

TDPT (UFO)

13 NOV 1968

UFO Observation, 24 October 1968

Special Security Office (SAC)

1. Reference SSO message 071540Z, with regards to evaluations of UFO reports from Minot AFB. The following conclusions have been reached after a thorough study of the data submitted to the Foreign Technology Division. The ground visual sightings appear to be of the star Sirius and the B-52 which was flying in the area. The B-52 radar contact and the temporary loss of UHF transmission could be attributed to a plasma similar to ball lightning. The air visual from the B-52 could be the star Vega which was on the horizon at the time, or it could be a light on the ground, or possibly a plasma. The physical violation of the lock of OSCAR 7 does not seem to be related to UFOs in any way.

2. No further investigation by the Foreign Technology Division is contemplated. For your information we are attaching a copy of the sequence of events, a resume of the sightings and a discussion of the background information.

FOR THE COMMANDER

John J. Smith, Jr.
 DIRECTOR, QUINCY, JR., Lt Colonel, USAF
 Chief, Aerial Phenomena Branch
 Aerospace Technologies Division
 Production Directorate

- 3 Atch
 1. Sequence of Events
 2. Resume of Sightings
 3. Discussion of Background
 w/3 Atch

Cy to: USAF (SAFODCC)

862 Combat Support Group
 Minot AFB, North Dakota

TDPT (UFO) OFFICIAL FILE CY

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SEQUENCE OF EVENTS

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0030 Airman Isley sighted light in the east (117)

0230 ALC O'Conner sighted bright light (117)

SSgt Smith sighted bright star light (117)

0308 SSgt Bond, ALC Adams, ALC Jablonski sighted light in SSE
(Ltr fm Lt Col Werlich & 117s)

0320 SSgt Smith, ALC Bajgar, ALC Vennedall sight UFO
(Ltr fm Lt Col Werlich)

0324 SSgt Wagla, ALC Allis, ALC Derr sight UFO
(Ltr fm Lt Col Werlich)

0325 SSgt Halko, ALC Jenkins, ALC Richardson sight UFO
(Ltr fm Lt Col Werlich)

0335 B-52 on heading 290° asked to look for orange light 15 to
16 miles at 1 o'clock position (reply affirmative?)
"A/C roger I see a . . . (garbled)" (Transcript from tape)

0345 ALC O'Conner no longer sees light (117)

0352 B-52 in haze. Weathers radar places object three miles at
1 o'clock. B-52 cannot see. (Transcript of tape)

0358 B-52 loses transmission to tower. (Transcript of tape)

between 0400-0402 B-52 regains ability to transmit. (Transcript of tape)

0406:15 B-52 scope photos start (scope photo)

0406:51 B-52 scope photos end (scope photo)

0413 Controller tells 52 that missile site personnel advise
that they don't see anything any more.

0415 SSgt Smith last sighted light (117)

0417 A/C requests final to touchdown at 0440 (Transcript of tape)

Atch #1

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0428

A/C on final for landing (Transcript of tape)

0435

Pilot turns on base leg for final landing and is observing unidentified orange light. (Transcript of tape)

0500

SSgt Bond no longer sees light (117)

0518

ALC Adams no longer sees light (117)

ALC Jablonski no longer sees light (117)

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RESUME

Airman Isley stated that he observed the object from 0030 to 0430, for $3\frac{1}{2}$ to 4 hours. It was seen south of his position, first being seen in the east and disappearing in the southeast. The lights looked like the lights of a jet aircraft and it came within hearing distance twice. The sound was that of jet engines. During the period of observation it went out of sight a few times and then reappeared. At one time he sighted two objects. Also sighted B-52 on its first pass.

AlC O'Conner, who was with Airman Isley, stated that he saw the UFO from 0230 to 0345 hours. (No explanation for conflict in duration.) The light was seen moving in various directions in the southern skies. The object appeared as a self-luminous big ball of white light that seemed to change to a green light, then later to a dim amber color. Heard a noise similar to that of a jet aircraft. A B-52 in the area was asked to check out the sighting and was seen west of the object. The object did not appear again after the B-52 made its first pass (52 made pass at about 0335 hours).

