for his full cooperation in this investigation of this and his many other UFO videos. He has continually made all of his videos (and photos) freely available to me for analysis. I have been to his house (and he has been to mine) many times and I consider him a good friend.

Don says his motive for spending hours looking for and occasionally video-recording truly anomalous UFO occurrences is to create concrete evidence about the phenomenon. I believe him. He has done nothing to dissuade me in what he has said or done. He is simply curious about “what the heck they are” as so many people around the world are. Unlike the vast majority, however, he puts in the time (hours and hours a month) scanning the skies and zeroing in on the occasional UFO.

Thanks, Don, for your patience and diligence so that the rest of us can get a little closer to understanding this elusive phenomenon.

# SIGHTING DESCRIPTION

On November 1, 2011, in the backyard of Don Andersberg's Milwaukie, Oregon, home at 5:24 PM, Don started video-recording yet another UFO high up in the sky. This one appeared to him first to the right of a cedar tree looking off to the east northeast in his backyard. His house and backyard are oriented to the compass directions with the fences in his backyard running parallel to the cardinal directions. He has trees and shrubs in the backyard, which obscure the horizon but allow him to have an approximately 120° angle look at the sky if he is in the middle of his yard. His house is to the west of the backyard.

## Diligent UFO Skywatcher

Don spends a couple of hours at a time skywatching, weather permitting. He is rewarded with something truly interesting on average about once a week and something very, very good once a month or so. (Don is not systematic enough to keep accurate records. These are just our guesses based on the videos Don has turned over to me.)



Source: Don Andersberg and Keith Rowell

**Figure 1. Don's Backyard Tree with UFO Illustration**

*Please note: This illustration is a **photo composite of two different frames** of Don's video. The size of the UFO in this illustration is the final size only after Don has zoomed all the way in on the tiny UFO. When Don's camera is zoomed in to its fullest extent when he video-records his UFOs with his Sony Cybershot HX1, he is video-recording at the equivalent of an 11 power telescope. So, it takes a good pair of binoculars to see, or a good, long telephoto lens to photograph or video-record, most of the UFOs Don sees. They truly are tiny in the sky! This illustration is meant only to give you an idea of where in the sky the UFO appeared. The direction is off to the ENE from Don's backyard.*

Don usually skywatches looking toward the northwest, north, northeast, or east in his reclining outdoor chair. See *Figure 1, Don's Backyard Tree with UFO Illustration*. He has his sunglasses on half the time probably. He sits and waits, scanning the sky periodically, till some action happens. Usually, this is

normal balloon, animal, or aircraft activity. He has seen and photographed many crows, hawks, airplanes, balloons, white cottony fiber bunches (drifting cottonwood seeds), etc. When I started working with Don to separate the UFOs from other small things in the sky, I encouraged him to photograph and video-record just about anything, whether he could immediately identify it or not. He has helped out a lot in this regard and I thank him for it.

## **Spotting Something Suspicious**

Don sees UFOs first as something small and usually bright and contrasting with the blue sky. Sometimes his sunglasses help with this. Many times, his attention is attracted to a bright flash or “flare up” at a point in the sky and then he looks and sees something odd that he then video-records. (In one of his videos, he even comments that he saw a flash in the sky, which drew his attention, and then *a few minutes later* he saw a UFO that he video-recorded for around four minutes.)

Don has fairly keen eyes and he will see things sooner than me (whatever it is) when we are skywatching together. As soon as he sees something he identifies as unusual, he starts video-recording it as soon as possible and continues the recording as long as he can keep it in sight.

While he records the UFOs, he talks about what he can observe of them in his handheld camera’s viewfinder or screen. The UFOs are so tiny that seeing details to describe is a real challenge. I also ask him to narrate his recordings with anything else that might help me get my bearings for later analysis.

The UFOs can appear anywhere but they are usually not more than 20° or 30° down from the zenith (or 70° or 60° off the horizon) off to the northwest, north, northeast, or east. They are traveling in just about any direction once they are spotted.

## **Sometimes They Go Fast, But Usually Not**

Don usually loses sight of his UFOs as they move away in the sky and are obscured behind trees, fences, the house gutters, etc. Very rarely, however, he has seen UFOs zip away fast. As a similar personal example, I have witnessed an example of fast movement (or disappearance?) at least once at his house.

In September 2012, Don had invited me over to his place after he had that day video-recorded some new UFOs. After I looked at his new UFO videos, we decided to do some skywatching.

At one point, Don needed to go back into his house for a few minutes, but I kept skywatching. I then saw a reddish, single orb in my binoculars. I was determined to keep watching the tiny UFO till Don came back out, so I did not take my eyes off the UFO for the next few minutes. I wanted to make sure that I could point out the UFO to him if it was still visible when he arrived.

He soon came out and I said, “I’ve got another one!” While I was trying to show him where it was in the sky while all the time intently watching the UFO in the binoculars, I suddenly realized I wasn’t seeing it any longer. What happened? It was there one moment and then just gone. I did not see it “zip off,” however. It had just disappeared while I was trying to point it out to Don, or, perhaps, it moved so fast I could not track it. UFOs are elusive sometimes!



# ENVIRONMENT

The environment for this sighting is Milwaukie, Oregon. See *Figure 2, Milwaukie, Oregon, and Environs*.



Source: Google Maps

**Figure 2. Milwaukie, Oregon, and Environs**

*Don lives in about the middle of this aerial view of Milwaukie, Oregon, near the oval track in the center. A bend of the Willamette River is to the left, a light industry area is to the north, and a shopping center and more light industry is to the southeast. None of these factors have anything to do with the UFOs that Don sees and video-records on an almost routine basis. However, the Portland, Oregon, metropolitan area as a whole that Milwaukie is part of does tend to produce a small number of balloons that Don also video-records and that we must distinguish from his genuine UFOs. Additionally, car sales lots—with balloon displays at times—are to the south of Don starting at a mile away to five or more miles away. UFOs virtually never come from the south for Don, however. But he has taken one video of some large, strung-together balloons that we suspect are escaped car sales lot display balloons. They look and behave quite differently from his UFOs, however.*

## Weather

See the details in *Table 1, Weather on Sighting Day*, for the weather on the day of the UFO sighting and video-recording. The winds were calm one half hour after Don video-recorded the UFO in this case, but winds were 4.6 mph out of the NW one half hour before his sighting. Note that the UFO observation time was 5:24 PM and this lies half way between the weather observations an hour each apart.

**Table 1. Weather on Sighting Day**

Event Date	Weather Observation Time	Temp(F)	Visibility (miles)	Wind Direction	Wind Speed (mph)	Conditions
11/1/11	4:53 PM	50°	10	NW	4.6	Mostly Cloudy
11/1/11	5:53 PM	46°	10	Calm	Calm	Mostly Cloudy

## EVIDENCE

The evidence in this case consists of the following:

- Don Andersberg's testimony.
- His 2 minute and 37 second video (MAH02286.mp4).

## The Witness

Don Andersberg is a quiet and unassuming man in his early fifties who currently works for a custodial services company. A few years ago (2009), Don found his way to one of our public Oregon MUFON meetings. After the meeting, he approached me and said that he had been photographing and video-recording what he thought were UFOs from his backyard in a suburb of Portland, Oregon. He explained that in the past year he decided to try to capture UFOs with his (consumer grade) camera and video equipment. He added that he had seen a few things he thought were probably UFOs earlier in his life. He gave me some short video clips and some photos shot over a couple of months.

When I looked at them later at home, I saw pretty quickly that Don was yet another person who was capturing UFOs on a regular basis. By that time, I knew definitely that some people were seeing UFOs on a more or less continuing, but non-periodic, basis. You never knew when the darned things were going to show up. But show up they did—off and on—seemingly on their own, mysterious schedule. I myself by that time had also seen, photographed, and videotaped a few of the same kinds of oddball, usually glowing, orb-type UFOs that were most closely similar to party balloons, or clusters of party balloons. (See the *Appaloosa Way UFO* and the *Lake Grove Spherical UFOs* case studies on [oregonmufon.com](http://oregonmufon.com).)

## Don Not Hoaxing

Since that time a number of years ago now, I have come to know Don better and better since he's been to my house many times and I've been to his many times. We even drove out together to visit James Gilliland's ECETI ranch for some UFO viewing in September 2011. (The five of us in our little Oregon MUFON group didn't end up seeing anything anomalous.) I feel I know Don very well now and far better than I do the average UFO witnesses that we MUFON investigators deal with on a regular basis. So, I know beyond a shadow of a doubt that Don is not faking or hoaxing anything.

The photos and videos that he has taken and shares with me for my analysis are offered freely and without restrictions of any kind. He simply wants the fact of UFO reality to be shared with as many people as possible.

Don knows the basics about cameras at a level above the average user, I would say. His knowledge of computers is more at a basic level, however. He likes learning about computers but freely admits that he has a lot to learn. He learns just enough to examine his videos and photos up close and magnified, but, even though he purchased Final Cut Express (a sophisticated program for producing high quality videos) at my suggestion, he finds it too difficult to learn. (I know what he means—the learning curve is steep and I still have a long way to go myself.)

All these facts are something you need to know to be able to properly evaluate the evidence in this case study. Don has not hoaxed or altered in any way any of the evidence he has given me to evaluate. And for that matter, I am not hoaxing anything in this case, and, in general, I do the very minimum with the photographic and video evidence that UFO witnesses lend me to illustrate the points I am trying to make in my case studies.

## **The UFO Video**

The video file (MAH02286.MP4) for this case study was copied to my computer as an MOV file with the following properties:

- Frame size: 1440 x 1080 HD
- Video rate: 29.97 fps
- Duration: 00:02:37;04
- Format: AVC Coding, 1,440 x 1,080; AAC, 48000 Hz, Stereo (L R)

## **Camera Description**

Don's camera for this video is a Sony Cybershot HX1. This compact digital camera has a 20X zoom lens and takes HD (1080p) resolution video, which it stores as files in removable memory cards. The lens when fully zoomed in giving the maximum image magnification is equivalent to an 11 power telescope or pair of binoculars. The camera has a high quality Sony made lens.

