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This report is the first of a series of monthly status reports of Project Grudge. Each report will be written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered to be outstanding will also be summarized in the appendices of the report so that more details can be presented. The overall status of the project will also be presented.


## I. Overall Status

Nuch of the work done on Project Grudge has been devoted to the reorganization of the project as given in the Project Initiation Form A-3, dated 22 October 1951.

The old Project Grudge and Project Sign files have been reviewed and sorted. Gross-indexing and tabulation of the old files has been slow due to a lack of clerical help, but it is hoped that this situation will be alleviated in the near future. It is contemplated that all of the sightings of unconventional flying objects will soon be cross-indexed according to size, color, location, etc., so that as much statistical data as possible will be available. It is believed that it may be possible to determine several general characteristics of the sightings from the mass of data that is on file at ATIG.

Contacts have been established with all agencies that may be able to assist in Project Grudge such as Air Weather Service, Flight Service, high altitude bailoon projects, O.S.I., etc. There is still some doubt as to the channels that should be used in contacting some agencies but these will be clarified in the near future.

Two major difficulties have arisen and they are (1) the time element. and (2) obtaining transportation. In regard to the time element, it has been found that in many instances one or two months will elapse before ATIC receives word on an incident. It is very possible that many incidents are never reported. As far as can be determined, this is due to two main reasons:
a. Letters pertaining to the procedures and responsibilities in reporting incidents eredated September 1950. Since that time there has been an influx of new and reailled officers and changes in personnel; consequently, a great number of people are not aware of the requirements of Project Grudge. Incidents that are several months old are finally received at ATIC after having forwarded through several comands.
b. It is believed that the general feeling in some instances is that the Air Force is not too interested in this project and reporting such incidents is unimportant. It is the opinion of ATIC that regardiess of personal beliefs as to the origin of the objects, the task of determining, if possible, what these objeots are has been assigned, and should be carried out.

It is belleved that the revision and re-cirortation of the AF letter pertaining to Project Grudge will alleviate the problem of delay in receiving reports. The Collection Division, Directorate of Intelligence, was requested to revise and re-circulate this letter on 25 October 1951.

If, after the above mentioned letter is circulated, the situation does not improve, it may be advisable to circulate another memorandum explaining why the Air Force is interested in this problem and how reports are to be made.

The second major difficulty encountered has been transportation in the locality of the incidents. On many occasions, the interrogation of one source will lead to other sources. All of these "leads" must be followed to get a complete picture. This necessitates a great deal of travel within a city or even over part of a state. At times government transportation is available but at other times the incidents are not close to military establishments or if they are, all transportation may be in use. Since it is the policy not to reimburse travelers for such taxi fares; this has imposed a great financial burden on the investigator. In regard to the same subject, the time element again enters since there is usually only a limited amount of time that can be spent on an investigation and all the time spent attempting to get transportation or finding the correct bus routes is lost.

Steps have been taken to overcome this second major diffioulty by requesting that Headquarters USAF send a wire to the military installation to which a visit will be made requesting that the Commanding Officer give full cooperation to Project Grudge personnel.

Another problem that has not been fully investigated is whether or not wide spread pablicity to the project should be given in an attempt to obtain a more complete coverage of incidents. It is believed that more reports would be obtained but the publicity would also produce a mass of "crank" letters that would increase the workload a considerable amount. It has been tentatively decided that the best course of action is to wait and see what improvements are brought about by the revised ar letters being re-circulated by the Collection Division of $D / I$.
II. Reports of Specific Ingidents

The inclosed list is a sumary of all incidents that have been rea ported or were being investigated during the period 22 October 1951 to 30 November 1951. Several of the incidents are considered too detailed to summarize in the list so they are carried over and summarized in the appendices.

In the future, the list will consist of two parts: (1) incidents reported during the period covered by the report, and (2) incidents from the past period that are still in the process of being investipated or incidents that are pending during the previous month and are now closed.

Due to the huge task of investigating all reported incidents, it will be the policy of Project Grudge to concentrate on those incidents that appear to have originated from high grade sources, such as pilots, technically trained people, ete. The only exception to this will be where a number of sightings occur in a certain area at about the same time. All reports, however, will be incorporated in the file for statistical purposes.

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In the evaluation of reported radar sightings, the Electronios Section of AIIC has been consulted. The majority of the radar sightings are very difficult to evaluate due to the possibility of phenomena caused by weather or in the electronic circuits of the set. About all that can be concluded on these sightings is the weather was or was not conducive to promoting phenomena known to be caused by certain weather conditions.

In certain instances special detailed reports will be written on the conclusions of the investigations of sightings. These will be in compliance with requests from higher headquarters for such reports. The conclusions of all other incidents will be concluded in the statas report.





The first of a series of sightings related to this incident occurred the evening of 25 August 1951 at approximately 2110 CST. Four Texas Technical College professors were sitting in the baokyard of one of the professor's homes observing meteorites in conjunction with a study of micrometeorites being carried out by the college. At 2110 they observed a group of lights pass overhead from $N$ to $S$. The lights had about the same intensity as a bright star but were larger in area. The altitude was not determined but they traveled at a high rate of speed. The pattern of the lights was almost a perfect semicircle containing from 20 to 30 individual lights. Later in the evening $a$ similar incident was observed and during a period of about three weeks a total of approsimately twelve (12) such flights were observed by these men.

The group of men included:
a. The Head of the Petroleum Engineering Department
b. Professor of Geology, has Ph.D.
c. Professor of Physics, has Ph.D.
d. Profeasor of Chemical Engineering; has Ph.D.

Besides the above four men the following have observed the incidents:
a. Professor of Mathematics, has Ph.D.
b. Graduate student working on Ph. D.

In addition, a Professor of Astronomy was consulted on the incident, but he did not observe any of these flights.

The above mentioned men took a personal interest in the phenomena and undertook a study of the objects. Attempts were made to obtain an altitude measurement by laying out a measured base line perpendioular to the usual flight path of the object and placing angle measuring devices at the ond of the base line, however, all their attempts failed because the objects did not appear on the nights the observers were waiting for them.

From the series of observations, the following facts were obtained:
a. The angular velocity of the object was very nearly 300 of arc per second.
b. There was no sound that could be attributed to the object.
c. The flight path of the object was from $N$ to $S$ in the majority of the flights.
d. There were two or three flights per evening.
e. The period between flights was about one hour and 10 minutes.

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f. The eolor of the lights was biumwhtar:
g. There were from 20 to 30 separate lights in each formation.
h. The first two flights observed were a semi-circle of lights but in subsequent flights there was no orderly arrancement.

1. The object always appeared at an angle of about $50^{\circ}$ from horizontal in the north and disappeared at about $60^{\circ}$ in the south. The object. did not gradually come into view as would an aircraft approaching from a distance, neither did it gradually disappear.
j. There was no apparent change in size as the object passed overhead.

Attempts were made to obtain the relative height of the object in respect to clouds. However, these attempts were also unsucceseful due to the fact that the objects passed between widely scattered clouds.

Efforts to determine whether or not there was any form between the lights by trying to see stars between the ilghts were made. This also was unsuccessful due to the short time the object was in view.

This phenomena was observed by at least one hundred people in and around Lubbock, Texas. Some of these people were of the opinion that the objects were birds.

On the evening of 31 August 195m, at about 2330 CST, a college freshman from Texas Tech observed three flights of the object and allegediy obtained five photographs. He obtained two photos of one flight and three of another. These photos show single rows of light in V-formation on two photos and a double row on the others. His description of the object is much the same as that of the college professors, except that the college professors never observed a perfect V-formation.
(See Appendix II and V for possibly related incidents.)

## Status of the Investigation

Project Grudge personfel made a trip to Lubbock, Texas, on 6-9 November 1951 to obtain more details on the incident. Many sources who had seen the object or who were involved in the sighting were interrocated. A conference was held with the college professors and they offered to write a datailed account of their observations and forward it to ATIC. This report should be forthcoming.

The photographer who claims to have photographed the object was interro gated. Every effort was made to find a flaw in the photographer's account of the incident but the results were negative. The college professors did not believe the photographs were authentio as they had never observed a $V$-shaped group of lights. They were not sure, however, whether or not they had observed the same objects that were photographed. Since the interrogation, two

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discrepencies in the photos have beenfound and the photographer is being reinterrogated by the O.S.I.

One school of thought of the people in the Lubbock area is that the objects were some type of migratory birds reflecting light from the city. Several people reported that they definitely knew the objects were ducks because they could see wings flapping. It is very possible that some of the people who were looking for the object did see ducks as there were duck flights pasaing over during the period. It is significant that those people who saw ducks were definitely able to identify the objects as ducks, or some type of bird, because they could see the wings or heard them make a noise, however, other people were just as determined that they were not birds. The possible conclusion is that some people did see birds, but others saw some other objects.

The college professors do not believe the theory that the objects were birds, but they are giving the possibility mone thought. If they were birds, they would have to be relatively low to give the illusion of high speed. An occasional flight of birds might pass low over a city on a clear night but it is highly doubtful if they would continue to do this for several nights. Migratory birds usually try to keep away from cities.

The Federal Hild Life Game Werden was visited and although he was not familiar with the incident he doubted if the objects were birds. He stated that they could have been, however. The most likely suspect, if it is a bird, is a momber of the plover family which has a pure white breast, but unless there was a sudden influa of the birds into the lubbock area, the game warden doubted if there would be enough of these birds to make up as many flights as were observed.

If the photos are authentic, the objects very probably are not ducks because an experienced photographer from the Lubbock Avalanche Newspaper attempted to get photos of ducks using both natural Iight and flash, but failed.

The investigation of this incident is continuing. It is probably the most unique incident in the history of Project Grudge in that it was observed so many times by acientifically trained group of observers. These people are continuing to attempt to arrive at a solution for the phenomena. They hed previously lost interest after several weeks of observations because they believed that the object was some new Air Force aircraft or missile.

The photographs are now at the Photographic Reconnaissance Laboratory at Wright Air Development Center for analysis.

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ALBUQUERGUE, MEN MEXICO -25 August 1951

On the evening of 25 August 1951, at 2158 MST , a Sandia Base Security Guard and his wife observed what they described to be a flying wing type aircraft similar to the Northrop Fly Wing Bomber (B-49) pass over the backyard of their trailer home in the east part of Albuquerque. They judged the wing span of the airoraft to be about one and one half times the wing span of a B-36, with which they were familiar. The object was flying low, the altitude was thought to be about 800 ft . -1000 ft ., and there was no sound that could bettributed to the object. The color of the object was not apparent due to the twilight but dark chordwise stripes mere noticed under the wings. Six to eight pairs of soft glowing lights were noticed on the trailing edge of the wing. The speed was judged to be about $300-400 \mathrm{mph}$ and the object was on a heading of approximately $160^{\circ}$.
(See Appendix I for possible related incident.)