AlC Jablonski, who was dispatched by SSgt Bond to November 1 with Airman Isley and AlC O'Conner, reported that he sighted the object for two hours off and on. The object was self luminous with glowing orange-red, white, and greenish alternating and at times

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PTOL #2

combinations could be seen. When first dispatched, sighted another object exactly the same as that which appeared out of the east and moved toward the other. A B-52 was diverted to the general area. First seen and heard about 35 minutes after first sighting of object. Object stayed basically to the southeast, while B-52 was in southwesterly position.

ALC Adams, who was dispatched with ALC Jablonski, also stated that he sighted the object for about two hours in the southern skies. The UFO seemed to assume a stationary position, first in a hovering position, then it would speed up. The reddish orange light kept changing white and occasionally green. B-52 bomber heard approximately 45 minutes after seeing UFO. B-52 west and much higher than UFO.

SSgt Bond sighted the object in the southern skies for two hours twenty-six minutes. The UFO appeared as a point of light. It appeared about the same as landing lights on the B-52 which was diverted to the area, except for the flashing red lights on the B-52.

SSgt Smith sighted the UFO from 0230 to 0415 hours. It was seen primarily in the south-southwest off and on for 1 hour 15 minutes. The object appeared as though a star would appear on the horizon on a clear night. The phenomenon appeared to be a reddish burnt orange. SSgt Smith saw it fade and change as a star might twinkle.

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He also noticed a slight hint of green. The object resembled the planet Mars, in color and size, as it rises on the horizon.

Major Partin, the pilot of the B-52, visually sighted an unidentified light from 0430 till 0435 hours local. It appeared as a bright orange ball of light about 15 miles away in the west-northwest, and was either on the ground or slightly above the ground. The light remained stationary as he flew toward it. He turned onto base leg about one mile south of the light and was above it. The light did not move during this time.

No detailed information was submitted to this office relative to the sightings of ALC Bajgiar, ALC Vennedall, SSgt Wagla, ALC Allis, ALC Derr, SSgt Halko, ALC Jenkins, and ALC Richardson. Nor was any information submitted with regards to the possible visual observation by aircraft at 0335 hours local, radar paint by weathers radar at 0352, or exact time when the B-52 first entered the area of the sightings.

DISCUSSION OF BACKGROUND INFORMATION

Weather conditions were such that there was haze and scattered clouds in the area of the sighting. There was also a temperature inversion at the 2 - 5,000 ft altitude level. Stars could be seen and this was indicated in all the AF Forms 117 submitted to Wright-Patterson Air Force Base.

A.

1. Sirius was the brightest astronomical object in the skies during the period of the sightings. It has a stellar magnitude of -1.58, has characteristic colors of blue-red-white-green, and would have been visible in the southeastern sky during most of the sightings. (See Atch #1)

2. The scintillation of Sirius would have been increased by the temperature inversion.

3. Common celestial objects when seen through haze are often misinterpreted. (See Atch #2)

4. Clouds passing in front of the star would have caused it to disappear and then reappear.

5. Stationary lights when seen against a black background can appear to move. This process is called autokinesis. (See Atch #3)

B.

1. Initial report indicated a simultaneous ground visual and air visual at about 0335 local. This was not substantiated by the pilot's form 117. The pilot indicated he sighted an unidentified light at about 0435 local.

Atch #3

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2. The B-52 arrived in the area on a 50 nautical mile radius clearance and began various maneuvers including a vertical "S" pattern. This took place at almost the same time as the first ground sighting. It is entirely possible that the initial sighting and the subsequent activities of the object were in fact the B-52 accomplishing upper airwork. Later sightings of bright lights and flashing green and white lights, accompanied by a low jet engine sound, correlate with the B-52 making a VOR penetration, low approach, and missed approach. Portions of the maneuver are accomplished with the aircraft landing lights on. The haze layered cloud conditions could have diffused light sources and made identification difficult (ref TWX from Lt Col Werlich).