## **Video Description**

*Figure 3, Full Frame of UFO*, shows what the UFO looked like to Don through the electronic viewfinder as he was video-recording the UFO as it "drifted" along in the sky. The UFO on average measures around 25 pixels horizontal and 30 pixels vertical. This varies some, of course, as the UFO changes size as it moves along in the sky. Balloons identified as real balloons come in bigger sizes frequently and sometimes smaller, down to around 20 pixels in size. (Below about 15 pixels across it is getting difficult to tell UFOs from real balloons; there just isn't enough detail in the image if all you have is the image itself as evidence.) We are hoping that Don's UFO images will continue to get bigger and bigger and more detailed as he continues to video-record them. This has been the basic trend over the latest few years especially.



Source: Don Andersberg

### **Figure 3. Full Frame of UFO**

*This is a full frame still from frame 00:22;00 of video MAH02286. The UFO is the very small balloon-like image in the middle of the frame in the clear blue sky field. The focal length equivalent is a 560 mm lens on a 35 mm film camera. The telescopic power magnification is around 11 power. Most binoculars are usually 6 to 10 power. So, even in 10 power binoculars, this UFO would be small and hard to see clearly!*

## **ANALYSIS**

This case offers mainly color, configuration, and behavior for analysis, which is true of most of Don's videos. But it also offers some data for analysis of distance, size, and speed because it looks like from the video that the UFO is below some clouds at 20,000 feet (according to weather data). So that becomes an upper limit for the altitude of the UFO. We were able to get some pretty good numbers on altitude in one of Don's other recent UFO sightings. (See the *Milwaukie Pink, White, and Blue Orbs Cluster UFO* on [oregonmufon.com](http://oregonmufon.com).) So, we will make some educated guesses about distance, size, and speed later in this section.

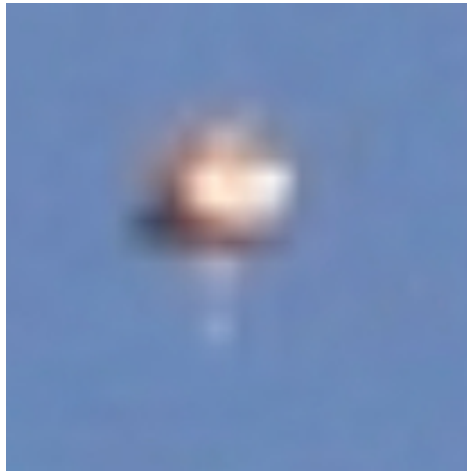
### **UFO Color and Configuration**

The figures under this heading are chosen to show a few of the interesting configurations that the UFO went through as it moved along in the sky. See *Figure 4, Magnified UFO Image #1* through *Figure 10, Magnified UFO Image #7*. Note the following:

- The UFO exhibits these colors: red, orange, blue, white, and dark. The basic body of the object seems to be mostly reddish/pinkish/orangish with whitish and bluish (sometimes) colored lobes growing and diminishing and moving around as the whole object itself moves through the sky.
- The UFO may have a more or less vertical axis of rotation.
- The lobes constantly grow and diminish and appear at different places. Sometimes the lobes themselves transform briefly into different shapes. Sometimes that seem more rounded and at other times more angular.

- The UFO seems to have three basic configurations: (1) a compact single roundish shape of reddish/pinkish/orangish, (2) a larger cluster of many lobes, and (3) a configuration of two clusters separated by a thin whitish connecting part.
- The number of lobes varies from as many as six, or so, to one prominent one.
- The overall brightness of colors does not vary much, but dark areas come and go on the overall configuration.
- Occasionally, there seems to be a “flare up” of brightness of the most prominent reddish/pinkish/orangish shape, as if the brightness flare up is inherent to the object itself and not a result of sun reflection.

Examine the following figures for a good idea of the variation in the colors and configurations in this UFO.



Source: Don Andersberg and Keith Rowell

**Figure 4. Magnified UFO Image #1**

*This figure (00:15:00) shows the UFO when it could very well be a cluster of party balloons or an odd-shaped single orangish balloon with a string hanging down.*



Source: Don Andersberg and Keith Rowell

**Figure 5. Magnified UFO Image #2**

*Six seconds later, this figure (00:21;00) shows that the UFO now has one red, large prominent roundish shape with three smaller lobes and possibly a dark sixth one on the right side. The “string” is there and “hanging” down.*



Source: Don Andersberg and Keith Rowell

**Figure 6. Magnified UFO Image #3**

*Twenty one seconds later, this figure (00:42;00) shows that the large prominent shape is still there, but the smaller lobes have moved around quite a bit, but the “string” has moved over oddly to the side, but is still hanging down vertically. A dark shape has appeared underneath.*



Source: Don Andersberg and Keith Rowell

**Figure 7. Magnified UFO Image #4**

*Nine seconds later, this figure (00:51:00) shows that there is now a radical change in configuration with two lobes distinctly above the larger reddish pink prominent shape. But now there is a “string” connector between the top two and bottom one. The “string” hanging down now is dark and not whitish.*



Source: Don Andersberg and Keith Rowell

**Figure 8. Magnified UFO Image #5**

*Five seconds later, this figure (00:56:00) shows that the UFO has transitioned back into a cluster of lobes. But now there are six or seven lobes. The large prominent roundish shape is now more orangish than reddish/pinkish. The “string” is now positioned below the cluster again.*



Source: Don Andersberg and Keith Rowell

**Figure 9. Magnified UFO Image #6**

*Thirty seven seconds later, this figure (01:33;00) shows that now there is a radical change once again. All of the lobes are gone except that perhaps they are behind the prominent shape where there is some darkness? The prominent shape now looks a bit like it has “flared up” in brightness and it is more reddish than orangish.*



Source: Don Andersberg and Keith Rowell

**Figure 10. Magnified UFO Image #7**

*Twenty one seconds later, this figure (01:54;00) shows that the “flare up” has reduced a little but now there is a whitish “string” attached to the top of the prominent roundish shape.*



## UFO Behavior

The images of the UFO in *Figure 11, Magnified UFO Sequence #1* to *Figure 19, Magnified UFO Sequence #9* were captured as screen images using Apple's Final Cut Pro X to play the video clip. The screen video playback was set to 300% magnification. The screen image captures were done with Precise Screenshot.

Images were captured at one second intervals starting 15 seconds into the video (that is, the first captured image is from 00:15:00). This was approximately the first place in the video that Don attained full optical zoomed in extent. Thus, the image sizes can be compared with each other to see inherent size changes.

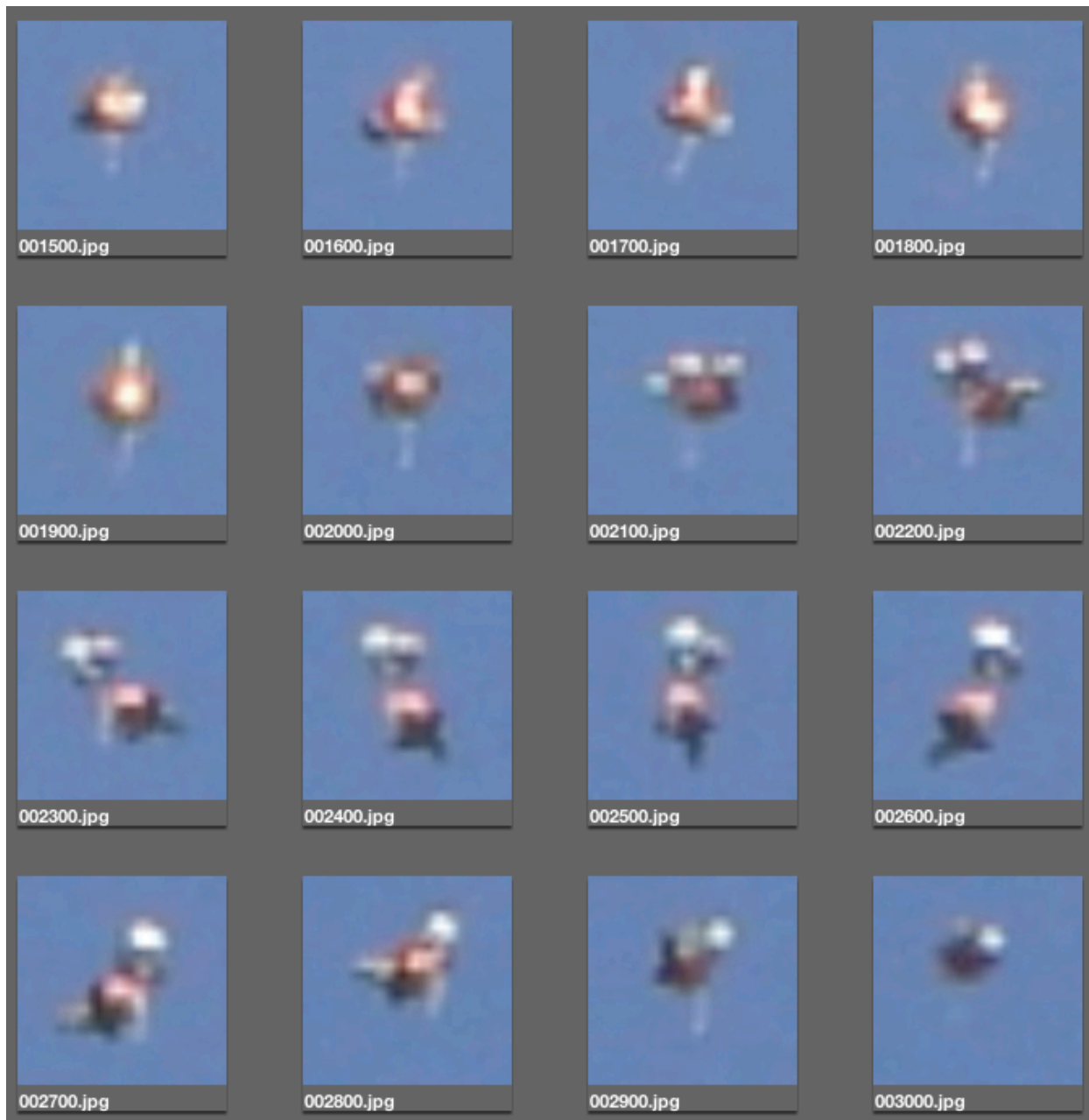
Note that the image file names denote the frames that the images derive from. Note also that occasionally the 00 frame was blurry so the next closest clear frame forward or backward was chosen as a substitute.