## Weather

Broken clouds at $17,000 \mathrm{ft}$, , isibility five miles, wind S at 5 mph .

## Status of Investigation

The possibility of this being a known airoraft was checked with negative results. The AC and W Radar Station at Kirtland AFB did not observie any unusual or unidentified aircraft.

The guard's background was checked and since he has a "Q" clearance, it has been assumed thet he is mentelly stable.

The photos taken of the V-shaped object at Lubbock, Texas, (see Appendix I) were sent to Albuquerque. They were shown to the sources by the O.S.I. and sources statad that arrangement of lights on the object they saw was similar to the photo. They sketched in the wing as they saw it.

An investigation was made to determine whether or not any one else had seen the object but only negative results were obtained.

Further evaluation of this incident depends on the outcome of attempts to establish the authenticity of the Lubbock photos.

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IARSON AFB, WASHINGTON - 26 ALMget 1951

On 26 August 1951 at 0836 PST, an unidentified flying object was detected by an AN/OPS-4 and AN/CPS-1 radar sets. The object was tracked continuously for a period of six minutes and made a timed ground speed of 950 mph . The object was on a course of $340^{\circ}$ with only slight deviations enroute. An altitude reading of 13,000 feet was obtained but the accuracy of the measurement is questionable due to brief length of time the object was detected.

The F-86 aircraft were scrambled but radar contact with the object was lost before the aircraft were airborne. A visual search was conducted from 17,000 to 25,000 feet with negative results.

The operator of the radar set, an Air Force Captain, is considered to be an expert operator.

Weather
Weather conditions at the time of sighting were not favorable for ano malous microware propogation.

Status of Investigation
Review of this incident by the Electronics Section of ATIC concludes that the return was possibly due to interference. This was concluded because of the apparent path of the object, directiy approaching the station, and the fact that the target was observed on only the low beam of the AN/CPS -1 radar set.

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The only information available on this incident is a newspaper article from "Vandalia Leader" of 30 August 1951.
"It wasn't a flying saucer ! Nor was it a conventional' type airplane: But whatever it was, it has aroused the curiosity of at least five persons who saw it soaring through the air Monday gight.
"It was a big orange light with blinding intensity when I first noticed it over the southwest corner of the airport,' Ray Williams told the Leader. I had just taxied out onto the runwey preparing to take a flight around the city when-I noticed the 1ight. It was between 8 and $8: 30 \mathrm{p} . \mathrm{m}$. I called over the radio to the CAA offlcial on duty Albert Draoklec; and to Paul Reese and asked them to take a look.'
"TThe lighted object disappeared into the west and we decided maybe there was nothing to. it. So I decided to continue with fy flight plans, ' Williams stated.'


#### Abstract

H1 Shortly after I had taken off I noticed the light agein, approaching my plane. It came directly at me and then circled my plane twice before heading toward Greenville. I follofed it and it made a circle round that town and came back toward Vandalia. I last saw it near the country club. The CAA radioed a transport pilot who was passing over Vandalia at the time at about 20,000 feet and he too saw the object!


n'It was all very spooky,' the Vandalia airman said. 'It wasn't an airplane but whatever it was the light was on the tail of it, and there was a small red light on top. Probably it was some military craft from Scott ${ }^{*}$ Field making a test run.'
"The lighted object which appeared to have a 10 to 12 inch lens, was also seen by Duight Kerns in St. Elmo the same evening, $u$

## Status of Investigation

An attempt will be made to obtain further information on this incident.


KATADOR TEXAS - 31 August 1951

On 31 lugust 1951 at approximately 1245 CST two ladies were driving in an antomobile several miles north of Matador, Texas. The object was described as a pear-shaped object, aluminum or silver in color, which readily reflected the sunlight. The object had a port or some type of aperture in the side. It moved through the air with the small end forward. They judged the size to be about that of a B-29 fuselage. There was no sign of any exhaust and no noise was heard.

As the two ladies were driving north from Matador, Texas, the driver of the automobile first noticed the object about 150 yards ahead of the automobile. They stopped and both ladies got out to observe the object. It was drifting slowly in an eastward direction at a speed they judged to be "less than the speed required to take off in a cub aircraft" and an altitude of about 120 ft . Seconds later the object began to ascent rapicly and in a few seconds it moved out of sight to the east in a circular ascent. (The wind at this time was from the NE at about $5-7$ knots.)

A background imvestigation showed that both women were of excellent charactor.

This incident is of interest because it was observed during the same period as the objects over Lubbock, Texas, (see Appendix I).

## Weather

a. 1230 CST - Reese AFB - 31 August 1951 Estimated ceiling 6,000 ft., broken clouds, with thin scattered clouds at $25,000 \mathrm{ft}$. Visibility 15 miles. Kind ENE at 3 knots.
b. 1230 CST - Childress, Texas - 31 August 1951 Estimated ceiling $25,000 \mathrm{ft}$., overcast. Viaibility 15 miles. Wind NHE at 7 knots. Towering cumulus clouds in SE quadrant.

## Status of Investigation

It has been reported that a road repalr crew saw the same object later on the same day. Attempts will be made to contact members of this road crew and obtain their statements. There were also reports of crop dusting activity in the area, so attempts will be made to determine whether or not the ladiea could have seen this activity.

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FORT MOMMOUTH. NEN JERSEY - 10-11 September 1251

On 10 and 11 September 1951, a series of incidents occurred in the area of Fort Monmouth, N. J. An initial sighting of an unidentified object was made on a radar set. Soon after the radar sighting, two Afr Force officers in a T-33 aircraft unsuccessfully attempted to intercept an unidentified object. Later several more radar sightings were reported.

## Status of Investigation

A complete investigation of this incident was carried out and will be reported in Project Grudge Special Report No. 1. It has been tentatively determined that the $T_{-} 33$ pilots probably observed a balloon that had been launched a few minutes ptior to their arrival in the area. Two of the radar sightings were returns from belloons and the others were probably due to weather phenomena and excitement of the student operators due to previous sightings. Only one radar return cannot be explained. The operator who observed this incident essumed the object was traveling over 700 mph because the radar set's automatic tracking rould not follow the target. It is possible that the inability to track the object was due to his inability to properiy operate the set under mental stress.

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## MARCH AFB - 23 September 1951

On 23 Seotember 1951 at 0810 PST, an unidentified object was sighted over Lone Beach, California. Four F-86 aircraft were scranbled and the object was sighted by them over fouroc, California. On attaining an altitude of 43,000 ft. the $F-86$ 's reported the object to be orbitting March AFB at an estimated altitude of between $50,000 \mathrm{ft}$. and $55,000 \mathrm{ft}$. The object appeared to be a swept wing, fighter type aircraft.

## Weather

Unavailable at this time.

## Status of Investigation

Radiosonde balloons were released from-San Diego, Long Beach and Santa Maria, Callfornia at approximately 0700 PST. All of these weather atations were checked by OSI personnel and although the balloons were released all weather station persomel atated that it would be very doubtful if their balloons would have traveled the course that the object traveled.

All of the major aircraft factories and installations conducting experimental flight tests were contacted. No experimental aircraft airborne at the time of the sighting.

Additional information has been requested as to additional details of the incident such as times and locations during the attempted interception by the F-86's and other possible balloon lamohings.

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Appendix-VIII<br>TERRE HAUTE, INDIAMA - 2 Octobor 1951

On 9 October 1951 at 1342 CST, a CAA Chief Aircraft Commenicator observed a silver object pass directly overhead while he was at fulman Municipal Airport, five miles east of Terre Haute, Indiana. The object was judged to be approximately the same size as a 50 cent piece held at arm's length. The object passed overhead at a very high rate of speed going in a southeasterly direction, passing from directly overhead to the horizon in about 15 seconds. There was no sound or vapor trails. The shape and general form of the object could be seen as the object passed over the horizon and out of sight.
(For related incident, see Appendix IX.)

## Weather

Clear, bright sun, no clouds or haze.

## Stetus of Investifection

Further details on the incident will be obtained but it is doubtful if any further information will indicate the possible identity of the object.

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## PARIS. ILITNOIS - 2 Oetober 1957

On 9 October 1951, at approximately 1345 CST, a private pilot en route from Greencastle, Indiana, to Paris, Illinois, sighted a silver object just east of Paris, Illinois, at $5,000 \mathrm{ft}$. altitude. The object appeared to be stationary in as mach as it did not increass or diminish in size with the approach of the aircraft. The object then started to travel in a northeasterly direction south of the Newport, Indiana, Atonic Energy Plant.
(See Appendix VIII for related incident.)

## Weather

Clear, bright sun, no clouds or haze.

## Statns of Investigation

More deteils of the incident will be obtained. Weather balloons are leanchgd from Chanute AFB which is approximately 45 miles of the location of the incident. It is very doubtful if this object was a balloon as the balloon would have risen to a much higher altitude if it had drifted SE from Chanute AFB.

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The onily information available on this incident is a letter quoted below.
MIIE: 0630, 11 Oct 51. Dick Reilly and I were flying at $10,000 \mathrm{ft}$. observing the grab bag balloon when I saw a brightly glowing object to the S.F. of U. of M. Airport. At that time we were a few miles north of Minneam polis and heading east. I pointed it out to Lick and we both made the following observation:
"The object was moving from east to west at a hich rate and very high. We tried keeping the ship on a constant course and using reinforcing member of the windshield as a point. The object moved past this member at about 50 degrees per second.
"This object was peculiar in that it had what can be described as a halo around it with a darix undereurface. It crossed rapidly and then slowed down and startad to climb in lazy circles slowly. The pattern it made was like a falling oak leaf inverted. It went through these gyrations for a coupld mimates and then with a very rapid acceleration disappeared to the east. This object, Dick and I watched for approximately five mimutes.
"I don't know how to describe its size, because at the time $I$ didn't have the balloon in sight for a comparison.
"Shortiy after this we saw another one, but this one didn't hang around. It approached from the west and disappeared to the east, neither one leaving any trace of vapor trail.