3. At 0435 local, the pilot of the B-52 sighted a bright light in the west-northwest on or near the ground. At 0435 Vega was on the horizon at azimuth 345 degrees.

C.

1. Plasmas can effect electrical equipment and can also be painted on radar.

2. Plasmas, such as ball lightning, can occur in clear weather as well as stormy weather.

3. Plasmas, such as ball lightning, can be seen visually and appear as a fiery ball. The most common colors are red, orange, yellow, blue and white.

4. Aurora Borealis is quite often seen from Minot AFB at this time of the year and is an electrical atmospheric phenomenon.

AT 0300 hours local 24 October 1968

	AZIMUTH	ELEVATION
Regulus	78	10
Capella	65	80
Castor	88	50
Pollux	91	45
Procyon	112	30
Betelgeuse	138	47
Sirius	138	28
Rigel	158	35
Aldebaran	164	60
Aries	235	48
Deneb	315	22
Vega	331	4

AT 0400 HOURS LOCAL, 24 OCTOBER 1968

Mars	83	at horizon
Jupiter	82	just below horizon
Regulus	89	20
Capella		90
Castor	91	58
Pollux	106	55
Procyon	126	37
Sirius	152	24
Betelgeuse	159	50
Rigel	175	35
Aldebaran	190	80
Aries	251	47
Deneb	324	15
Vega	341	at horizon

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STAR HOPPING IN THE NORTHERN HEMISPHERE

A List of Prominent Stars In Order Of Brightness

Star Name	Star Position (Right Ascension/Declination)	Color	Magnitude
Sirius	6 Hours, 45.0 Mins./-16° 35'	Blue-red-white-green	- 1.58
Vega	18 Hours, 35.2 Mins./+38° 44'	Blue-white	+ 0.04
Capella	5 Hours, 18 Mins./+45° 57'	Yellow	+ 0.21
Arcturus	6 Hours, 41.0 Mins./-18° 33'	Orange to yellowish	+ 0.24
Rigel	5 Hours, 12.1 Mins./-8° 15'	Blue-white	+ 0.31
Procyon	7 Hours, 38.7 Mins./+5° 21'	Yellowish-white	+ 0.60
Altair	6 Hours, 41.0 Mins./-18° 33'	Yellowish-white	+ 0.80
Betelgeuse	5 Hours, 52.5 Mins./+7° 24'	Red	+ 0.92
Aldebaran	4 Hours, 33 Mins./+16° 25'	Orange to reddish	+ 1.00
Pollux	7 Hours, 43.3 Mins./+28° 8'	Yellow	+ 1.21
Spica	13 Hours, 22.6 Mins./+18° 25'	Blue	+ 1.21
Antares	16 Hours, 28.3 Mins./-26° 16'	Red	+ 1.22
Formalhaut	22 Hours, 54.9 Mins./-29° 53'	White	+ 1.28
Deneb	20 Hours, 33.7 Mins./+45° 3'	White	+ 1.33
Regulus ?	10 Hours, 5.7 Mins./+12° 13'	Blue-white	+ 1.34
Castor	7 Hours, 31.4 Mins./+32°	Green-white	+ 1.53
Epsilon Ursus Majoris	12 Hours, 81.3 Mins./+58° 10'	White	+ 1.60
Bellatrix	5 Hours, 22.4 Mins./+6° 18'	Blue	+ 1.69
Mira	2 Hours, 16.0 Mins./-3° 12'	Red	+ 1.7 to 9.5
Episilon Orionis	5 Hours, 33.7 Mins./-1° 14'	Blue	+ 1.75
Beta Tauri	5 Hours, 23.1 Mins./+23° 34'	Blue-white	+ 1.78
Alpha Persei	3 Hours, 23.7 Mins./+48° 41'	Yellow-white	+ 1.88
Eta Ursus Majoris	13 Hours, 45.0 Mins./+45° 34'	Blue	+ 1.81
Gamma Casseopeia ?	6 Hours, 34.3 Mins./+16° 27'	White	+ 1.83
Alpha Ursus Majoris	11 Hours, 38.7 Mins./+62° 1'	Orange	+ 1.85
Delta Denis Majoris ?	7 Hours, 6.4 Mins./-28° 10'	Yellow	+1.93
Beta Denic Majoris ?	6 Hours, 23.5 Mins./-17° 58'	Blue	+ 1.98
Zeta Orinis	5 Hours, 28.2 Mins./-1° 53'	Blue	+ 2.05
Beta A ?	51 Hours, 58.9 Mins./-44° 57'	White	+ 2.07
Ploaris (Pole Star)	1 Hour, 46.8 Mins./+23° 2'	Yellowish	+ 2.12
Alpha Ophinchii ?	17 Hours, 32.3 Mins./+12° 33'	White	+ 2.14
Delta Sagittarii	18 Hours, 52.2 Mins./-26° 22'	Blue	+ 2.14
Alpha Andromedae	8 Hours, 5.8 Mins./+26° 48'	White	+2.15
Alpha Hydrea	2 Hours, 29.1 Mins./-8° 23'	Orange	+2.16
Mizer ?	13 Hours, 21.8 Mins./+55° 11'	Green-white	+ 2.18