The frame images are not sharp because the UFO is tiny in the sky—the angular size is quite small which is almost always the case with Don's UFOs—and the limits of the HD video resolution are starting to show up. The camera is actually focussed as sharply as Don can get it. Even so, basic colors and shapes are quite clearly discernible so that detail is actually pretty good for the large scale aspects of this UFO.

The UFO images from the frame stills are not processed in any way; they are just screen captured and assembled into the image panels for easy comparison of second by second changes.

Some characteristics to observe are the following:

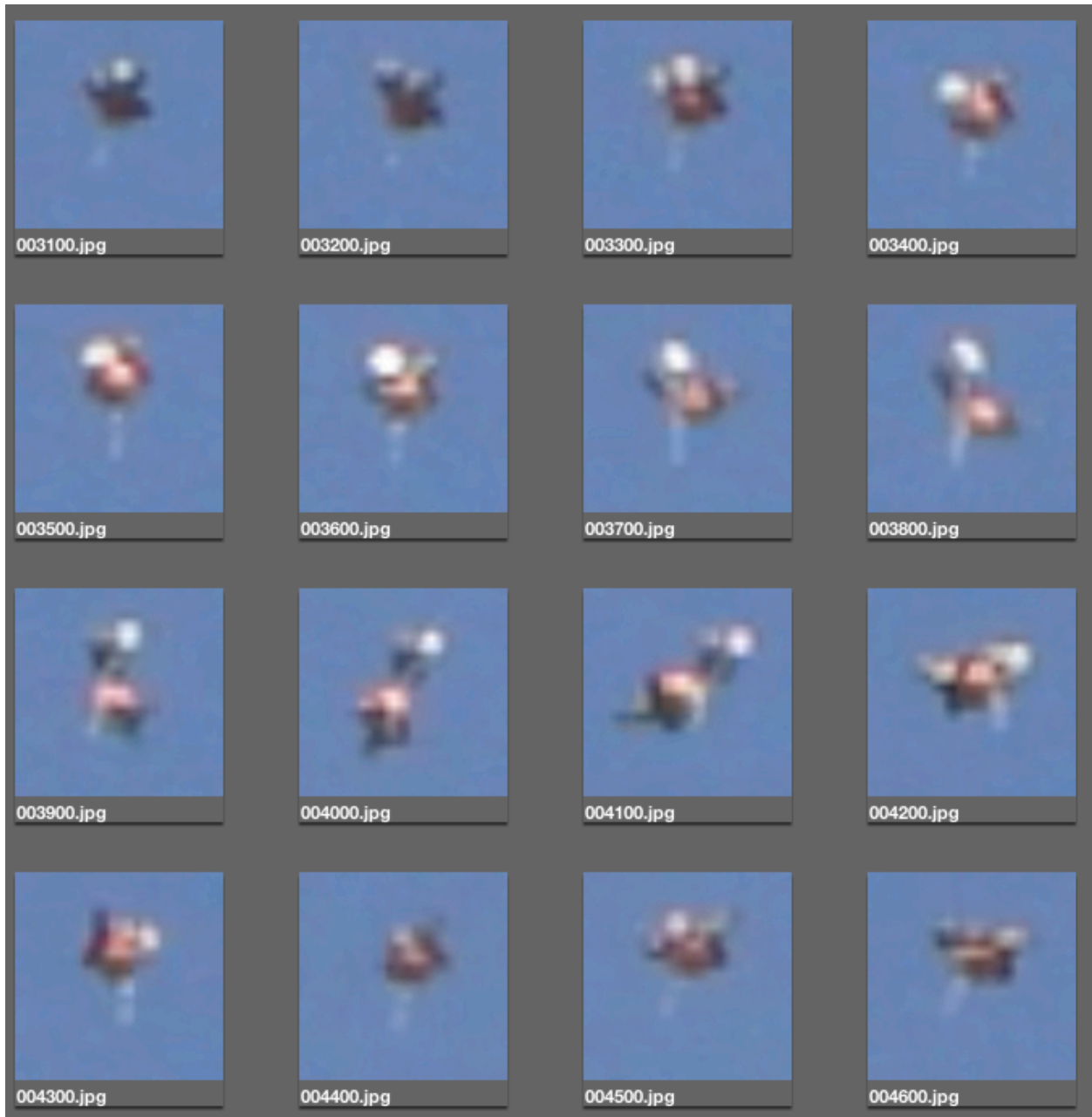
- Changes of shape are pretty constant and large from one second to the next.
- The number of basic lobes (or "orbs") varies quite a bit during the whole sequence.
- Sometimes the UFO shows white "connectors" and sometimes it doesn't from second to second.
- The colors vary gradually from second to second.
- New colors show up sometimes and then old colors come back during the whole sequence.
- Individual lobes/orbs seem to grow and shrink in size.
- Very occasionally the UFO has lobes/orbs that seem to "flare up" with internal light (013200, 013300, and 015100).
- Most lobes/orbs are definitely roundish, but some are definitely angular (004100, 004900, and 010600).
- The whitish "string" hanging down from many of the images also shows up emerging from the top (015400) in a few images.
- The whitish "string" is replaced by a dark "string" off and on in the sequence.



Source: Don Andersberg and Keith Rowell

**Figure 11. Magnified UFO Sequence #1.**

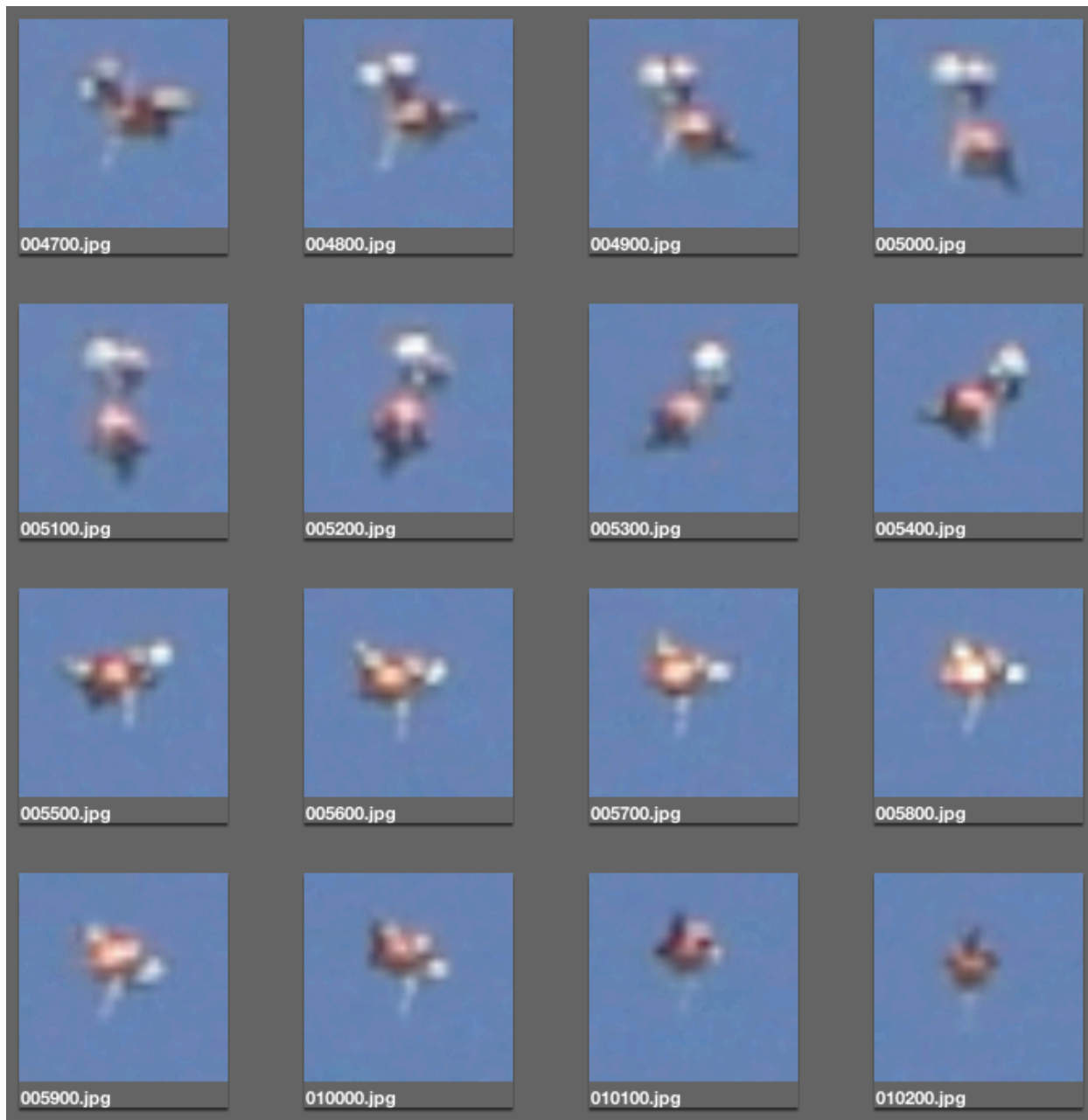
*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 12. Magnified UFO Sequence #2.**