When I saw the second one I called our tracing station at the U. of M. Airport and the observers there on the theodolite managed to get glimpses of a mumber of them, but couldn't keep the theodolite going fast enoưgh to keep them in the rield of their instruments. Botin Doug Smith and Dick Dorian oaught glimpses of these objects in the theodolite after I notified ther of their presence by radio."

## Status of Inveatigation

Further details of the incident have been requested. The sources have been investigated and are known to be experienced high altitude balloon ob servers with General Mills balloon projects.

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## SPECIAL REPORT NO. I

PROJEGT GRUDGE

28 December 1951

# AIR TEGINICAL INTELLIGENGE CENTTR WRIGHT-PATTERSON ALK FORCE BASE DAYTON, OHIO 

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This is a special report on the znvestication of the sighting of an unidentified aerial object. Special reports such as this will be made on outstanding incidents and in incidents where such a report is requested by higher authority.

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$\sqrt{4}$ FORT MONHOUTE, TEX JERSEY, IHCIDENTS

On 10 and 11 September 1951, a series of both visual and radar sightiners were reported from the Fort Nonmouth, New Jersey, area.

## I. VISUAL SIGHTITG EY FILOT AND PASSEMGER OF T- 33 AIRGRAFT

## A. Discussion

At approximately 1135 EDST an unidentified object was sighted by the pilot of a T-33 aircraft, an Air Force Lieutenant, enroute to litchell Air Force Base, Hew York, from Dover Air Force Base, Delaware. The object appeared to be over Sandy Hook, New Jersey, between 5000 ft . and 8000 ft . at 11 o'clock from the aircraft heading. The T- 33 was approxirately over point Pleasant, New Jersey, at the tine of the initial sighting. Upon secing the object, the oilot started descending at $360^{\circ}$ turn to the left in on attempt to intercept and identify the oioject. Approximately 45 seconds after the pilot first sichted the object, the passenger, an Air Force liajor, who had been raking a radio check, sighted the object. The object was then near Freehold, New jersey, making a $120^{\circ}$ turn toward the coast. The pilot continued his $360^{\circ}$ turn but the object was lost as it crossed the coast. During the descending turn the speed of the $\mathrm{I}-33$ increased from 450 to 550 mph and the altitucie decreased from $20,000 \mathrm{ft}$. to $17,000 \mathrm{ft}$. (See inclosed overlay.)

When first sighted, the object appeared to be descending over Sandy Hook, New Jersey. It then leveled out and naintained a constant altitude. The object was round and silver in color but did not reflect the sunlicht. At one tine during the attemoted intercept, it appeared flat. The size was judged to be 30 ft . to 50 ft . in diameter.

At approximately 1112 EOST, 10 September 1951, two belloons were released from the ivans Signal Laboratory, New Jersey, located at $40^{\circ} 10^{\prime} \mathrm{W}$ and $74^{\circ} 04^{\prime} \mathrm{E}$. (See inclosed overlay.) These balloons are 7 ft . $-8 \mathrm{f}^{\prime} \mathrm{t}$, in diameter at time of release and expand on ascending. They ascend at an average of 800 fpm and are painted silver for radar trackinf. Bxyerienced balloon observers state that when viewed from certain ancles they appear to be discshaped. At 1335 EDST these balloons would heve been at approximately 18,000 ft., and would have moved to a position nearly in line with foint Pleasant, New Jersey, and Sandy Hook. (Find SSI at 10-15 knots.)

Attempts were made to use the information obtained from the interrogation of the T- 33 crev and the data on the balloon launching to prove that the pilot and passenger of the T-33 had observed a balloon. However, not all of the data given was consistent with such a conclusion.

In an attempt to establish the fact that the object was a balloon, a flight path similar to the one given by the T-33 crew was assumed. (See "Assumed Path of T-33" in inclosure.) The T-33 crew was interrosated twice and gave different flight paths and tracts of the object at each one. It is therefore assumed that due to the altitude and soeed of the $\mathrm{T}-33$, and the fact

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that crew was intent on watohine the object they could not pin point their ground track any closer than 5 nautical miles and thus it would be feasible to assume a flifht path within 5 nantical miles of the given track. Since the two interrogations as to location of the ground tracks differed to some extent, the track marked on a chart included with signed statement is assumed to be most nearly correct.

Referring to the assumed flight path on the inclosed overlay, at A, the object appeared to be over Sandy Hook. It will be noted that a comparatively snall object closer to the a/c would appear to be large if assumed to be over Sandy Hook. (See Figure 1.)


As the T-33 approached the balloon, the balloon apneared to be traveling at a high rate of speed. Several seconds must have passed after the initial sighting while the pilot decided that the object was not a conventional a/c and that he should attempt to identify it. juring this period, it is assumed that the $\mathrm{a} / \mathrm{c}$ continued on course making the object appear to be flying straight and level on a reciprocal heading. The fact that the object appeared to be descending when first sighted cannot be explained. The fact that only one of the two balloons was seen can be explained by the fact that the observers concentrated on one bolloon and did not notice the other one.

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Forty-five soconds after the initial sighting, the passenger noted the object to be tarning left noarifroehold, New Jersey. This oan be explained by the fact that the T-33 was turning and the relative notion caused the balloon to appear to be turninf. As the T-33 continued inland, the line of sight chanced until the balloon was silhouetted arainst the sea or sky and beinc silver blended into the background and was lost. This 'disappearance" of balloons is a common occurence with pilots trackine research balloons.

It is apparent from the above that several assumptions had to be made in order to show that the object was one of the balloons released at Evans Signal Laboratory, but the fact there was a balloon in the near vicinity and the fact that the pilot and observer were not sure of their exact track adds a great deal of credence to the assumptions. However, since assurntions were made, it cannot be concluded that the object was definitely a balloon.

## II. RADAR SIGITITGS EROM FORT YON:OUTH, NE: JEXSEY

## A. Discussion

All of the radar sightings during this period were made by students at the Fort Monnouth training center. In addition to this, the students involved were taking a maintenance course. The instructor would put certain mechanical or electronic difficulty in the set and let the student find and remedy trouble. If the student becane nroficient in this phase, he was allowed to onerate the set much the sane as in tactical operations. No plotting records, loge or data of any type were kept. It should be stressed that these studente were maintenance students, not operators.

1. On 10 September 1951 an AF/KPG-1 radar set nicled up a fast noving, low-flyine target (eract altitude undeterained) at approxinately 1110 hours southeast of Fort fommouth at a rance of about 12,000 yards. The target appeared to approximately follow the coast-line changinc its range only slightly but changing its azimuth rapidly. The radar set was switched to fullalded azinuth tracicing which nomally is fast enouri to track jet aircraft, but in this case was too slow to be rosorted to. The target was lost in the northeast at a range of about 14,000 yards.

Upon interrogation, it was found thet the operator, who had more experience than tho average student, was giving a denonstration for a rroup of visitint officers. He assumed that he was picking up a high-speed aircraft because of his inability to use full-aided azimuth trackinf which will normally track an aircraft at speeds up to 700 mph. Since he could not track the target he assumed its speed to be about 700 mph. However, he aiso made the statement that he tracked the object off and on from 1115 to 1118 , or three minutes. Using this time and the eround track, the speed is only about 400 mph.

No definite conclusions can be given due to the lack of accurate data. but it is hichly probable that due to the fact that the operator was giving a demonstration to a group of officers, and that he thought he picked up a very umanal radar return, he was in an excited state, accountine for his inability to use full-aided automatic tracking. He admitted he was "highly flustrated" in not being able to keep up with the target using the aided tracking. The weather on 10 Soptember was not favorable for anomalous propagation.

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2. On 10 September 1951,1515 hours, an SCR 594 ; seriadunmber 433,
 a range of about 32,000 yards at the extrenely unusual elevation angle of 1350 * mils, (altitude approximatoly $93,000 \mathrm{ft}$.). This was proven to be a weather balloon. It was trecked at the request of the Comanding Officer of the Student Attachment to determine the altitude in order to establish who won a pool conceming whet the altitude of a balloon which was sighted night be.
3. On 11 September 1951, IO 50 hours, two SCR 584 's, serial number 217 and 315, picked up the same target northeast of Fort Nonnouth at an elevation angle of 350 to 300 mils at a range of apmoximately 30,000 yards (approxinate altitude 31,000 feet). The sets track automatically in aaimuth and elevation and with aided range tracking are capable of tracking targets up to a spoed of 700 mph . In this case, however, both sets found it impossible to track the target in range due to its speed and the operators had to resort to manual rance tracking in order to hold the target. The target was tracked in this manner to the mextmum tracking range of 32,000 yards. The operators judged the target to be moving at a speed several hundred miles per hour higher than the maximum aided tracking ability of the radar sets. This target provided an extremely strong return echo at tines oven though it was at maximum range, however, the echo signal occasionally fell off to a level below normal return. These changes coincided with manouvers of the target.

This sighting proved to be a weather balloon. How it was deternained is unknown but ATIC was informed that it was a balloon by ArOINTC telecon IT-252, dated 5 October 1951, GSAF Iten til2, which stated: "Radar sighting was later identified as weather balloon. Target track was vertical. Later exploded and descended to ground."
4. On 11 September 1951, at about 1330, a target was picked up on an SCR-584 radar set, serial number 315, that displayed unisual naneuverability. The target was approximately over Navesink, New Jersey, as indicated by its 10,000 yard range, 6,000 feet altitude and due north azimuth. The target remained practically stationary on the scope and appeared to be hoverinc. The operators looked oiut of the van in an attempt to see the target since it was at such a short range, however, overcast conditions prevented such observation. Returning to their operating positions the target was observed to be chaneing its elevation at an extreaely rapid rate, the change in range was so small the operators believed the target must have risen nearly vertically.- The target ceased its rise in elevation at an elevation angle of approximately 1,500 nils at which tine it proceeded to move at an extrenely rapid rate in range in a southerly direction ance again the speed of the target exceeding the aided tracking ability of the $S C R-584$ so that namual tracking became necessary. The radar tracked the target to the naximum range of 3 , 000 yards at which tine the target was at an elevation anile of 300 mils. The operators did not attempt to judge the speed in excess of the aided tracicing rate of 700 mph .

It is highly probable that this is an exaraple of anonalous propagation as the weather on 11 Soptember was favorable for this type of phenomenon. The students stated that they were aware of this phenomenon, however, it is highly probable that due to the previous sightings of what they thought were unusual types of aircraft, they were in the correct psychological condition to see more such objects.