EXPLANATORY NOTE: Right Ascension on the Celestial Sphere is equivalent to Longitude on the Earth; Declination is equivalent to Latitude. A plus (+) sign before Declination indicates north of the Equator, a minus (-) sign means south of the Equator. In terms of magnitudes, minus numbers are indicators of increasing brightness as the numbers grow larger; plus numbers indicate a decrease in brightness as the numbers grow larger. The degree (°) symbol should be understood by everyone. The symbol for minutes of arc (') indicates fractions of a degree; each degree is composed of 60 minutes of arc. "mins." of course is a common abbreviation for "minute," in the case of Right Ascension, or Celestial Longitude, the minutes are minutes of time and not of arc.

These stars can be tested in several ways" a) by the use of well aligned setting circles on an equatorial mount, b) by the use of ????? (one type is illustrated on the ?? of this chapter – The Edmund Star Finder – which is highly recommended) and finally c) by the use of good star plotters such as the AccuStar also pictured in this chapter.

1. DATE - TIME GROUP 11 Jul 68 0300 local 1200Z	2. LOCATION EIELSON AFB, ALASKA <i>mult</i>
3. SOURCE military	10. CONCLUSION RADAR: Probable Anomalous propagation VISUAL: Probable Astronomical (MOON) <i>776</i>
4. NUMBER OF OBJECTS one	Comments: See reverse side of card
5. LENGTH OF OBSERVATION 25 mins	11. BRIEF SUMMARY AND ANALYSIS At 0300 local, several aircraft controllers sighted a large orange or yellow light in a clear area of sky south of the base. The light did not move much laterally (except slightly west) and gradually became dimmer until it disappeared to 0325 into the haze that had moved into the area. The Fairbanks RAPCON was contacted, by the tower personnel, and reported radar returns south of Eielson AFB.
6. TYPE OF OBSERVATION ground visual	
7. COURSE see case	
8. PHOTOS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
9. PHYSICAL EVIDENCE <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	

FORM
FTD SEP 63 0-329 (TDE) Previous editions of this form may be used.

REMARKS: The 744 ACU Squadron at Murphy Dome located 35 km west of Eielson AFB was requested to report any visual or radar sightings in area in question. No sightings were made. There were no known aircraft or balloons that could have been in the area. There was a good correlation between times of the radar sightings and visuals but radar sightings do not correlate well with visuals in reference to movement, quantity of objects involved and position of objects. This combined with the statement by the RAPCON console operator that he thought the paints were radar "ghosts" indicates that the radar paints were indeed due to anomalous propagation. At 0300 local the moon was at azimuth of 194 deg and elevation of 5 to 6 deg and was very nearly a full moon (full moon 10 Jul 68). At about 0325 local it was at approximately 201 deg az and at about 4 to 5 deg elevation. This combined with the statement that the object was seen in a bright patch of sky and that the sky gradually hazed over in the south would seem to indicate that the observers were looking at the moon.