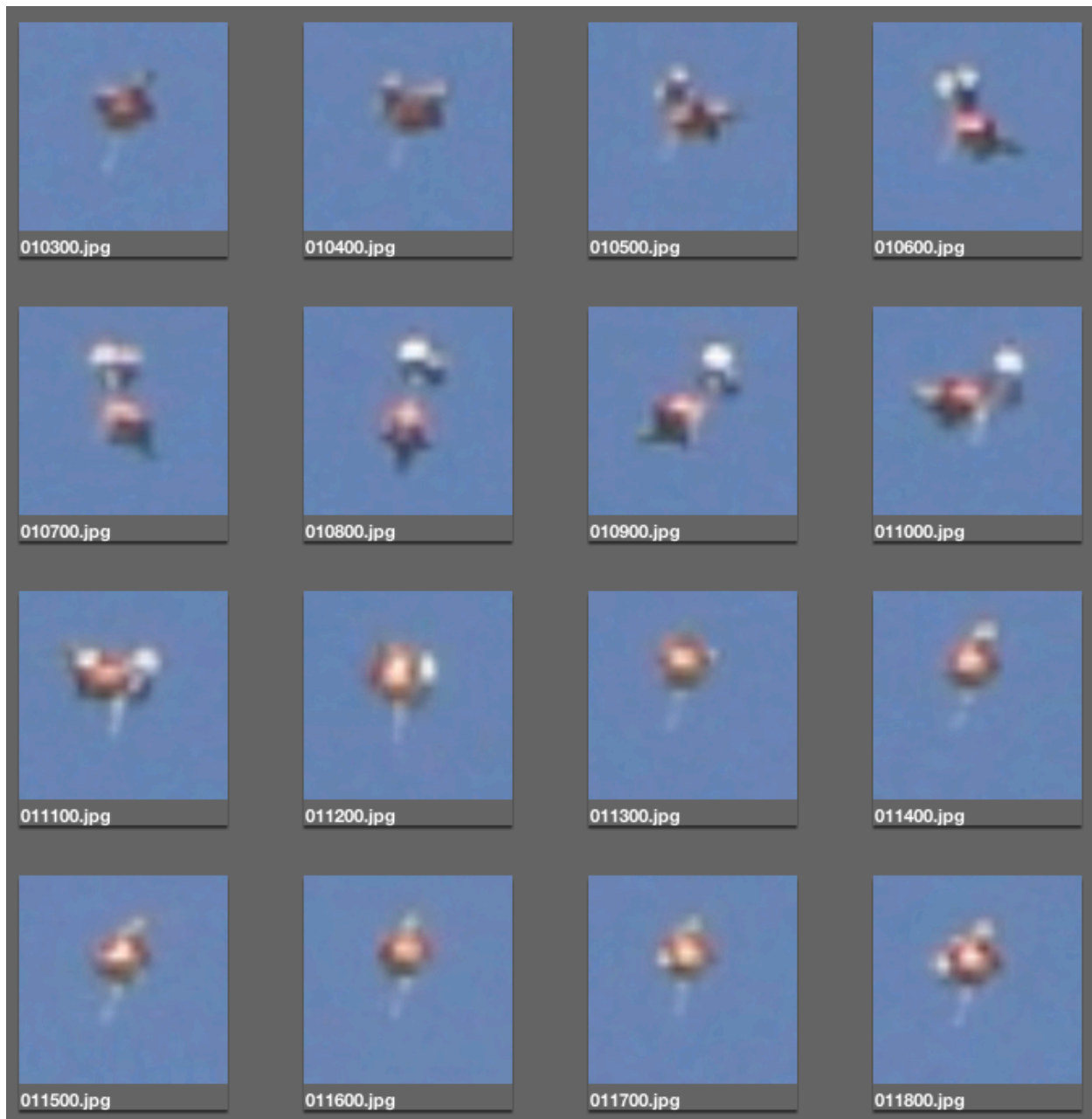
*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 13. Magnified UFO Sequence #3.**

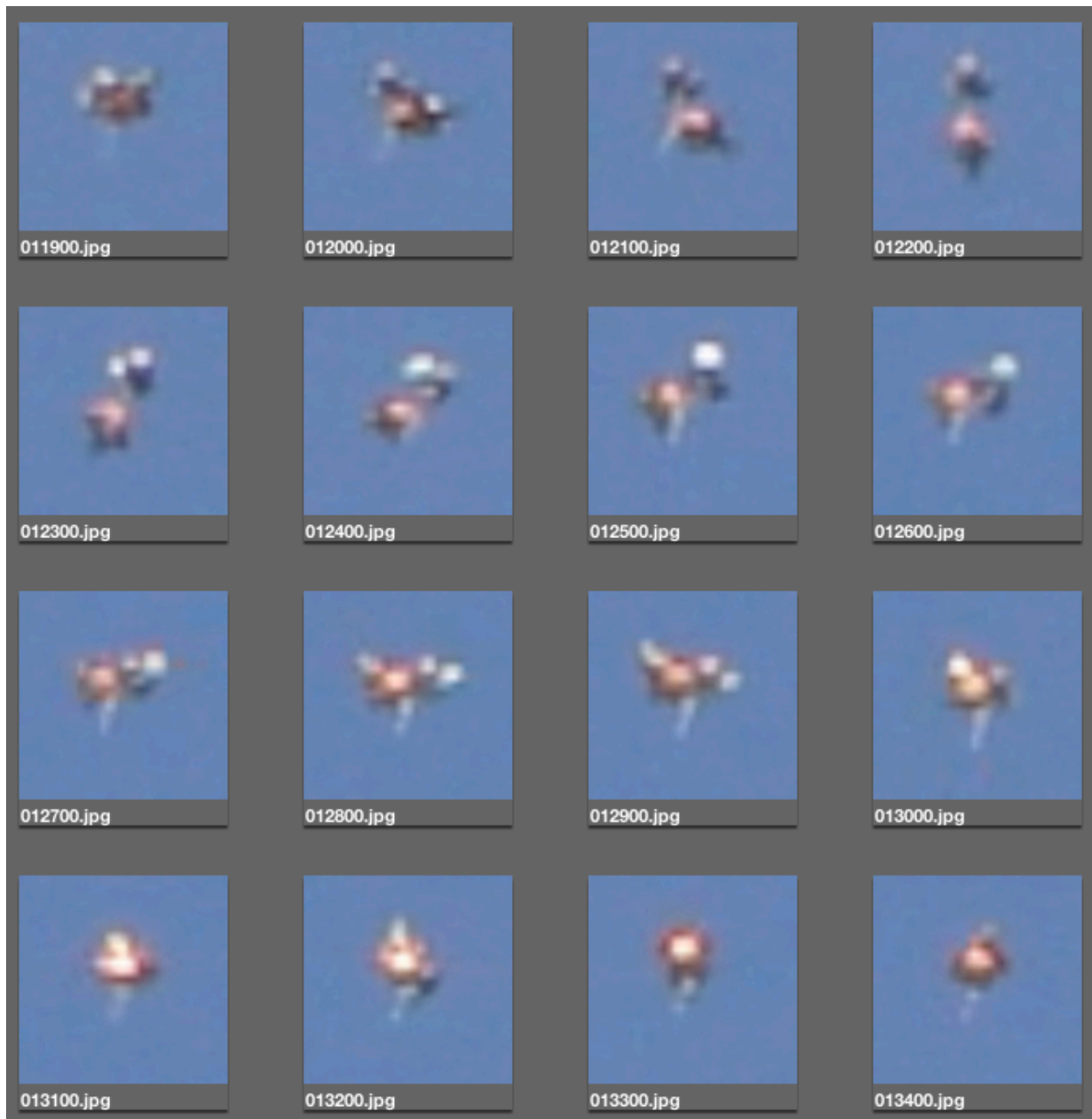
*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 14. Magnified UFO Sequence #4.**

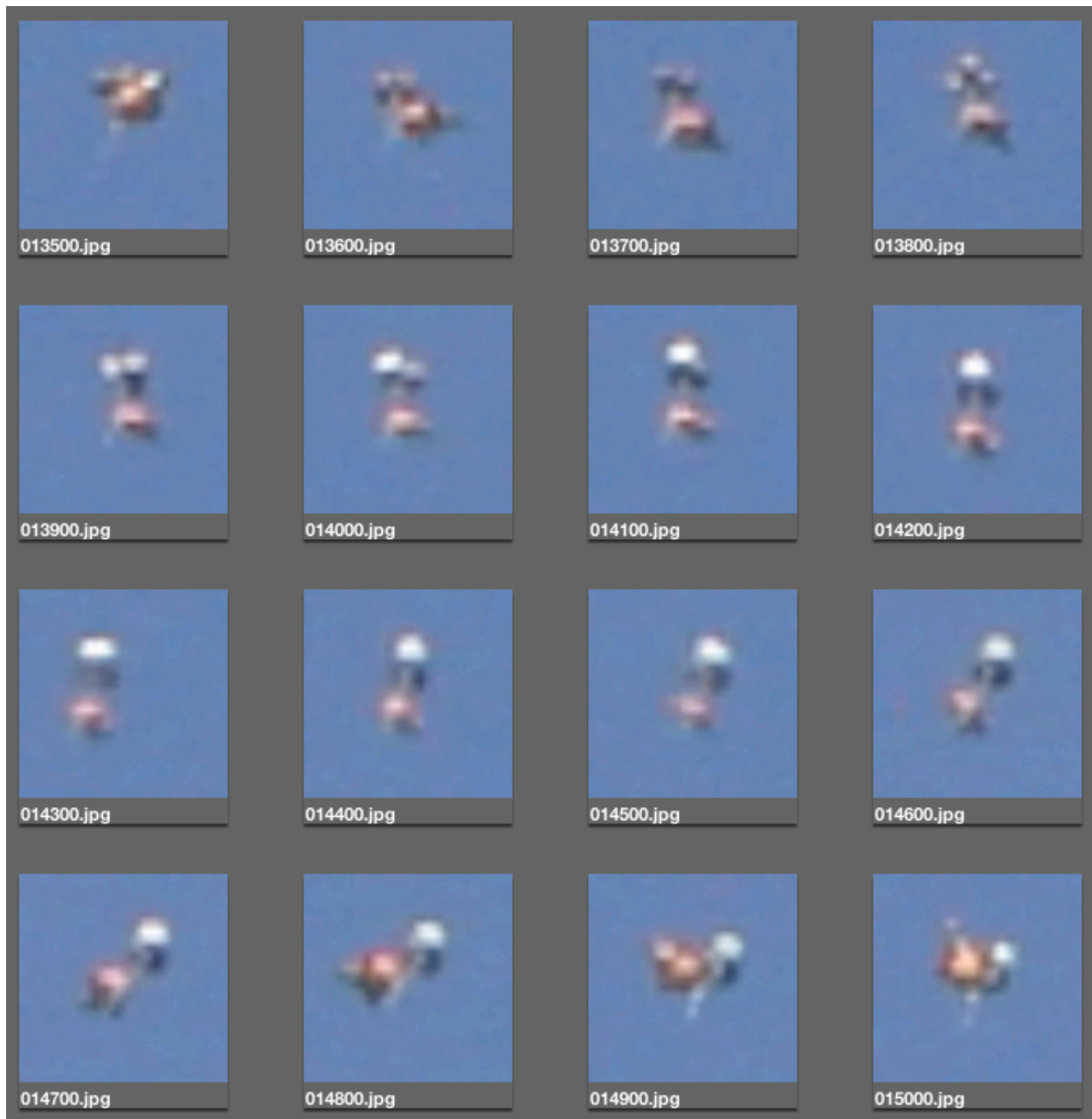
*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 15. Magnified UFO Sequence #5.**