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## III. GONCLUSIONS

A. The unidentified aircraft re,orteo Dy the ASSIFIED 33 pilots was probably a balloon launched by the Erans Sienal Laboratory a few minutes before the T- 33 arrived in the area.
B. The 1110 ELST radar sighting on 10 September 1951 was not necessarily a very high-speed aircraft. Its speed was judged only by the operetor's inability to use aided tracking and this was possibly due to the operator being excited, and not the high speed of the aircraft.
C. The 1515 EDST radar sighting on 10 September 1951 was a weather balloon.
D. The 1050 ELST radar sighting on 11 September 1951 was a weather balloon.
E. The 1330 HSST rader sighting on 11 September 1951 remains unknow but it was very posaible that it was due to anomalous propagation and/or the student radar operators' thoughts that there was a great deal of activity of unusual objects in the area.

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## AIR TECHNICAL INTELLIGENCE STUDY



AUTH: ROEERT J. FRiEND, MAJOR USAF
By Rebut (A)wierl ngáa
signature and arete
Date $\qquad$
STATUS REPORT NO, 2

## PROJECT GRUDGE

## 31 DECEMBER 1951

PROJECT NO. 10073

Classification cancelled
or changed -to $\qquad$
AUTH: ROBERT J. FRIEND, MAUL, $\mu S A F$
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Published By

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\text { AIR TECHNICAL INTELLIGENCE CENTER } \\
\text { WRIGHT-PATTERSON AIR FORCE BASE } \\
\text { DAYTON, OHIO }
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This report is the second of a series of monthly status reports of Project Grudge. Each report will be written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered to be outstanding will be summarized in the appendices of the report so that more detalls can be presented. The overall status of the project will also be presented.

Additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attention: ATIAN-2c, Wrieht-Patterson Air Force Base, Dayton, Ohio.

## UNCLASSIFIED

A. Files

The majority of the time devoted to Project Grudge during the period covered in this Status Report, 30 November 1951 to 31 Lecember 1951, has been spent in sorting and filing old Project Grudge and Project Sign files. All of the incidents dating back to 1946 that are in ATIC have been sorted and filed. There are approximately 800 on file. Each incident has been put in a separate folder and filed in chronological order.

Summary cards are being made on each incident. These summary cards will include data such as description of the object, course, altitude, speed, maneuvers, etc. These cards will then be crossmindexed in an attempt to obtain characteristics or trends in the sightings. It is contemplated that this crossindexing will be completed by the middle of February.

## B. Missing Reports and Photographs

It is apparent that the-details of some of the reports between early 1949 and mid-1951 are missing. An attempt will be made to obtain these reports from other agencies so that the ATIC file will be complete. Photographs referred to in some reports are also missing. Although there have not been very many photographs of alleged unusual aerial objects submitted to ArIC, there have been a few and an attempt will be made to obtain prints of these photographs.

## C. Map for Plotting Sightings

A large map of the United States is being prepared and is nearly completed. All of the sightings will be plotted on this mep in an attempt to establish some patterm in the sightings. A color code will be worked out so that as much information as possible can be graphically_illustrated on the map.

## D. Delays in Obtaining Information

It will be noted in the list of incidents that is contained in this report that the investigations of sightings reported several months ago are still pending or that some sightings have not been investigated due to the time that has elapsed since the sighting. The investigations being conducted in conjunction with the project are still being hampered by the delays in receiving infornation.

On 25 October 1951, it was requested that AFOIN-CC-1 letter dated 8 September 1950 subject: "Reporting of Information on Unconventional Aircraft" be revised and recirculated to all AF commends. It is hoped that as soon as this is done the situation will improve.



In addition to delays in receiving additional information, it is believed that many sightings of unidentified objects are not being reported at all. This bellef is founded on the fact that ATIC has received newspaper cliopings or requests for information on sightings about which there is no information in the records.

## E. Consultants

Several conferences have been held with members of a prominent research organization to determine whether or not there is enough information available on the unidentified aerial objects to warrant a thorough scientific investigation. These people have inspected the files, discussed the problem, and it is their opinion that there are enough reports that cannot be explained by known objects or phenomena to warrant a detailed investigation.

Several other prominent engineers and scientists have been contacted and their opinions are much the same as those stated above.

Negotiations are underway to obtain the services of consultants in the fields of physics, nuclear physics, astronomy, psychology, etc., to assist in the analysis of the reports. These consultants will also attempt to make a continuing statistical analysis of the reports in an attemot to determine whether or not there is any significant pattern or characteristics in the sightings. In this respect, it is hoped thet the project can receive the full cooperation of all AF commands in promptly reporting all sightings of unidentified aerial objects, so that as many authentic reports as possible will be available for study by statistical analysis.
II. REPORTS OF SPECIFIC INCIDENTS
A. Inclosed Sumary List of Incidents

The inclosed list is (1) a summary of all incidents reported during the period of 30 November 1951 to 31 December 1951; (2) those incidents that were reported in Status Report.No. 1, dated 30 November 1951, and still have the conclusions pending; and (3) those incidents that have been closed during the month covered by the report.

Incidents which are considered too detailed to sumarize in the list of sightings are again given in the appendices, and in greater detail.

SIGHTINGS OF UNIDENTIFIED OBJECTS

| DATE | $\begin{gathered} \text { TIME } \\ (\text { Local }) \end{gathered}$ | LOCATION | DESCRIPTION OF INCIDENT | LENGTH OF TIME GBSERVED | SOUND | SP |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 25 Aug 51 | 2110 | Lubbock, Texas | Group of lights that have been seen on many occasions. (See Appendix I) | 4 Soc. | None | $30^{\circ}$ |
| 25. Aug 51 | 2158 | Albuquerque, N.M. | Dark flying wing type a/c with about $11 / 2$ times the wing span of a B-36. (Seo Appendix II) | 30 Sec . | None | 300 |
| 27 Aug 51 | 2000 | Vandalia, Ill. | Bright orange light seen from the ground and again from two aircraft. | Unknown | None | Higl |
| 31 Aug 51 | 1245 | Matador, Texas | Pear-shaped aluminm object seemed to hover then leave the area at high speed. (See Appendix III) | Several seconds | None | Hove to |
| 3 Sept 51 | 2220 | Spokane, Wash. | Bluish-white light with fiery trail. About the size of an automobile headlight. | Seconds | None | High |
| $3 \text { Sept } 51$ | 1400 | Spokane, Wash. | Three objects appeared out of NW. Appeared to be a disk when viewed through a monocular. | $3-4 \mathrm{Min}$. | Hone | Erre |
| $8 \text { Sept } 51$ | 1400 | Spokane, Wash. | Bluish-white light about the size of an automobile headight leaving a flery trail. | Seconds | None | Higt |
| $10 \mathrm{Sopt} 51$ | 2100 | Goose AFB, Newfoundland | Radar return - GCA radar observed tro objects near the airfleld. | Several Minutes | None | 140 |
| $23 \text { sept } 51$ | 1210 | March AFB, Calif | Object sighted over Long Beach. Four P-86's scrambled and sighted object over. Muroc. Intercept was unsuccessful due to altitude of object. Orbitted March AFB at 55,000 ft. (See Appendix IV) | Unknown | None | Unkr |
| 900651 | 1342 | Terre Haute, Ind. 9 | Round, silver colored object passed over airport at high speed. (See Appendix V) | 15 Sec. | None | Very |
| 90 ct 51 | 1345 | Paris, Ill. | Round, silver colored object seen by private pilot. (See Appendix VI) | Unknow | None | Very |
| 10 0et 51 | 1010 | $\begin{gathered} \text { Minneapolis, } \\ \text { uinn. } \end{gathered}$ | Round, silver object seen by pilots tracking a balloon. (See Appendix VII) | Two Min. | None | High |
| $11 \text { oct } 51$ | 0630 | Minneapolis, Minn. | Round, silver object seen by pilots tracking balloon and by ground observer team. (See Appendix VII) | Several Minutes | None | H 1 gh |
| 11 0ot 51 | 0845 | Neubiburg AFB, Germany | Object seen by two airmen who described object as "some form of flying disk". | Unknown | None | Un |
| 21 0ct 51 | 1250 | Battle Creak, Mich. | Disk-shaped object $30 \mathrm{ft} .-40 \mathrm{ft}$. in diameter. Pilot in navion met object head-on. Object was disk-shaped, with a highly polished surface. | Several Seconds | None | High |
| 21 Oct 51 | 05002 | $62^{\circ} \mathrm{N} 15^{\circ} \mathrm{W}$ | Bright yellowish flash on the horizon. | Unknown | None | Unkn |
| $28 \text { oct } 51$ | $2000-$ | Buena Vista, Gol. | Gremish-blue brilliant light with an incandescent glow in the form of a tail. | 15-20 Sec. | None | 0 |
| 30 0ct 51 | 1930 | Four Corners, Col. | Object appeared white first, then red. Core glowed with brilliant green color like neon tube. | Unknown |  |  |
| ATLC RORM NO <br>  | $\begin{aligned} & 328 \\ & 3+4 \end{aligned}$ |  |  | - |  |  |