Att 3-2

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The disorientation that pilots experience during night formation flight may result from what is called the autokinetic illusion. The autokinetic illusion is a visual phenomenon in which a stationary spot of light against a dark background appears to move erratically. It is known to have been experienced by pilots when they were observing formation lights on other aircraft (8). In fact, this illusion can disorient a trained pilot to the extent that he will spin in a link trainer (8). In a recent night formation flight accident a surviving pilot reported that he "saw" the other two aircraft in the formation peel-off to the left when, actually, they had not changed course (16). On the basis of this false information he maneuvered his aircraft so as to collide with the other two with a resultant loss of one pilot and three F-86D aircraft. The "peeling-off" of these two aircraft is typical of the nature of the autokinetic illusion.

Investigations of the autokinetic illusion reveal that the apparent movement is greatest and most frequent when small, (point-source), dim lights are being viewed; but it is still present in the case of large light sources (6, 7) and, although to a lesser degree, when viewing patterns of lights (8). Therefore, the use of more or larger area referenced lights in formation flight should cause a reduction in the autokinetic effect. It has been demonstrated that autokinetic movement was frequent and large when only one reference light was visible during formation flight, was much reduced when two reference lights were visible, and reduced even more when three reference lights were visible (8).

REFERENCE WADC TR 55-124

Att # 3-3

TDPT (UFO) 13 NOV 1968

UFO Observation, 24 October 1968

Special Security Office (SAC)

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2. No further investigation by the Foreign Technology Division is contemplated. For your information we are attaching a copy of the sequence of events, a resume of the sightings and a discussion of the background information.

FOR THE COMMANDER

/s/

HECTOR QUINTANILLA, Jr, Lt Colonel, USAF
Chief, Aerial Phenomena Branch
Aerospace Technologies Division
Production Directorate

3 Atch
1. Sequence of Events
2. Resume of Sightings
3. Discussion of Background
w/3 Atch

Cy to: USAF (SAFOICC)
862 Combat Support Group
Minot AFB, North Dakota

SEQUENCE OF EVENTS

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0230 A1C O'Conner sighted bright light (117)

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0335 B-52 on heading 290° asked to look for orange light 15 to 16 miles at 1
o'clock position (reply affirmative?) "A/C roger I see a . . . (garbled)"
(Transcript from tape)

0345 A1C O'Conner no longer sees light (117)

0352 B-52 in haze. Weathers radar places object at three miles at 1 o'clock.
B-52 cannot see. (Transcript of tape)

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Between
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0406:15 B-52 scope photos start (scope photo)

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0413 Controller tells 52 that missile site personnel advise
that they don't see anything any more.

0415 SSgt Smith last sighted light (117)

0417 A/C requests final to touchdown at 0440 (Transcript of tape)

0428 A/C on final for landing (Transcript of tape)

0435 Pilot turns on base leg for final landing and is observing unidentified orange light (Transcript of tape)

0500 SSgt Bond no longer sees light (117)

0518 A1C Adams no longer sees light (117)

A1C Jablonski no longer sees light (117)

RESUME

Airman Isley stated that he observed the object from 0030 to 0430, for 3½ to 4 hours. It was seen south of his position, first being seen in the east and disappearing in the southeast. The lights looked like the lights of a jet aircraft and it came within hearing distance twice. The sound was that of jet engines. During the period of observation it went out of sight a few times and then reappeared. At one time he sighted two objects. Also sighted B-52 on its first pass.

A1C O'Conner, who was with Airman Isley, stated that he saw the UFO from 0230 to 0345 hours. (No explanation for conflict in duration.) The light was seen moving in various directions in the southern skies. The object appeared as a self-luminous big ball of white light that seemed to change to a green light, then later to a dim amber color. Heard a noise similar to that of a jet aircraft. A B-52 in the area was asked to check out the sighting and was seen west of the object. The object did not appear again after the B-52 made its first pass (52 made pass at about 0335 hours).