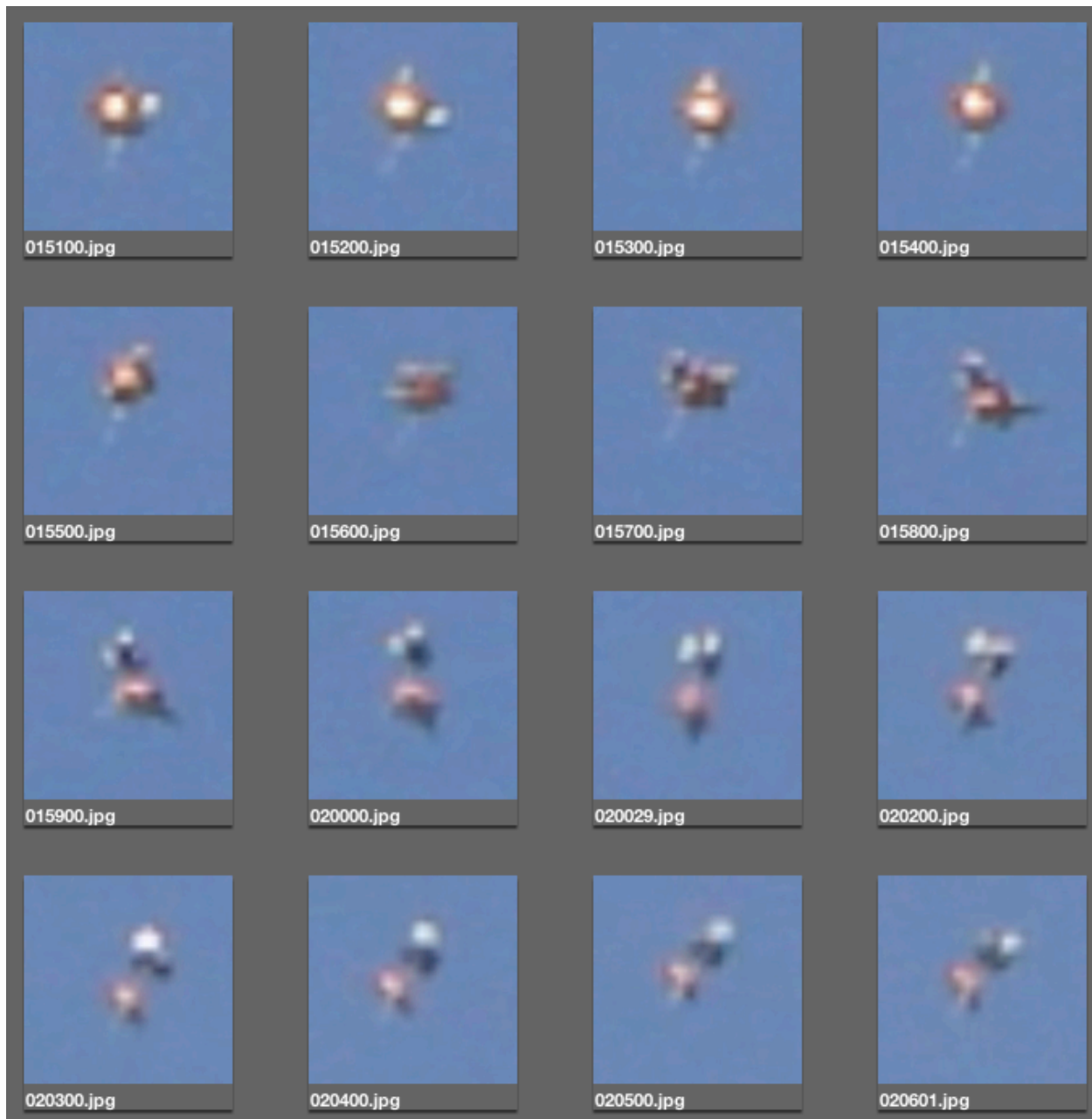
*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 16. Magnified UFO Sequence #6.**