## TINGS OF UNIDENTIFIED OBJECTS

| INCIDENT | LENGTH OF TIME OBSERVED | SOUND | SPEE ${ }^{\text {a }}$ | ALTITUDE | HEADING | SOURCE | ACTION OR COMMENTS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Casions. (See Appendix I) the ring span of $\& 8-36$. | $\begin{gathered} 4 \mathrm{Sec} . \\ 30 \mathrm{Sec} . \end{gathered}$ | None None | $30^{\circ}$ Arc/s $300-400$ mph | Unknown 1000 ft | $180^{\circ}$ 160 | Varied <br> Sandia Base guard and wife | See Appendix I See Appendix II |
| Win Hom tho alrcraft. | Unknown | None | High | Unknown | Varied | Commercial pilots and Ground OEs. | No farther investigation. No conclusions. |
| n. leave the area at h1 gh speed. | Several seconds | None | Hovering to high speed | Low to high | $90^{\circ}$ | Tro ladies | See Appendix III |
| sise of an autonoblle headlight. | Seconds | None | High | Low | $225^{\circ}$ | af Captain and mife | Believed to be meteor or flreball. No conclusions. |
| Gea didk whon rifur through a | 3-4 Mn. | None | Erratic | Unknown | $225^{\circ}$ | AF Major | No conclusions. |
|  | Seconds | None | High | Low | $225^{\circ}$ | AF 18t It | Believed to be meteor or firoball. No conclusions. |
|  | Setreral Mnutes | None | 140 mph | 4,000 ft. | Varied | GCA Operator | No further investigation. Insufficient information. |
| Nonblad and sightad ob lect orer Muroc. Widuct. Orbitted Mroh ars at 55,000 ft | Unknown | None | -Unknown | 55,000 ft. | Varied | P-86 pilots and around Obs. | See Appendix IV. |
| Wit high speod. (Sic Appondix V) | 15 Sec. | Mone | Vory higl | Unknown - | $135^{\circ}$ | Clat Chief A/C Communicator | See Appendix $\mathrm{V}^{\text {. }}$ |
| Wat. (Ser Appendix VI) | Unknown | None | Very higi | 5,000 ft. | $45^{\circ}$ | Private pilot | See Appondix VI. |
| $\text { (xal10on. (See } 1 \text { ppendir VII) }$ | Two Min. | None | High | High | St | Balloon Obs. | See Appendix VII. |
| $100 n$ and by ground observer team. | Several Minutes | None | High | High | Unknown | Balloon Obs. | See Appendix VII. |
| Ef \#romb form of Plying diak ${ }^{\text {a }}$. | Unknown | None | Unknown | 20,000 ft. | Unknown | Two airmen | No conclusions. |
| Pilot in navion met object head-on, unfaco. | Several <br> Seconds | None | High | -3,000 ft. | $85^{\circ}$ | Civilian pilot <br> 14 yrs experience | No conclusions. |
|  | Unknown | None | Unknom | Unknown | Unknown | Scientist | No conclusions. |
| nt gion in the form of a tril. | 15-20 Sec. | None | Unknown | Onknown | N to 5 H | $\triangle$ Major | Example of green fireball phonomena. No conclusions. |
| Ored with brilliant grean color like | Unknown | None | Unknown | Unknown | $N$ to SW | Civilian | Example of green fireball phenomena. No conclusions. |

1 SIGHTINGS OF UNIDENTIFIED OBJECTS



# CONFIDENTAL UNCLASSIEIED. Appendix I. 

LUBBOCK, TEXAS - 25 August 1951

## I. DISCUSSION OF THE INCIDENT

The first of a series of sightings related to this incident occurred the evening of 25 August 1951 at approximately 2110 CST. Four Texas Technical College professors were sitting in the backyard of one of the professor's homes observing meteorites in conjunction with a study of micrometeorites being carried out by the college. At 2120 they observed a group of lights pass overhead from $N$ to $S$. The lights had about the same intensity as high cirus clouds on a moonlight night. The altitude was not determined but they traveled at a high rate of speed. The pattern of the lights was almost a perfect semi-circle containing from 20 to 30 individual lights. Later in the evening a similar incident was observed and during a period of about three weeks a total of aproximately twelve (12) such flights were observed by these men.

The group of men included:
a. The Head of the Petroleum Ingineering Department
b. Professor of Geology, has PhD.
c. Professor of Physics, has PhD.
d. Professor of Chenical Engineering, has PhD.

Besides the above four men, the following have observed the incidents:
a. Professor of Mathematics, has PhD.
b. Graduate student working, on PhD.

In addition, a Professor of Astronomy was consulted on the incident, but he did not observe any of these flights.

The above mentioned men took a personal interest in the phenomena and undertook a study of the objects. Attempts were made to obtain an altitude measurement by laying out a measured base line perpendicular to the usual flight path of the object. and placing angle measuring devices at the end of the base line, however, all their attempts failed because the objects did not appear on the nights the observers were waiting for them.
$G$
From the series of observations, the following facts were obtained:
a. The angular velocity of the object was very nearly $30^{\circ}$ of arc per second.
b. There was no sound that could be attributed to the object.
c. The flight path of the object was from $N$ to $S$ ir the majority of the flights although some were NE to SW.
d. On several nights there were two or three flights.

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e. The color of the lights was blue-green
f. There were from 15 to $30^{\circ}$ separate lights in each formation.
g. The first two flights observed were a semi-circle of lirhts but in subsequent filghts there was no orderly arrangement.
h. The object always appeared at an andle of about $45^{\circ}$ from horizontal in the north and disappeared at about 450 in the south. The object did not gradually come into view as would an aircraft approaching from a distance, neither did it gradually disappear.
i. There was no apparent change in size as the object passed overhead.
j. The "angular span" was estimated to be $10^{\circ}$.

Attompts were made to obtain the relative height of the object in respect to clouds. However, these attempts were also unsuccessful due to the fact that the objects passed between widely scattered clouds.

Attempts were made to determine whether or not there was any form between the lights by trying to see stars between the lights. These also was unsuccessful due to the short time the object was in view.

This phenomena was observed by at least one hundred people in and around Lubbock, Texas. Some of these people were of the opinion that the objects were birds reflecting lights from the city.

On the evening of 31 August 1951 at about 2330 CST , a college freshman from Texas Tech observed a flight of the unidentified objects pass over his home. The flight was observed through an open window. Upon observing the first flight of the objects, the observer obtained his camera and went into the backyard of his home in an attempt to get photographs of additional flights of the object. (Comment: This would be logical as by 31 August 1951 these flights of the objects’, and the fact that several flights might occur in an evening, was well known.) Two more flights of the object allegedly did occur and were photographed. Two photos of one flight and three df another were obtained. AIIC has four of the negatives but the other one was lost or misplaced by the photographer. The photographs show a V-shaped formation of lights. In one photo a single-V of lights appear, while on three photos there is a double-V. The separate lights, which appear to be pinpoint light sources; vary in intensity.
(See Appendix II for possibly related incidents.)
II. STATUS OF THE INVESTIGATION
A. Trip to Lubbock, Texas

A trip was made to Lubbock, Texas, on 6-9 November 1951 to obtain more details on the incident. Many people who had seen the object or who were involved in the incident were interrogated. A conference was held with the college professors and they prepared a signed statement describing the objects they they observed.


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The photographer was interrogated, in conjunction with OSI, in regard to the photographs of the objects. His account of the incident seemed logical, and there were no obvious indications of a hoax. The photographer had previously been interrogated by the Lubbock newspaper and the photos inspected by Associated Press and Life.Magazine representatives. It was their opinion that the photos were not obviously a hoax. The college professors were doubtful as to whether or not the photographs were of the same objects that they had observed because:

1. They had never observed a V-shaped formation of lights. This is not too significant, however, as the arrangement of the lights that they observed varied and since there were several flights the college professors possibly did not see the flights that were photographed. In addition, the photographer states that the object appeared to be U-shaped but when he developed the negatives, the object was $V$-shaped.
2. The objects that the professors observed were, in their opinion, not bright enough to be photographed. This is, however, an estimate and could be in error.

It was found that one school of thought of the people in the Lubbock area was that the objects were some type of migratory birds reflecting lipht from the city. Several people reported that they definitely knew the objects were birds because they could see wings "flapping". It is very possible that some of the people who were looking for the object did see ducks as there were duck flights passing over during the period.

The college professors do not believe the theory that the objects were birds, but they are giving the possibility more thought. If they were birds, they would have to be relatively low to give the illusion of high speed. An occasional. flight of birds might pass low over a city on a clear night but it is highly doubtful if they would continue to do this for several nights. Migratory birds usually try to keep away from cities.

The Federal Wild Iffe Game arden was visited and although he was not familiar with the incident he doubted if the objects were birds. He stated that they could have been, however. The most likely suspect, if it is a bird, is a member of the Plover family which has a pure white breast, but unless there was a sudden influx of the birds into the Lubbock area, the gane warden doubtad if there would be enough of these birds to rake up as many flights as were observed.

If the photos are authentic, the objects very nrobably are not ducks because an experienced photogravher from the Lubbock Avalanche Newspaper attempted to get photos of ducks using both natural light and flash, but failed.

## B. Analysis of ?hotos by Wright Air Development Center

The Photographic Reconnaissance Laboratory of WAiC made a preliminary analysis of the photographs. The analysis was made by inspecting the negatives in a comparator microscope. Their conclusions were:


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1. The images on the negatives were caused by light striking unexposed film, (i.e., the negatives were not retouched).
2. The individual lights in the "formation" varied in intensity.
3. The intensity was greater then any surrounding stars as the stars did not register. (The photos were taken under CAVU conditions.)
4. The individual lights changed position in the "formation".
C. Reinterrocation of the Photographer

The OSI was requested to reinterrogate the photographer in another attempt to determine the authenticity of the photographs. The details of this reinterrogation have not been received but a preliminary report stated that there were no indications that the photorraphs were not authentic.
D. Future Investigations

A trip to Lubbock, Texas, will be made during January. Arrancements are being made to have a Project Grudge consultant and a physicist accompany Project Grudge personnel. If the photographs are authentic, they are important in that:

1. They will give an accurate measurement of the angular span".
2. The light source, although it appeared to be of low intensity to the eye, was highly actinic.
3. The movement of the individual lights in the formation can be studied further.
4. Density comparison tests can be made.

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Appendix II
ALBUGUIRGUE, NEW MEXICO - 25 August 1951

## I. DISCUSSION OF INCIUENT

On the evening of 25 August 1951, at 2158 MST, a Sandia Base security Guard and his wife observed what they described to be a flying wing type aircraft similar to the Northrop Fly-Wing Bomber (B-49) pass over the backyard of their trailer home in the east part of Albuquerque. They judged the wing span of the aircraft to be about one and one half times the wing span of a B-36, with which they were familiar. The object was flying low, the altitude was thought to be about 800 ft . - 1000 ft ., and there was no sound that could be attributed to the object. The color of the object was not apparent due. to the twilight but dark chordwise stripes were noticed under the wings. Bix to eight pairs of soft flowing lights were noticed on the trailing edge of the wing. The speed was judged to be about 300-400 mph and the object was on a heading of approximately $160^{\circ}$.
(See Apdendix I for possible related incident.)

## II. WEATHER

Broken clouds at $17,000 \mathrm{ft}$., visibility five miles, wind $S$ at 5 mph .

## III. STATUS OF IINESTIGATION

The possibility of this being a known aircraft was checked with negative results. The AC and IV Radar Station at Kirtland AFB did not observe any unusual or unidentified aircraft.

The puard's background was checked and since he has a "Q clearance, it has been assumed that he apparently is mentally stable.

An investigation was made to determine whether or not any one else had seen the object but only negative results were obtained.

The nhotogranhs referred to in Appendix I ware sent to the OSI at Kirtland AFB. These photos were show to the sources and they stated that the photos resembled the exhaust" or light pattern of the object., A sketch, drawn by the observers, is shown in this Appendix.