A1C Jablonski, who was dispatched by SSgt Bond to November 1 with Airman Isley and A1C O'Conner, reported that he sighted the object for two hours off and on. The object was self luminous with glowing orange-red, white and greenish alternating and at times

ATCH #2

combinations could be seen. When first dispatched, sighted another object exactly that same as that which appeared out of the east and moved toward the other. A B-52 was diverted to the general area. First seen and heard about 35 minutes after first sighting of object. Object stayed basically to the southeast, while B-52 was in southwesterly position.

A1C Adams, who was dispatched with A1C Jablonski, also stated that he sighted the object for about two hours in the southern skies. The UFO seemed to assume a stationary position, first in a hovering position, then it would speed up. The reddish

orange light kept changing white and occasionally green. B-52 bomber heard approximately 45 minutes after seeing UFO. B-52 west and much higher than UFO.

SSgt Bond sighted to object in the southern skies for two hours twenty six minutes. The UFO appeared as a point of light. It appeared about the same as landing lights on the B-52 which was diverted to the area, except for the flashing red lights on the B-52.

SSgt Smith sighted the UFO from 0230 to 0415 hours. It was seen primarily on the south southwest off and on for 1 hour 15 minutes. The object appeared as though a star would appear on the horizon on a clear night. The phenomenon appeared to be a reddish burnt orange. SSgt Smith saw it fade and change as a star might twinkle.

2

He also noticed a slight hint of green. The object resembled the planet Mars, in color and size, as it rises on the horizon.

Major Partin, the pilot of the B-52, visually sighted an unidentified light from 0430 till 0435 hours local. It appeared as a bright orange ball of light about 15 miles away in the west-northwest, and was either on the ground or slightly above the ground. The light remained stationary as he flew toward it. He turned onto the base leg about one mile south of the light and was above it. The light did not move during this time.

No detailed information was submitted to this office relative to the sightings of A1C Bajgiar, A1C Vennedall, SSgt Wagla, A1C Allis, A1C Derr, SSgt Halko, A1C Jenkins and A1C Richardson. Nor was any information submitted with regards to the possible visual observation by aircraft at 0335 hours local, radar paint by weathers radar at 0352, or exact time when the B- 52 first entered the area of the sightings.

3

DISCUSSION OF BACKGROUND INFORMATION

Weather conditions were such that there was haze and scattered clouds in the area of the sighting. There was also a temperature inversion at the 2 – 5,000 ft altitude level. Stars could be seen and this was indicated in all the AF Forms 117 submitted to Wright-Patterson Air Force Base.

A.

1. Sirius was the brightest astronomical object in the skies during the period of the sightings. It has a stellar magnitude of -1.56 , has characteristic colors of blue-red- white-green, and would have been visible in the southeastern sky during most of the sightings. (See Atch #1)

2. The scintillation of Sirius would have been increased by the temperature inversion.

3. Common celestial objects when seen through haze are often misinterpreted. (See Atch #2)

4. Clouds passing in front of the star would have caused it to disappear and then reappear.

5. Stationary lights when seen against a black background can appear to move. This process is called autokinesis. (See Atch #3)

B.

1. Initial report indicated a simultaneous ground visual and air visual at about 0335 local. This was not substantiated by the pilot's form 117. The pilot indicated he sighted an unidentified light at about 0435 local.

2. The B-52 arrived in the area on a 50 nautical mile radius clearance and began various maneuvers including a vertical “S” pattern. This took place at almost the same time as the first sighting and the subsequent activities of the object were in fact the B-52 accomplishing upper airwork. Later sightings of bright lights and flashing green and white lights, accompanied a low jet engine sound, correlate with the B-52 making a VOR penetration, low approach, and missed approach. Portions of the maneuver are accomplished with the aircraft landing lights on. The haze layered cloud conditions could have diffused light sources and made identification difficult (ref TWX from Lt Col Werlich).