*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*

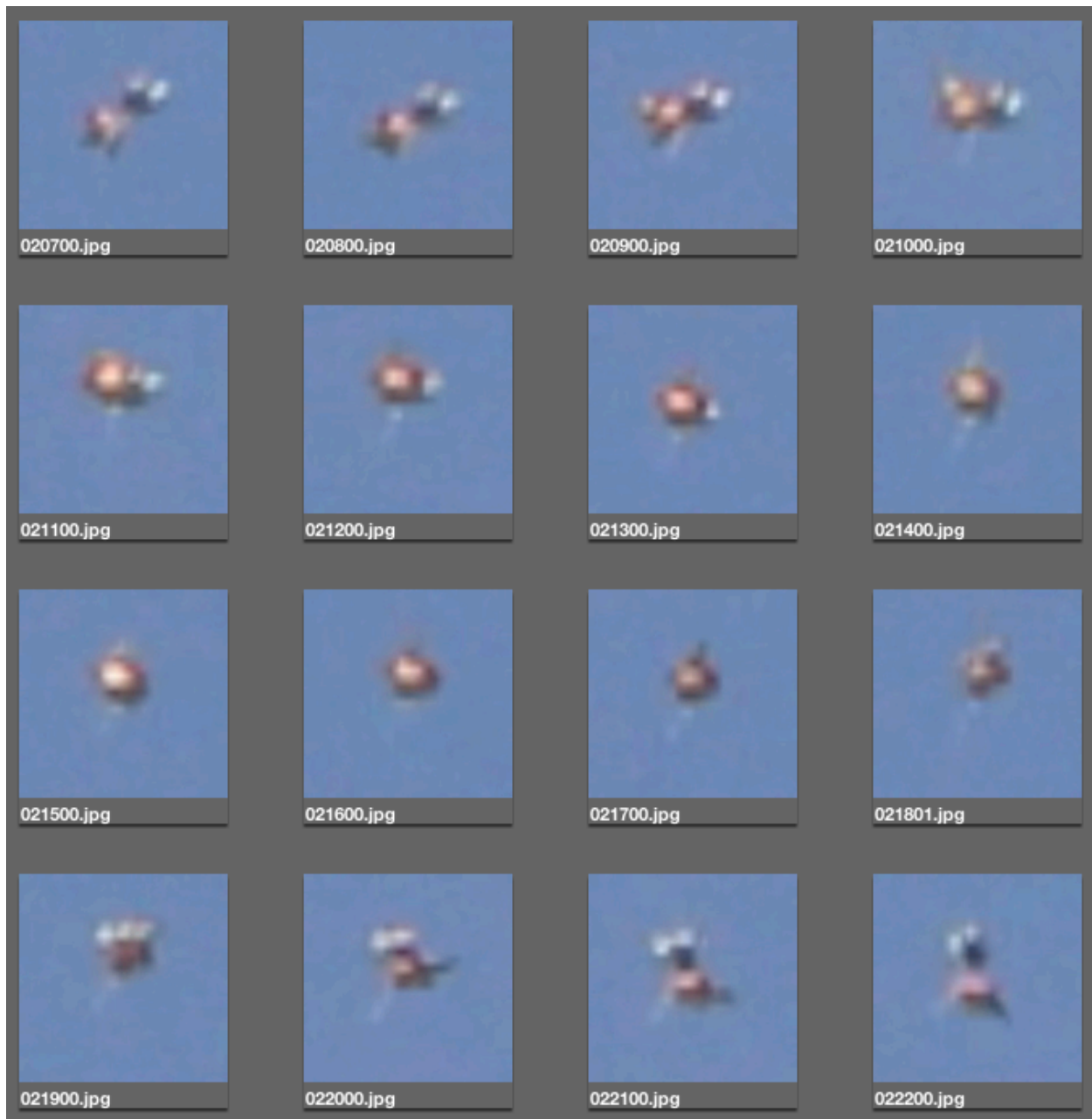


Source: Don Andersberg and Keith Rowell

**Figure 17. Magnified UFO Sequence #7.**

*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*

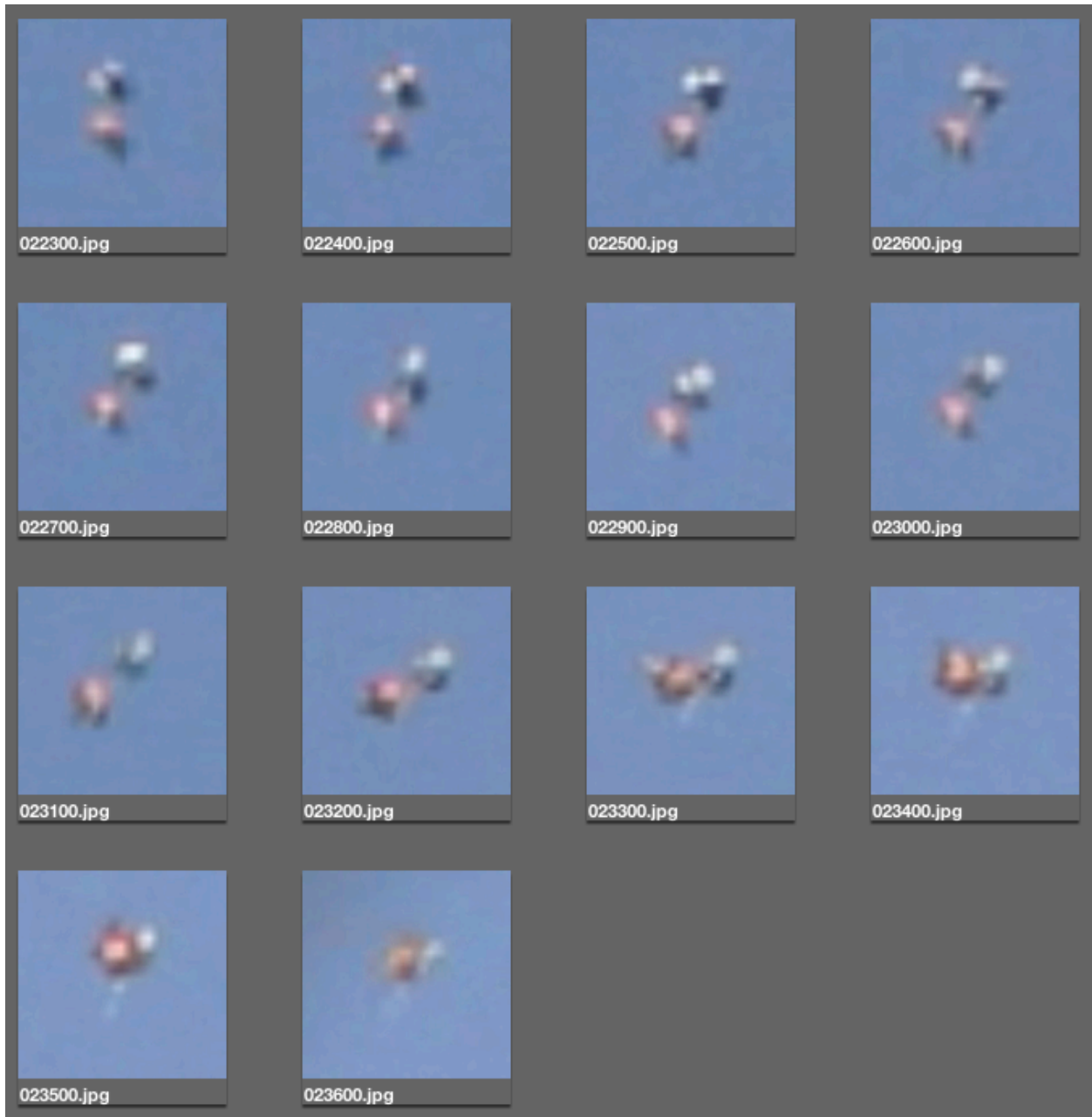




Source: Don Andersberg and Keith Rowell

**Figure 18. Magnified UFO Sequence #8.**

*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*



Source: Don Andersberg and Keith Rowell

**Figure 19. Magnified UFO Sequence #9.**

*Figures 11 through 19 are chosen to show the second by second changes in shape of the UFO in chronological order. This gives you a sense of how the UFO changes. The numbers below the images are the frames on the second except for a few that weren't clear enough and nearby frames have been chosen.*

## Size, Distance, and Speed

In this case, we don't have any directly known sizes, distances, or speeds, but we still know a reasonable number of things that combined with some reasonable assumptions give us some not too improbable sizes, distances, and speeds. Let's work through this.

Here's what we know in this UFO case:

- The duration of the sighting is at least 2 minutes and 37 seconds, which is the length of Don's video.
- The winds at the ground level that day were calm.
- There was one cloud layer at 20,000 feet.
- The angle of travel of the UFO from when Don first spotted it till he couldn't see it any more was about  $50^\circ$ .
- The angular size of the full moon is approximately  $0.5^\circ$ .
- We can directly compare the size of the UFO with the moon because Don has video-recorded the moon fully zoomed in just like he has for the UFO. See *Figure 16, Moon and UFO Comparison*.

Let's see what kinds of *probable* sizes, distances, and speeds we can derive from this data.

### A Probable UFO Size and Distance?

As noted earlier in this case study, we cannot know for certain what the real (or absolute) size this colorful transforming UFO actually was. But we can know the angular (or apparent) size of the UFO with some certainty.

One way we can do this is by comparing the size of the UFO to the diameter of the full moon. *Figure 16, Moon and UFO Comparison*, shows this comparison. Since the moon and UFO were taken at separate times but with the same camera and zoom extent (fully zoomed in), we can do this comparison. We know from astronomical references that the angular size of the diameter of the full moon is close to  $0.5^\circ$ . So, we just put an example colorful, transforming UFO end to end across the diameter of the moon to obtain the angular size of the UFO.

- The angular size of the colorful, transforming UFO's height (in one instance of its constant transformations) is  $0.5^\circ$  divided by about 8 UFOs. This equals about  $0.06^\circ$  for the UFO's basic angular size height.



Source: Don Andersberg and Keith Rowell

### **Figure 16. Moon and UFO Comparison**

*This photo shows one configuration of the UFO lined up against the diameter of the moon to show the height of the UFO. The point is to get an idea of the angular size of the height of the UFO. We know that the moon's angular size is close to one half a degree in size. So the angular size of the UFO is about 8 divided into one half a degree. This is  $0.06^\circ$ . This comparison can be made because the UFO and moon are at the same magnification (zoomed in extent) and video-recorded with the same camera.*

We have done a similar comparison with a known object, a commercial jet flying at around 30 to 35 thousand feet in another Oregon MUFON case study (*The Medford "Monkey" Balloon UFO on oregonmufon.com*), and have noted that the length of the commercial jet compared to the moon diameter is around five times smaller. That is, the angular size of the commercial jet is about  $0.5/5$ , which is  $0.1^\circ$ .

We know that the average commercial jet is around 150 feet long (absolute or real size). So, if the colorful, transforming UFO was around 30 to 35 thousand feet in altitude, we would know that the real size would be about two thirds the size of a commercial airliner or about 100 feet in length (height). *But we don't know this altitude, so can we make an educated guess?* Yes, we can because we know that a cloud layer that day was at 20,000 feet and it doesn't appear as if the UFO is obscured in any way by this

cloud layer (though it is thin and not easy to tell). So, we can assume that the UFO is at 20,000 feet or below.

**If the UFO is 20,000 Feet or Below . . .**

*Table 1, Real UFO Size Given 0.06° Angular Size*, shows the real size (height) of the UFO image shown in *Figure 16, Moon and UFO Comparison*. By doing the calculations for this table, we can get some sense of how big this UFO must have been at different distances away. The UFO distances in *Table 1* are not altitudes because Don was not viewing the UFO directly overhead. He was about 20° or so down from the zenith for much of the viewing time. (This means the UFO altitude was somewhat less—perhaps like 4000 to 4500 feet in altitude.)

So, if Don’s UFO was about a mile away (at 5000 feet), the UFO height was around five feet tall. However, again, all we do know here is that the UFO was probably not more than 21 feet in height because the cloud base at 20,000 feet provides a pretty good maximum distance.

But, we have already documented one of Don’s UFOs (in the *Milwaukie Pink, White, and Blue Orbs Cluster UFO* case study on oregonmufon.com) to be pretty much at 3700 feet in altitude. (From weather data, we discovered that the cloud base in Don’s video was at 3700 feet and we could clearly see that the UFO passed right under the cloud base in the video.) So, it is our feeling that most of Don’s UFOs are anywhere from around 2500 to 5000 feet in altitude. So, we believe this UFO is probably similar in distance (and altitude), so according to *Table 1* the UFO height is around 2.6 to 5 feet.

**Table 1. Real UFO Size Given 0.06° Angular Size**

UFO Distance (feet)	Real Size (Height) (feet)
1000	1.0
2500	2.6
5000	5.2
10,000	10.5
15,000	15
20,000	21

**Comparison To Various Sizes of Balloons**

The closest object that suggests itself as an identification for Don’s UFO is some sort of balloon cluster. Let’s work with this idea a bit. We know the UFO was an angular size of 0.06°, so let’s do some calculations and see what the size of balloons would need to be to constitute a valid ID for this UFO assuming 0.06° angular size just like the UFO.

*Table 1, Altitudes of Conventional Balloons Given 0.06° Angular Size* was put together to show what the size of balloons and clusters of balloons must have been given the size of 0.06° that we derived for Don’s UFO by comparing it to the full moon. *Table 1* says, for example, that for a party balloon of angular size 0.06° and real size of 5 feet, the party balloon must be about 4,770 feet away. However, we can see that in our example UFO image in *Figure 16, Moon and UFO Comparison* that the UFO consists of smaller shapes which could be small, one foot or so sized party balloons. So, this ID of a cluster of party balloons

accords well with this particular UFO image, but fails with many other UFO images that show only one large reddish/orangish shape for the UFO.

We can also see from *Table 1* that if the UFO was at the altitude of 20,000 feet, the real size of the balloon would have to be about 20 feet in diameter. We know this is our maximum altitude because of the 20,000 feet of the cloud base in the video and the fact that the UFO is not obscured by the clouds in any way. We can see that this much less probable kind of balloon would likely be a “Business Display Balloon (really big)”.

In sum, *Table 1* shows that some kind of balloon (because of the many sizes balloons come in) is not at all implausible for this UFO. But, see the *CONCLUSION* for a discussion of all the evidence and what it might imply about the true identity of this UFO.

**Table 1. Altitudes of Conventional Balloons Given 0.06° Angular Size**

Balloons	Real Height Size (feet)	Altitude (feet)
Party Balloon (small)	1	956
Party Balloon (big)	3	2,860
Party Balloon (big), Business Display Balloon (small)	5	4,770
Business Display Balloon (big)	10	9,550
Business Display Balloon (really big), Hot Air/Gas Balloon (small)	20	19,100
Research Balloons (small)	50	47,700
Research Balloons (large)	100	95,500

## UFO Speed

Unfortunately, in this UFO video, we have only a meager amount of information to calculate a reasonable speed for the UFO. However, a ballpark guesstimate will be attempted and compared with the upper air winds data in *Appendix A*.

Supposing the UFO was around 5000 feet in altitude (which is our best guess for reasons given earlier) and that it traveled about 50° in the video (which admittedly is difficult to discern in this video, but which is typical for many of Don’s UFO videos), we have a distance traveled for the UFO of about 7780 feet. So, we have distance divided by time for speed, which is 7780 feet divided by 157 seconds (2 minutes and 37 seconds). This equals 50 feet/sec. This is 33.8 mph.

Looking at the data for winds aloft speed in the *Appendix A* data, we see that at around 5000 feet we have a reading of 11 knots, which is 12.7 mph. So, the speed does *not* agree very well with the speed of the winds at about 5000 feet. However, the angle across which Don video-recorded the UFO in this instance is not very well defined. We get a better feeling in some of his other videos because the trees and/or edges of his house are much better shown. I’ve been to Don’s house many times in the backyard and have taken reference shots of his backyard, but figuring out the angle through which a particular UFO in a particular video traveled is not always that easy.

## A Possible ID: An Oddly Shaped Balloon?

So, is this UFO actually an oddly shaped, oddly transforming, oddly lighting up balloon? We think not.

A search of the photos on the Internet with terms such as, “novelty balloons,” “oddball balloons,” “transforming balloons,” “morphing balloons,” etc., yielded no matches whatsoever that looked like Don’s colorful, transforming UFO. It appears that Don’s UFO might only be similar to a concocted, DIY balloon as an outside possibility. However, it is exceedingly difficult to imagine that the constantly transforming roundish and/or angular shapes/lobes combined with the occasional “flaring up” of the UFO in its reddish/orangish phase with possible internal lighting could be duplicated by any cleverly constructed, floating object.