It is interesting to note that a very sinilar sighting took place in Labbock, Texas. The exact time and date of the sighting could not be determined due to the fact that the observer believed she had seen an illusion of some type and did not report the incident. The only date that could be given was "late in August or early September:
IV. CONCLUSIONS

Mone. The investigation will be continued until the authenticity of the photos in Appendix I can be determined.

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On 31 August 1951 at approximately 1245 CST two ladies were driving in an automobile several miles north of Matador, Texas. The object was described as a pear-shaped object about the length of a $B-29$ fuselage, aluminum or silver in color, which readily reflected the sunlight. The object had a port or some type of aperture in the side and moved through the air with the small end forward. There was no sign of any exhaust and no noise was heard.

As the two ladies were driving north from Matador, Texas, the driver of the automobile first noticed the object about 150 yards ahead of the automobile. They stopoed and both ladies rot out to observe the object. It was drifting slowly in an eastward direction at a speed they judged to be less than the speed required to take off in a Cub aircraft" and an altitude of about 120 ft . Seconds later the object began to ascend rapidly and moved out of sight into the wind in a circular ascent. (The wind at this time was from Ne at about 5-7 knots.)

A background investigation showed that both women were of excellent character.

This incident is of interest because it was observed during the same period as the objects orer Lubbock, Texas (See Appendix I).
II. WEATHER
A. 1230 CST - Reese AFB - 31 August 1951

Estimated ceiling 6,000 ft., broken clouds, with thin scattered clouds at 25,000 ft. Visibility 15 miles. Wind ENE at 3 knots.
B. 1230 CST - Childress, Texas - 31 August 1951

Estimated ceiling 25,000 ft., overcase. Visibility 15 miles. Wind NE at 7 knots. Towering cumulus clouds in SE quadrant.

## III. STATUS OF INVESTIGATION

It has been reported that a road repair crew saw the same object later on the same day. Attempts will be made by Project Grudge personnel to contact members of this road crew and obtain their statements. There were also reports of crop dusting activity in the area, so attempts will be made to determine whether or not the ladies could have seen this activity.

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# UNCLASSIFIED <br> Appendix IV 

MARCH AIR FORCE BASE - 23 September 1951

## I. DISGUSSION OF INCIDENT

The first report of this incident, which appeared in Status Report No. 1, proved to be incomplete and misleading. Further investigation has corrected the discrepencies and the following account of the incident is considered to be accurate.

At approximately 0700 PDST, two F-86 aircraft were scrambled from Georce Air Force Base, California, on a routine mission. The flight was vectored to $118^{\circ}$ $40^{\prime} \mathrm{N}-33^{\circ} 50^{\prime} \mathrm{N}$ by GCI. (See inclosed overlay.) The flipht orbitted the position and took up a headinf toward Long Beach Radio. At approximately 0755 PUST the flight reported to GCI that they observed an unidentified object high at 12 o'clock. The flight was 30 seconds out of Long Beach Radio at this time. The object apm peared to be in a left orbit at about $50 ; 000 \mathrm{ft}$. The object could not be picked up by the ground radar, however, visual contact was maintained. The object continued a left orbit and passed over the two aircraft. Attempts were made by the F-86's to identify the object but they were unsuccessful due to the altitude of the object and a fuel shortage. At approximately 0810 or 0815 the flight was released by the ground controller and they returned to George Air Force Base. The object appeared to be an aircraft with $45^{\circ}$ swept wings and bright silver in color. When last seen the object was in a left orbit, or circling to the left. The pilot's opinion was that it was a swept wing type aircraft.

At approximately 0800 PDST four additional F-86 aircraft were scrambled from George AFB to relieve the two above mentioned F-36's. The four aircraft split into two, two-ship elements, denoted as Flight 2-A and 2-B on the inclosed overlay. Flight 2-A was vectored to a position at $117^{\circ} 30^{\prime} \mathrm{N}$ and $30^{\circ}$ $20^{\prime} N$. They arrived at this position at approximately 0810 and sighted the object high at 12 o'clock at what appeared to be over liuroc AFE. A steady climb was made to 43,000 ft. and the object was found to be near March AFB. The object appeared to be in a controlled orbit to the right and left at 50,000 to $55,000 \mathrm{ft}$. The two aircraft stayed in the area for $10-15$ minutes before breaking off the intercept due to a fuel shortage and landed at 0845 ELST. The object appeared to be a swept wing aircraft:

The second element of the group, noted as Flight, $2-\mathrm{B}$ on the overlay, observed the object soon after take-off. The object appeared to be going south. The flight made a series of climbing turns under the object as they climbed to 43,500 ft. The object was in a wide right turn. At approximately 0925 PiST the aircraft broke off the attempted intercept and returned to their base. This flight reported that the object appeared to be round and silver.

No-hore intercepts were attempted. At no time was the object observed on the radar screen nor was it reported to be observed visually from the ground. The F-86's, however, were contin ally tracked by radar.


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The F-86's were unable to climb to the estimated altitude of the object due to the fact that they were carrying external fuel tanks and elected not to jettison them.

## II. STATUS OF INVESTIGATION

At 0700 PDST a radiosonde balloon was released from the Long Deach Municipal Airport. This balloon was lost at 0743 PDST, eight miles from the airport on a bearing of $95^{\circ}$ true, due to a malfunction of the tracking equipment. (iee Point A on overlay.) At this time the balloon would have been at aporoxinately 40,000 $f t$. The winds above $40,000 \mathrm{ft}$. are unknown but it is logical to assume that at this altitude they will be relatively constant in direction. Assuming a relative constant direction of $270^{\circ}$ and an average velocity of 30 knots above $40,000 \mathrm{ft}$. (the wind at $40,000 \mathrm{ft}$. Was $280^{\circ}$ at 21 knots) the possible flight path of the balloon can be plotted on the overlay.

The original sighting by Flight I could very possibly have been the belloon as their heading was toward Long, Beach Airport. The altitude of the F-86's at the time of the sighting is unlonown but was probably below $40,000 \mathrm{ft}$. At 0755, the time of the original sighting, the balloon would be at 50,000 to $55,000 \mathrm{ft}$. and approximately ten miles directly ahead of the two aircraft. The apparent orbitting of the balloon cannot be explained. The balloon would make a gradual turn dite to wind shifts but these are so gradual that it is doubtful if the movement would be apparent from an aircraft as fast as an F-86.

Referring to the ground track of Flight $2-\mathrm{A}$, if a 30 knot wind at $270^{\circ}$ is assumed, at 0810, the approximate time the F-86's sighted the object from a $355^{\circ}$ TC, the balloon would be at $B$ on the overlay. The balloon would probully be at an altitude of $60 ; 000 \mathrm{ft}$. and nearly straight ahead of the aircrart. Lue to the size of the balloon, the distance could have been misjudged and the balloon could have appeared to be near Nuroc. Once again the orbitting of the object cannot be explained.

The attempted intercept by Flight 2-B cannot be explained. If the ground track given by the leader of Flight 2-B is correct it is very doubtful that the flight was observing a balloon. The time that they sighted the object is not known but if it is assumed that they flew beneath the object for 30 minutes, it is highly doubtful that a wind shift of nearly $360^{\circ}$ could occur above 60,000 ft. to give the illusion of a turn.

The possibility of this object being an experimental aircraft from some southern Califormia aircrart plant, naval airfield, or from Edwards Air Force Base was checked with negative results. No other balloons were released in the vicinity.
III. CONCLUSIONS

With the information available, it cannot be concluded that the object was definitely the radiosonde balloon released from Long Beach lunicipal Airport. However, since the balloon was near the flifht path of two of the F-86 elements, and assuming that the orbitting of the object was an illusion due to the relative motion between the balloon and the aircraft, it can be concluded that the unidentified object was rary possibly a radiosonde balloon.

Whlorqual

The third attempted intercent, the one in which the object was followed in a wide turn, cannot be explained.

It is not believed that further interrogation would produce any additional significant details due to the fact that some of the personnel involved have been transferred overseas and due to the time since the incident.

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## Appendix $V$

TERRE HAUTE, INDIANA - 2 October 1251

## I. DISCUSSION OF THE INCIDENT

On 9 October 1951 at 1342 CST, a CAA Chief Aircraft Communicator observed a silver object pass directly overhead while he was at Hulman Municipal Airport, five miles east of Terre Haute, Indiana. The object was judged to be approximately the same size as a 50 cent piece held at am's length. The object passed overhead at a very high rate of speed going in a southeasterly direction, passing from directly overhead to the horizon in about 15 seconde. There was no sound or vapor trails. The shape and general form of the object could be seen as the object passed over the horizon and out of sight.

## 1 (For related incident, see Appendix VI.)

II. WEATHER

Clear, bright sun, no clouds or haze.

## III. STATUS OF INVESTIGATION

Further investigation revealed no additional information.

## IV. CONCLUSIONS

None.

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## Appendix VI

## PARIS, ILLINOIS - 2 October 1951

## I. DISCUSSION OF THE INCIDENT

On 9 October 1951, at approximately 1345 CST, a private pilot enroute from Greencastle, Indiana, to Paris, Illinois, sighted a silver object just east of Paris, Illinois, at $5,000 \mathrm{ft}$. altitude. The object appeared to be stationary in as much as it did not increase or diminish in size with the approach of the aircraft. The object then started to travel in a northeasterly direction south of the Newport, Indiana, Atomic Energy Plant.
(See Appendix $V$ for related incident.)
II. NEATHSR

Clear, bright sun, no clouds or haze.

## III. STATUS OF INVESTIGATION

Further investigation revealed no significant facts. It was impóssible to determine whether or not there were any jet aircraft in the area due to the lapse of time since the sighting.
IV. CONCLUSIONS

None.

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Appendix VII
MINNEAPOLIS, MINN. - 11 October 1251
I. DISCUSSION OF INCIDENT

The only information available on this incident is a letter quoted below:
TITE: 0630, 11 Oct 51. Lick Reilly and I were flying at 10,000 ft. observing the grab bag balloon when I saw a brightly glowing object to the SE of University of Minnesota Airport. At that time we were a few miles north of Mimeapolis and heading east. I pointed it out to Dick and we both made the following observation:
'The object was moving from east to west at a high rate and very high. We tried keeping the ship on a constant course and using reinforcing member of the windshield as a point. The object moved past this member at about 50 degrees per second.