3. At 0435 local, the pilot of the B-52 sighted a bright in the west-northwest on or near the ground. At 0435 Vega was on the horizon at azimuth 345 degrees.

C.

1. Plasmas can effect electrical equipment and can also be painted on radar.
2. Plasmas, such as ball lightning, can occur in clear weather as well as stormy weather.
3. Plasmas, such as ball lightning, can be seen visually and appear as a fiery ball. The most common colors are red, orange, yellow, blue and white.
4. Aurora Borealis is quite often seen from Minot AFB at this time of the year and is an electrical atmospheric phenomenon.

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Aldebaran	164	60
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Vega	331	4

AT 0400HOURS LOCAL, 24 OCTOBER 1968

Mars	83	at horizon
Jupiter	82	just below horizon
Regulus	89	20
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Aldebaran	190	80
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Deneb	324	15
Vega	341	at horizon

PROJECT 10073 RECORD

1. DATE – TIME GROUP

11 Jul 68

0300 local 1200Z

2. LOCATION

Eielson AFB Alaska

3. SOURCE

Military

4. NUMBER OF OBJECTS

One

5. LENGTH OF OBSERVATION

25 Mins

6. TYPE OF OBSERVATION

ground-visual

7. COURSE

See Case

8. PHOTOS

No

9. PHYSICAL EVIDENCE

No

10. CONCLUSION

RADAR: Probable Anomalous propagation:

VISUAL: Probable Astronomical (MOON)

Comments: See reverse side of card

11. BRIEF SUMMARY AND ANALYSIS

At 0300 local, several aircraft controllers sighted a large orange or yellow light in a clear area of sky south of the base. The light did not move much laterally (except slightly west) and gradually became dimmer until it disappeared to 0325 into the haze that had moved into the area. The Fairbanks RAPCON was contacted, by the tower personnel, and reported radar returns south of Eielson AFB.

COMMENTS: The 744 ACQ Squadron at Murphy Dome located 35 km west of Eielson AFB was requested report any visual or radar sightings in area in question. No sightings made. There were no known aircraft or balloons that could have been in the area in

question. There was a good correlation between the times of the radar sightings and visuals but radar sightings do not correlate well with visuals in reference to movement, quantity of objects involved and position of objects. This combined with the statement by the RAPCON console operator that he thought the paints were radar "ghosts" indicated that the radar paints were indeed due to anomalous propagation. At 0300 local the moon was at azimuth of 194 deg and elevation of 5 to 6 deg and was very nearly a full moon (full moon 10 July 68). At about 0325 local it was at approximately 201 deg az and at about 4 to 5 deg elevation. This combined with the statement that the object was seen in a bright patch of sky and that the sky gradually hazed over in the south would seem to indicate that the observers were looking at the moon.

Atch 3-2

The disorientation that pilots experience during night formation flight may result from what is called the autokinetic illusion. The autokinetic illusion is a visual phenomenon in which a stationary spot of light against a dark background appears to move erratically. It is known to have been experienced by pilots when they were observing formation lights on other aircraft (8). In fact, this illusion can discomfort a trained pilot to the extent that he will spin in a link trainer (8). In a recent night formation flight accident a surviving pilot reported that he “saw” the other two aircraft in the formation peel-off to the left when actually, they had not changed course (16). On the basis of this false information he maneuvered his aircraft so as to collide with the other two with the resultant loss of one pilot and three F-86D aircraft. The “peeling-off” of those two aircraft is typical of the nature of the autokinetic illusion.

Investigations of the autokinetic illusion reveal that the apparent movement is greatest and most frequent when small (point-source), dim lights are being viewed but it is still present in the case of large light sources (6, 7) and, although to a lesser degree, when viewing patterns of lights (8). Therefore, the use of more or larger area reference lights in formation flight should cause a reduction in the autokinetic effect. It has been demonstrated that autokinetic movement was frequent and large when only one reference light was visible during formation flight, was much reduced when two reference lights were visible, and reduced even more when three [three?] reference lights were visible (8).

REFERENCE WADC TR 55-124