And when Don’s many, many videos of similar—sometimes truly oddball looking—UFOs are considered, it becomes well nigh impossible to think that any terrestrial human-made or natural object or effect could account for what he video-records almost routinely.

## CONCLUSION

The UFO observation in this case was made by one person, Don Andersberg, in his backyard. He used his Sony Cybershot HX1 to capture about 2 minutes and 37 seconds of video of a UFO that he first spotted with his unaided eyes (except for polarized sunglasses that he wears sometimes). The UFO “drifted” along in the sky with Don continuously video-recording the UFO till it disappeared behind the eaves of his house.

## Identification Candidates

The candidates for identification for this UFO are the following:

- **Secret U.S. military or foreign power aircraft.** This explanation, of course, can never be completely ruled out by anyone except for the very few within the bowels of our deep black military and corporate contractor world who would also have access to all the on-going projects. This list of people is exceedingly small (perhaps only 100?!) because of the “need to know” and compartmentation of military secrets. However, verified reports of this kind of object over populated areas in the U.S. are far fewer than “standard” UFOs. It strains credulity that human-designed, “conventional” secret aircraft would be tested at only a mile or so altitude inside a small metropolitan area. (We assume that secret military aircraft buffs could adequately “verify” this kind of report, but the documented record of reports of secret military aircraft appearing over populated areas—which are always only at very high altitudes!—is very scant, indeed.) The object video-recorded in this case is probably around three feet in diameter and looks like no military object of terrestrial operation that we know of. Also, Don reported no sound coming from the object. *Thus, this identification candidate is rejected.*
- **Military/government/police UAV/drone aircraft.** This explanation is, unfortunately, something that we will have to consider increasingly in the coming years. So far, military/government drones have more or less conventional configurations for aircraft. Usually, they have fuselages, wings, and tail assemblies, but some operate on helicopter flight principles. They are anywhere from about three feet to twenty or so feet in length. They are usually propeller driven. At this point, they are rare in U.S. skies (much rarer than genuine UFOs, actually). No city police or county sheriff’s departments in the Portland metro area have any operational police surveillance UAVs/drones, much less any that fit the description of this UFO. *Thus, this identification candidate is rejected.*
- **Aircraft.** No conventional aircraft, military or civilian, looks like this UFO. *Thus, this identification candidate is rejected.*
- **Helicopter.** No helicopter, military or civilian, looks like this UFO. *Thus, this identification candidate is rejected.*
- **Blimp.** No blimp, military or civilian, looks like this UFO. Also, we think the UFO is around three feet in size. *Thus, this identification candidate is rejected.*

- **Ultralight.** No ultralight looks like this UFO. *Thus, this identification candidate is rejected.*
- **Remote-controlled model aircraft.** No RC model aircraft looks like this UFO. *Thus, this identification candidate is rejected.*
- **Kite.** This UFO does not resemble in all its phases a kite nor was it tethered by any kind of string, rope, cord, etc. Additionally, if this were an unmoored kite, its behavior of being aloft and in view for over two and a half minutes without apparently drifting downward makes a kite identification unlikely. Also, the configuration transformations and possible internally generated, dynamically changing light effects of the UFO put this beyond reason for a kite. It is entirely implausible that this UFO is a kite no matter how exotic. *Thus, this identification candidate is rejected.*
- **Ball Lightning.** This UFO does not much resemble or behave like ball lightning. This well-known phenomenon based on anecdotal accounts is generally spherical and fuzzy in shape and originates usually in association with lightning storms. There were no lightning storms in the Portland metro area at the time. Ball lightning also moves around erratically and lasts from one second to perhaps at most a minute or so. *Thus, this identification candidate is rejected.*
- **Balloon.** This is the most viable ID candidate of them all. Here are the pros and cons.

On the evidential side for this candidate are the following:

- The UFO could possibly be some kind of exotic balloon cluster, perhaps. This is almost certainly a one-of-a-kind concocted, DIY balloon-type contraption if it is to be identified at all as a human-made or natural object or effect.
- The UFO generally moved along in the sky like a balloon.
- There is some evidence of a cord or string hanging down from some of the images of the UFO in this video.

On the evidential side for genuine, “balloon mimic” UFO are the following:

- Though there is evidence of typical balloon strings or cords in this UFO, the same sort of white “cord-like” structure appears to stick straight up (!) in some of the UFO images.
- The internal movement of this UFO is entirely too variable for any kind of balloon. The configuration transformation kind of movement is reminiscent of organic, living things and not ordinary mechanical or physical things.
- The speed and variability of the configuration changes in the UFO put it beyond the pale for any ID as a conventional or even specially concocted balloon-type assemblage or contraption.
- The configuration transformation behavior is essentially random from second to second, but does show a kind of somewhat periodic change from a “complex, multi-shapes” phase to a “reddish/orangish ovoid/roundish” phase.
- The appearance of the apparently internally generated lighting effects when the UFO is in its “reddish/orangish ovoid/roundish” phase is extremely hard to reconcile with an explanation as a known terrestrial, human-made technology.
- The calculated speed of this UFO did not agree well with the winds aloft speeds from official weather data. However, this calculation could only be made with some (we believe) reasonable guesses and assumptions. So this is weak evidence in favor of the UFO ID.
- A number of other balloon mimic UFOs somewhat similar to this case have been documented in Oregon in the 2000s. (See *oregonmufon.com*.)

So, since all of the relevant evidence favors something truly anomalous, we suggest that this UFO is yet another instance of a balloon mimic UFO.

**Since the identification candidates fail for the reasons stated, this UFO observation is classified as a true UFO, a MUFON Unknown Other. We believe that the overall evidence in this case rises to the level of clear and convincing evidence, which makes this case quite strong.**



# Appendix A: Winds Aloft Data

The following table of winds aloft data is from the Salem, Oregon, weather station. It was obtained from the following archive site at the University of Wyoming: <http://weather.uwyo.edu/upperair/sounding.html>. Salem data is the closest to Portland. It is about 40 to 50 miles from Portland.

**Table A-1. Upper Air Winds Aloft Data**

72694 SLE Salem Observations at 00Z 02 Nov 2011

PRES hPa	HGHT m	TEMP C	DWPT C	RELH %	MIXR g/kg	DRCT deg	SKNT knot	THTA K	THTE K	THTV K
1024.0	61	9.6	4.8	72	5.29	350	7	280.8	295.6	281.7
1023.0	69	9.6	1.6	57	4.22	350	7	280.9	292.9	281.6
1021.0	86	9.2	0.2	53	3.82	351	7	280.7	291.5	281.3
1008.0	193	8.0	2.0	66	4.41	353	8	280.5	292.9	281.3
1000.0	259	7.2	2.2	71	4.51	355	9	280.4	293.0	281.1
994.4	305	6.8	2.2	73	4.55	0	10	280.4	293.2	281.2
988.0	358	6.4	2.3	75	4.59	4	10	280.5	293.4	281.3
971.0	500	5.6	0.6	70	4.13	16	9	281.1	292.8	281.8
959.0	602	5.4	-3.6	52	3.07	24	9	281.9	290.8	282.4
958.1	610	5.5	-3.9	51	3.01	25	9	282.1	290.8	282.6
947.0	705	6.8	-7.2	36	2.36	51	8	284.3	291.3	284.8
940.0	766	7.0	-5.0	42	2.82	68	7	285.1	293.4	285.6
929.0	863	6.8	-7.2	36	2.41	95	5	285.9	293.1	286.3
925.0	898	7.0	-15.0	19	1.30	105	5	286.5	290.5	286.7
923.2	914	7.0	-16.2	17	1.18	110	5	286.6	290.3	286.8
922.0	925	7.0	-17.0	16	1.10	111	5	286.7	290.2	286.9
892.0	1196	7.4	-23.6	9	0.64	142	9	289.9	292.0	290.0
889.5	1219	7.3	-23.8	9	0.63	145	9	290.0	292.1	290.2
862.0	1476	6.8	-26.2	7	0.53	114	10	292.1	293.9	292.2
850.0	1591	5.8	-27.2	7	0.49	100	11	292.2	293.9	292.3
830.0	1785	4.0	-28.0	8	0.46	100	11	292.3	293.9	292.4
825.5	1829	3.9	-28.4	7	0.45	100	11	292.7	294.2	292.8
795.0	2134	3.5	-31.1	6	0.36	40	8	295.4	296.6	295.4
790.0	2186	3.4	-31.6	6	0.35	36	8	295.8	297.0	295.9
765.4	2438	1.4	-32.2	6	0.34	15	9	296.4	297.6	296.4
736.8	2743	-0.9	-33.0	7	0.32	20	7	297.1	298.2	297.1
700.0	3152	-4.1	-34.1	8	0.31	10	6	297.9	299.0	298.0
688.0	3288	-5.5	-35.5	7	0.27	3	6	297.8	298.8	297.9
682.3	3353	-5.8	-35.3	8	0.28	0	6	298.2	299.2	298.2
657.0	3648	-7.3	-34.3	10	0.32	312	14	299.8	300.9	299.8
656.1	3658	-7.4	-34.4	9	0.32	310	14	299.8	300.9	299.8
631.0	3960	-10.3	-38.3	8	0.22	312	21	299.8	300.6	299.9
606.2	4267	-12.4	-41.8	7	0.16	315	28	300.8	301.4	300.9
596.0	4397	-13.3	-43.3	6	0.14	316	29	301.3	301.8	301.3
580.0	4603	-14.1	-34.1	17	0.37	318	31	302.7	304.0	302.7
572.0	4709	-14.3	-23.3	46	1.03	319	32	303.6	307.1	303.8
559.4	4877	-14.7	-23.0	49	1.08	320	33	305.1	308.7	305.3
555.0	4937	-14.9	-22.9	51	1.10	322	33	305.6	309.3	305.8
537.0	5186	-16.3	-23.3	55	1.10	330	35	306.8	310.5	307.0
515.9	5486	-17.6	-26.6	46	0.85	340	36	308.7	311.6	308.9
515.0	5499	-17.7	-26.7	45	0.84	340	37	308.8	311.7	308.9
504.0	5661	-18.5	-23.5	65	1.15	340	46	309.7	313.6	309.9
500.0	5720	-18.3	-23.2	65	1.19	340	50	310.7	314.7	310.9
495.3	5791	-18.1	-23.1	65	1.21	340	55	311.7	315.9	312.0
495.0	5795	-18.1	-23.1	65	1.21	340	55	311.8	316.0	312.0
475.4	6096	-19.4	-27.6	48	0.83	340	56	313.8	316.8	314.0
471.0	6165	-19.7	-28.7	45	0.76	339	56	314.3	317.0	314.4
414.0	7112	-25.7	-35.7	39	0.44	332	54	318.4	320.0	318.4
400.0	7360	-27.9	-37.9	38	0.37	330	54	318.6	320.0	318.7
388.0	7579	-28.5	-38.5	38	0.36	326	56	320.6	322.0	320.7
385.8	7620	-28.8	-38.8	38	0.35	325	56	320.7	322.1	320.8
354.0	8230	-33.8	-43.0	39	0.24	330	64	322.0	322.9	322.0
350.0	8310	-34.5	-43.5	40	0.23	330	63	322.1	323.0	322.2