This object was peculiar in that it had what can be described as a halo around it with a dark undersurface. It crossed rapidly and then slowed down and started to climb in lazy circles slowly. The pattern it made was like a falling oak leaf inverted. It went through these gyrations for a couple minates and then with a very rapid acceleration disappeared to the east. This object, Dick and I watched for aporoximately five minutes.
"I don't know how to describe its size, because at the tine I didn't have the balloon in sight for a comparison.
"Shortly after this we saw another one, but this one didn't hang around. It approached from the west and disappeared to the east, neither one leaving any trace of vapor trail.

When I saw the second one I called our tracing station at the $U$. of $M$. Airport and the observers there on the theodolite managed to get glimpses of a number of them, but couldn't keep the theodolite goinc fast enough to keep them in the field of their instruments. Both Doug Smith and Jick Sorian caught glimpses of these objects in the theodolite after I notified them of their presence by radio."
II. WMATHR

Unknown, but evidently clear.

## III. STATUS OF INNESTIGATION

Further investigation produced no additional information as to the identity of the object. The theodolite operator was interrogated and stated that he could only observe "a brief blur for about two seconds". Uuring his brief observation, the object appeared to be a smoky grey cigor shaped object. It-left no vapor trail and gave off no reflection.

All observers were positive of the following facts:

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A. The object, though vapuely defined and blurred, retained a definite shape.
B. No vapor trails, exhaust flashes, or jet propulsion were observed.
C. The object definitely seemed to be controlled. The sources are all experienced engineers with General lills Balloon Projects and have been observing all types of balloons for several years.
IV. CONCLUSIONS

No conclusions can be made. It is significant however, that the sources can be graded as very reliable and that they observed an object with which they were entirely unfamiliar.

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Appendix VIII

## SOUTHERN MICHIGAN - 24 November 1951

I. VISCUSSION OF INCIDENT

On the evening of 24 Noveraber 1951, seven people observed an unidentifled aerial object, from four separate locations in Southern lichigan. I'he object was observed in the SE quadrant traveling at speeds "much faster than a Jet" at an apparently low altitude (below 2,000 ft. or $2^{\circ}-4^{\circ}$ above the horizon) in all the observations. The object traveled horizontal to the earth and in one instance was noted to lose altitude just before it disappeared. No sounds were heard by any of the observers. In each case the time the object was in sight was 5-6 seconds or less.

Additional information is given below and in inclosed overlay which shows apparent track of objects. It will be noted that these are only the apoarent tracks.

| Location | Time | Shape | Color | Trail | Course | Apparent Distance | Observer |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Selfridge AFB | 1820 E | Egg ' | White | Red | WSW | $\begin{aligned} & \text { (miles) } \\ & 2-3 \end{aligned}$ | $A F P F C$ |
| Selfridge AFB | 18.20 E | "Football" | White | Orange red | W | 1 | AF PFC |
| Battle Creek | 1825 E | Oral | White | White | SW | 10-20 | AF Pvt |
| Grand Rapids | 18:4 E | Round | White | None | 51. | - . | Tower <br> Operator |
| Coopersville | 1825 E | Round | Bluish White | None | SW | 30-40 | $\begin{aligned} & \text { Airline } \\ & \text { Crew } \\ & \text { (Airborne) } \end{aligned}$ |

II. WEATHER

CAVU and exceptionally clear at all points of observation.

## III. STATUS OF THE INVESTIGATION

The possibility of jet aircraft in the area, unidentified radar returns, and known meteoric or aurora phenomenon were checked with negative results. From the reports, it is reasonable to assume that all the observers sighted the same object. There is a time span of five minutes between various sightings but this could be due to errors in the watches of the observers. Assuming that the tower clock would be the nost accurate, the time would be 1824 EST. From the estimates of

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the altitude (i.e. appaared low), it is apparent that the object must have been a comparatively great distance from all the observers. The fact that the observers in Grand Rapids and over Coopersville did not-observe a tail or trail can be explained by the fact that they were farther away from the object.

The actual flight path of the object was probably high over Ontario, Canada. It would probably be possible to determine the exact location by collecting reports or interrogations in Canada. It is not believed that this would be worth the effort, however, as it would still not definitely identify the object unless it had been observed by competent astronomers.
IV. CONCLUSIONS

It is concluded that the object observed in Southern Michigan on 24 November 1951 was a large meteor-like object that probably passed over ontario, Canada, or upper New York State.

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DISIRIBUTION LIST
D/I, Hq USAF, ATTN: AFOIN-V/TC ..... 3 Washington 25 , D. C.
Commanding General, Strategic Air Command1
ATIN: Intelligence Division, Offutt AFBOmaha, Nebraska
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ATTN: Intelligence Division
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# UNCLASSIFIED <br> STATUS REPORT <br> Classification cancelled 

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AUTH: Theert J. Frifend Majar , MSAF By Robr AP Recino main


PROJECT NO. 10073
31 JANUARY 1952
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AUTH. Rosert J. FREENOMAJJR. USAA By Rebut DLeino Maja -
nate $G S \in P_{T}$ 1960

AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE BASE DAYTON. OHIO

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Chief, Air Technical Intelligence Center Wright-Patterson Air Force Base<br>Dayton, Ohio

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AUTH:
Robert J. Friend. Major usaf


Date $\qquad$

This report is the third of a series of monthly status reports of Project Grudge. Each report will be written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered to be outstanding will be summarized in the appendices of the report so that more details can be' presented. The overall status of the project will also be presented.

Additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attention: ATIAA-2c, Wright-Patterson Air Force Base, Dayton, Ohio.

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STATUS OF PROJECT GRUDGE

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## I. OVERALL STATUS

A. Files

All of the material in ATIC that relates to sightings of unidentified aerial objects has been reviewed and filed. All data on each sighting has been placed in a separate folder and the folders filed chronologically. There are a total of 695 incidents. These vary from nebulus reports from very questionable sources to more factual reports from reasonably reliable sources such as AF pilots, airline pilots and balloon observers.

The factual details of each incident have been placed on $5^{\text {m }}$ by $8^{\text {n }}$ cards and these cards are being cross-indexed. All the cards have been reproduced and cross-indexing is about 50 percent completed. When this phase of the project is finished, it will be possible to make a breakdown of all reported sightings as to the predominent shapes, size, course, geographical locations, etc.

## B. Location of Additional Files

During the past month, a trip was made to Washington, D. C. to locate additional data on sightings. It was found that both the D/I library and TCB have such files. In the near future a trip will be made to Washington to review these files and obtain additional sighting reports.

## C. Map of Sightings

A map has been prepared, showing all of the sightings in the United States. Colored tacks are used to designate sightings by years.

The plot of sightings shows that there is a concentration of sightings in the area of:

1. Dayton, Ohio
2. Columbus, Ohio
3. White Sands, New Mexico
4. Albuquerque, New Mexico
5. Oak Ridge, Tenn.
6. Camp Hood. Texas

No conclusions can be made or other facts about the distribution of the sightings stated until a further study of the distribution of sightings has been made.

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## D. Directives for Reporting Incidents

The directive which outlines the reporting procedures to be used in this project is AFOIN-G/CC-2 letter dated 19 December 1951, subject: Reporting Information on Unidentified Flying Objects". This directive is not believed to be adequate to cover all phases of the project and it is being revised. The revision of this directive has been given top priority as it is believed that the project cannot function properly until satisfactory reporting channels are set up"。

## E. Consultants

The consultants that will be obtained to assist in the project have finished their preliminary survey of past work done on the project and will submit their formal proposal during the early part of February. During the past month one of their members accompanied Project Grudge personnel on two interrogations to familiarize them with how reports are investigated.

## F. Difficulties in Obtaining Reports

Recently several airline and Air Force pilots have been queried as to their feelings on reporting the sightings of unidentified aerial objects. The queries were predicated by reports that sightings were not being reported due to stigma that has been placed on the project by unfavorable newspaper releases, etc. Only a very few individuals were contacted, however, these people stated that they would be very reluctant to report any type of unidentified object to the Air Force. One piłot summed up the situation by stating, "If a space ship flew wing-tip to wing-tip formation with me, I would not report it." This feeling among people who are in a position to submit good reports is a great handicap to the objective of getting reliable data. The exact nature of some of the objects reported have not been determined, therefore, there is always the possibility that there exists some type of unconventional vehicle possessing extraordinary performance and characteristics. If such a vehicle should appear, its detection would be hampered by the reluctance to report sightings of unusual aerial objects.
A. series of briefings of Air Force commanders is being tentatively planned to explain the functions and findings of this project in an attempt to break dow the adverse feelings on reporting that are held by many people.
G. Radar Search

In compliance with suggests of the Directorate of Intelligence, a preliminary conference has been held on the possibility of using electronic means to detect and obtain data on the unidentified objects that are being reported. Radar would be used in conjunction with photographic equipment to accomplish this. In the past there have been unexplained radar contacts but whether or not these were due to weather phenomena, malfunction of the sets or actual targets has not been determined.

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Further conferences will be held on this matter. To date, nothing definite has been decided.
H. Briefing of General Garland

On 29 January 1952; Brig Gen W. M. Garland, Assistant for Production, Director of Intelligence, Hq USAF, and members of his staff were briefed as to the status of the project.

## II: REPORTS OF SPECIFIC INCIDENTS

A. Inclosed Summary List of Incidents

The inclosed list of incidents is (1) a summary of all incidents reported during the period 1 January 1952 to 31 January 1952; and (2) those incidents reported in Status Report No. 2, dated 31 December 1951; which are still pending or have been closed during the past month.