332.0	8679	-35.3	-45.3	35	0.20	330	57	325.9	326.7	326.0
324.5	8839	-36.3	-46.3	35	0.19	330	54	326.7	327.4	326.7
317.0	9001	-37.3	-47.3	35	0.17	327	59	327.5	328.2	327.5
310.5	9144	-38.4	-48.4	34	0.15	325	64	328.0	328.6	328.0
300.0	9380	-40.1	-50.1	33	0.13	325	65	328.7	329.3	328.8
250.0	10590	-50.7	-59.7	34	0.05	320	75	330.6	330.8	330.6
200.0	12000	-63.5	-71.5	33	0.01	325	86	332.1	332.1	332.1
198.0	12060	-64.1	-72.0	33	0.01	325	86	332.1	332.2	332.1
193.7	12192	-65.3	-73.1	33	0.01	325	86	332.3	332.3	332.3
170.0	12976	-72.5	-79.5	34	0.00	325	76	332.9	332.9	332.9
166.3	13106	-70.8	-77.8	35	0.01	320	79	337.8	337.8	337.8
161.0	13299	-68.3	-75.3	36	0.01	326	70	345.2	345.2	345.2
158.1	13411	-66.4	-73.8	35	0.01	330	65	350.2	350.3	350.2
154.0	13569	-63.7	-71.7	33	0.02	323	60	357.4	357.5	357.5
150.0	13730	-63.9	-71.9	33	0.02	315	55	359.8	359.9	359.8
147.0	13854	-63.7	-71.7	33	0.02	317	52	362.2	362.3	362.2
146.0	13896	-62.9	-70.9	33	0.02	318	50	364.3	364.4	364.3
143.1	14021	-63.9	-71.9	33	0.02	320	47	364.7	364.8	364.8
143.0	14024	-63.9	-71.9	33	0.02	320	47	364.8	364.8	364.8
136.0	14333	-63.5	-71.5	33	0.02	307	49	370.7	370.8	370.7
129.6	14630	-64.2	-72.2	33	0.02	295	51	374.7	374.8	374.7
119.0	15151	-65.3	-73.3	32	0.02	304	62	381.8	381.9	381.8
117.3	15240	-65.2	-73.2	32	0.02	305	64	383.7	383.8	383.7
114.0	15413	-64.9	-72.9	32	0.02	305	58	387.3	387.4	387.3
112.0	15522	-63.3	-71.3	33	0.02	305	54	392.2	392.4	392.2
111.0	15577	-63.7	-71.7	33	0.02	305	52	392.5	392.6	392.5
106.0	15861	-62.5	-70.5	33	0.03	305	42	400.0	400.1	400.0
100.0	16220	-64.1	-72.1	33	0.02	305	29	403.6	403.7	403.6
94.6	16557	-65.3	-73.3	32	0.02	299	45	407.7	407.8	407.7
91.5	16764	-63.4	-71.4	33	0.03	295	54	415.4	415.6	415.4
90.3	16841	-62.7	-70.7	33	0.03	300	51	418.3	418.5	418.3
87.0	17069	-62.1	-70.8	30	0.03	315	43	423.9	424.1	423.9
85.6	17169	-61.9	-70.9	29	0.03	312	40	426.4	426.6	426.4
82.8	17374	-62.5	-71.5	29	0.03	305	33	429.3	429.5	429.3
78.8	17678	-63.3	-72.3	29	0.03	285	44	433.8	433.9	433.8
78.7	17685	-63.3	-72.3	29	0.03	285	44	433.9	434.0	433.9
75.0	17983	-61.2	-70.2	29	0.04	295	56	444.2	444.5	444.2
71.4	18288	-59.1	-68.1	30	0.06	320	38	455.0	455.4	455.0
71.4	18287	-59.1	-68.1	30	0.06	320	38	455.0	455.4	455.0
70.0	18410	-59.9	-68.9	30	0.05	315	28	455.9	456.2	455.9
66.6	18720	-61.5	-70.5	29	0.04	305	36	458.9	459.2	459.0
64.7	18898	-60.6	-69.9	28	0.05	300	40	464.6	464.9	464.6
61.6	19202	-59.1	-68.9	27	0.06	310	23	474.4	474.8	474.4
60.0	19372	-58.3	-68.3	27	0.06	285	19	480.0	480.4	480.0
58.7	19507	-58.7	-68.7	26	0.06	265	16	482.0	482.4	482.0
53.2	20117	-60.7	-70.7	26	0.05	285	22	491.2	491.6	491.2
50.7	20422	-61.6	-71.6	25	0.05	315	25	495.8	496.2	495.9
50.0	20510	-61.9	-71.9	25	0.05	330	22	497.2	497.5	497.2
48.3	20726	-63.0	-73.0	25	0.04	335	17	499.6	499.9	499.6
46.9	20905	-63.9	-73.9	24	0.04	300	16	501.6	501.8	501.6
45.9	21031	-64.0	-74.0	24	0.04	275	15	504.3	504.6	504.3
44.9	21172	-64.1	-74.1	24	0.04	284	22	507.4	507.6	507.4
43.7	21336	-62.7	-72.7	25	0.05	295	31	514.7	515.1	514.8
43.1	21424	-61.9	-71.9	25	0.05	295	31	518.7	519.1	518.8
40.4	21825	-62.3	-72.3	25	0.05	295	32	527.4	527.8	527.4
38.7	22092	-60.5	-71.5	22	0.06	295	32	538.5	539.0	538.5
37.2	22337	-62.3	-72.3	25	0.06	295	33	540.0	540.4	540.0
35.9	22555	-61.5	-72.2	23	0.06	295	33	547.5	548.0	547.5
35.3	22663	-61.1	-72.1	22	0.06	295	31	551.3	551.8	551.3
33.8	22932	-62.7	-72.7	25	0.06	295	27	553.9	554.4	554.0
32.9	23099	-62.3	-73.3	22	0.06	295	25	559.3	559.7	559.3
32.5	23165	-61.1	-72.3	21	0.07	295	24	564.3	564.8	564.3
31.3	23411	-56.5	-68.5	21	0.12	271	17	582.9	583.9	583.0
31.0	23470	-56.8	-68.8	21	0.12	265	15	583.8	584.7	583.8
30.0	23680	-57.7	-69.7	20	0.11	275	16	586.8	587.6	586.8
28.2	24079	-57.9	-69.9	20	0.11	315	16	597.0	597.9	597.0
27.9	24138	-57.9	-69.9	20	0.11	315	15	598.5	599.4	598.5
26.8	24384	-59.1	-71.1	20	0.10	315	12	601.8	602.6	601.9
25.5	24689	-60.6	-72.7	19	0.08	310	15	605.9	606.6	606.0
24.7	24899	-61.7	-73.7	19	0.07	317	11	608.8	609.4	608.8
24.3	24994	-60.8	-73.2	18	0.08	320	9	614.1	614.8	614.1
23.9	25104	-59.7	-72.7	17	0.09	307	10	620.3	621.1	620.4

23.2	25298	-60.1	-73.1	17	0.08	285	13	624.8	625.5	624.8
22.3	25536	-60.5	-73.5	17	0.08	285	20	630.3	631.1	630.4
22.1	25603	-60.0	-73.2	16	0.09	285	22	633.8	634.5	633.8
21.1	25883	-57.9	-71.9	15	0.11	278	20	648.2	649.2	648.3
20.0	26220	-58.3	-73.3	13	0.09	270	18	657.0	657.9	657.0
18.1	26849	-57.7	-74.7	10	0.08	280	19	677.9	678.7	677.9
16.8	27320	-56.5	-74.5	9	0.09	288	19	696.3	697.3	696.4
16.5	27432	-55.2	-75.0	7	0.09	290	19	704.0	704.9	704.0
16.3	27513	-54.3	-75.3	6	0.09	290	19	709.5	710.4	709.5
15.5	27835	-54.9	-76.9	5	0.07	290	21	717.8	718.5	717.8
14.9	28088	-52.7	-81.7	2	0.03	290	23	733.3	733.6	733.3
14.3	28346	-52.5	-84.8	1	0.02	290	24	742.2	742.5	742.2
14.2	28399	-52.5	-85.5	1	0.02			744.1	744.3	744.1

Station information and sounding indices

Station identifier: SLE  
 Station number: 72694  
 Observation time: 111102/0000  
 Station latitude: 44.91  
 Station longitude: -123.00  
 Station elevation: 61.0  
 Showalter index: 15.07  
 Lifted index: 15.87  
 LIFT computed using virtual temperature: 15.99  
 SWEAT index: 71.99  
 K index: -33.10  
 Cross totals index: -8.90  
 Vertical totals index: 24.10  
 Totals totals index: 15.20  
 Convective Available Potential Energy: 0.00  
 CAPE using virtual temperature: 0.00  
 Convective Inhibition: 0.00  
 CINS using virtual temperature: 0.00  
 Bulk Richardson Number: 0.00  
 Bulk Richardson Number using CAPV: 0.00  
 Temp [K] of the Lifted Condensation Level: 273.32  
 Pres [hPa] of the Lifted Condensation Level: 911.02  
 Mean mixed layer potential temperature: 280.70  
 Mean mixed layer mixing ratio: 4.29  
 1000 hPa to 500 hPa thickness: 5461.00  
 Precipitable water [mm] for entire sounding: 6.99