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## GMTNGS OF UNIDENTIFIED OBJECTS

| OF INCIDENT | LENGTH OF TIME OBSERVED | SOUND | SPEED | ALTITUDE | HEADING | SOURCE | ACTION OR COMMENTS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| int accasions. | 4 Sec. | Nono | $30^{\circ} \mathrm{Aro} / \mathrm{Seo}$ | - Unknown | $180^{\circ}$ | Varted | Further investigation has produced no: now developments. Por detaile of the incident, Status Report No. IL. Dotails of this incident will be published in a speciel report. |
| 12 times the wing span of a B-36. | 30 Sec . | None | $\begin{gathered} 300-400 \\ \mathrm{mph} \end{gathered}$ | 1000 ft . | $160^{\circ}$ | Sandia Base guard and wife | No conclusions - Investigation closed. |
| then loave the area at high apped. | Sevoral seconds | Hone | Hovering to high speed | Low to high | $90^{\circ}$ | Two ladies | No conclusions - Investigation closed. |
| Sins a billoon. | 2 Min . | None | High | High | SE | Balloon Obs. | Further investigation of both of these incidents has load to no |
| ing balloon and by ground observer team. | Several Mimutes | None | High | High | Unknown | Balloon Obs. | conclusions. The inveatigation is closed. (See Status Report No. II for detaile.) |
|  | Unknown | Mone | Hovering | 25,000 ft. | $90^{\circ}$ | AFP Pilot | Ho conclusions. |
|  | $\begin{aligned} & \text { Approx. } \\ & 1 \text { Min. } \end{aligned}$ | None | Unknown | Unknown | NW | Civilian | No conclusions. No further information could be obtainod. |
| Cunded three tinse at high rate of speed. chat are contact. | 2 Mn. | None | High | Varied | None | Civilian Guard | No conclusions. |
| Suent in shape. | 15 Sec. | None | 240 Knots | 3000-4000 ft. | S to N | USAF Pllot | No conclucions. Probably a fireball of some type. |
| Whtivibolot a/c. | 3-4 K1n. | Nono | 380-400 mpl | 9,000 ft . | Unknown | USAF Pilot | Vlo conclusions |
| to be hovering. | 1 Hr . | None | Hovering | High | - | Civilian | Proved to be "Christmas Star". |
| Eto be a/c with no tail assomb1y. Object Attrompt was made to intercept the object. | $11 / 2 \mathrm{Min}$. | None | $\begin{aligned} & \text { Same as } \\ & P-q_{4} \end{aligned}$ | $\underset{(\text { Est. })}{25,000 \mathrm{ft} .}$ | $285{ }^{\circ}$ | P-S4 Pilot | See Appendix I. |
| 99 crer. Deconded and oxploded noar the | 3 Sec. | None | - | - | - | B-29 Crew | Fireball type phenomena. No investigation. No conclusions. |
| Pd object with negative results. | Unknow | Nono |  | Tinknown | Varied | Navy Pilot | See Appendix II. |
| sprothod tro different 8-291s. | $\begin{aligned} & 5 \mathrm{kin}, \text { and } \\ & 1 \mathrm{kin} \text {. } \end{aligned}$ | - | Same as B-29 | Same as B-29 | $\begin{gathered} \text { Same as } \\ \text { B-29 } \end{gathered}$ | Members-of two B-29 crews | See Appendix III. |
| $\operatorname{Si}_{x}$ |  |  |  |  |  |  | * |

## CONFIDENTIAL

## UNCLASSIEIED <br> APPENDIX I

Columbus, Ohio - 22 December 1951

## I. DISCUSSION OF INGIDENT

On 22 December 1951 at approximately 1030 EST, an F-84 pilot sighted an unidentified object five miles east of Columbus, Ohio. The object, which looked like an aircraft with no tail surfaces, appeared to be rolling on its lateral axis. The object was on a reciprocal heading and higher than the F-86. The pilot made a turn in an attempt to intercept the object but lost it in the sun.
II. STATUS OF INVESTIGATION

At approximately 1000 EST a weather balloon was released from the Columbus Municipal Airport. The wind, which was from the west, would have blown the balloon into the general vicinity of the sighting. More definite information on the balloon launching has been requested.
III. GONCLUSIONS

No conclusions can be made until more information on the balloon launching is obtained.

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## I. DISGUSSION OF INCIDENT

At approximately 0950 EST on 22 January 1952, a U. S. Navy pilot flying a TBM type aircraft sighted a disc-shaped object near Mitchell Air Force Base, New York. The object appeared to be light, "like a nylon parachute canopy", with a dark under surface. It was estimated to be 20 feet to 30 feet in diameter with a $3: 1$ diameter to thickness ratio.

The object appeared to be circling Mitchell Air Force Base and the observer was able to get near the object by cutting inside on turns.

## II. STATUS OF THE INVESTIGATION

Additional information has been requested from Mitchell Air Force Base. Ho conclusions can be made on data contained in preliminary wire message.

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APPENDIX III

## Korea - 29 January 1952

## I. DISCUSSION OF INGIDENT

On the night of 29 January 1952 at 2300 and again at 2324 , local Korea time, two B-29 crews at different locations observed similar objects near their aircraft. They described them as a disk, approximately three feet in diameter, and with a color similar to the sum. In one instance the object stayed beside the B-29 for five minutes and in the other for one minute.

## II. STATUS OF THE INVESTIGATION

More details on this incident have been requested.

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Date 9 SEDT 1960

## PROJECT GRUDGE - REPORT NO. 4

PROJECT NO. 10073

29 FEBRUARY 1952

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T52-5836

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AUTH: ROBERT J. FRIEND, MAJOR USAF
By


Date $\qquad$

This report is the fourth of a series of monthly status reports of Project Grudge. Each report will be written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considited to be outstanding will be summarized in the appendices of the report so that more details can be presented. The overall status of the project will also be presented.

Additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attention: ATIAA-2c, Wright-Patterson Air Force Base, Dayton, Ohio.

The security classification of this report has been raised from Confidential to Secret due to the inclosure of reports of unidentified aerial objects which were classified Secret by the originating agency.

## STATUS OF PROJECT GRUDGE

## I. OVERALI STATUS

## A. Files

All of the material in ATIC that relates to sightings of unidentified aerial objects has now been filed and cross-indexed. Over 600 reports have been cross-indexed under the main divisions of:
I. Time of Sighting
2. Shape
3. Size
4. Course
5. Number of Objects Seen
6. Sounds
7. Date
8. Location
9. Occupation of Source
10. Color
11. Apparent Speed
12. Apparent Altitude
13. Length of Time Observed
14. Maneuvers
15. Conclusions

In many instances it has been difficult to establish sub-divisions due to the great variety of descriptions. In these instances, certain broad categories were established.
B. Location of Additional Files

The D/I Library files were searched during the past month and approximately 50 additional incidents were located. Copies of these have been requested. It is believed that ther ATIC file on unidentified aerial objects now contains a large majority of all incidents reported to the air Force since 1947.
C. Directives for Reporting Incidents

A new proposed directive for reporting sightings of unidentified aerial objects has been sent to the D/I for approval and distribution. This directive will replace existing directives and provide more expeditious channels for reporting sightings.
D. Project Twinkle

This Center has been receiving a number of reports on the phenomena which has been termed "green fireballs". This specific phenomena has been

T52-5836
investigated by the AF Cambridge Research Laboretories under the title of Project Twinkle". The Cambridge Laboratory has discontinued the project and the conclusions were indefinite.

This phenomena which has received some publicity in the past four months is reported to be similar to a large meteor in some respects. They are green in color, have a flat trajectory, appear to be much lower than an average meteor, and are silent.
II. REPORTS OF SPECIFIC INCIDENTS
A. Inclosed Summary List of Incidents

The inclosed list of incidents is (1) a sumary of all incidents reported during the period 1 February to 29 February 1952; and (2) those incidents reported in Status Report No. 3, dated 31 January 1952, which are still pending or have been closed during the month.


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d treviling at a nish rate of speed under Whatroter:

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See-Appendix I. Possibly a balloon.

Conclusions pending.

See Appendix II. Possibly a balloon.

See Appendix III.

Green fireball phonomena. No conclusions.

Possibly a meteor. Data was incomplete.

Green fireball phenomena. No conclusions.

See Appendix IV.

## प4

Columbus, Ohio - 22 December 1951

## I. DESGRIPTIO OF INCIDENT

On 22 December 1951 ath 1030 EST, the pilot of an F-84 aircraft observed an unidentified object five miles east of Columbus, Ohio. The F-84 was flying at $15,000 \mathrm{ft}$. altiltude on a heading of $270^{\circ}$. The object was first sighted at two flelock high. It appeared to be rolling on its longitudinal axis and the shape resembled an aircraft with no tail surfaces. It was on a heading of about $90^{\circ}$.

The pilot observed the object for one and one half minutes during which he made a right turn in an attempt to intercept and identify the object. It was lost when the pilot turned into the sun to follow the object.

## II. STATUS OF TNVESTIGATION

The pilot of the F-84 was interrogated by project personnel. No new facts were broaght out. It was established, however, that the pilot could have observed a balloon launched from Port Columbus Airport at about 1000 ESI. The wind was 30 knots from $270^{\circ}$ which would place the balloon in the general area of the sighting. The pilot could not pinpoint his location other than "about five miles east of Columbus".

## III. CONCLUSIONS

The F-84 possibly sighted a weather balloon launched from Port Colrmbus Airport. The reported actions of and shape of the object cannot be attributed to a balloon, however, previous reports have indicated that a balloon can be very deceptive when viewed from a high speed aircraft.


Balloon Path Estinated Aircraft Path
$\qquad$

## APPENDIX II

Mitchel AFB, New̉ York - 21 January 1952

## I. DESCRIPTION OF INGIDENT

At approximately 0950 EST on 21 January 1952, a U.S. Navy pilot flying a TBM aircraft sighted an unidentified object southeast of Mitchel AFB. The TBM was on a heading at approximately $45^{\circ}$. When first noticed, the object was low at an angle of about $45^{\circ}$ from the aircraft. The location of the aircraft was about three runways lengths from the end of, and lined up with, Runway \#30 ( $300^{\circ}$ ). The object appeared to be halfway between the aircraft and the end of the runway. The pilot's first impression was that the object was a parachute and he thinks he noticed wedge or pie-shaped segregations on the top; however, he realized that the object was going cross-wind and that it could not be a drifting parachute. He judged the angular size to be the same as the angle subtended by a house on the ground and by watching the object cover the equivalent of a city block. He judged the speed to be 300 knots. He judged the altitude to be 200-300 feet. It appeared to be on a course of about $225^{\circ}$.

The pilot atarted a left turn (see overlay) in an attempt to identify the object. He states that he kept the airspeed of the TBM at about 160 knots and kept a nearly constant altitude of 6000 ft . all during the turn. He estimated that he was pulling from two to three G's in the turn. at one point near position \#3 of the aifcraft (see overlay) he had to increase his angle of bank to nearly $90^{\circ}$ to keep the object from disappearing under the wing of the aircraft.

The pilot's version of the attempted interception is shown on the inclosed overlay. He stated that the paths show are not exact due to the fact that he was concentrating on the object and not his position, although he occasionally looked at the airfield to get reference points.

The object stayed below the TBM during most of the time it was in sight. When the aircraft was somewhere near position 4 , the object appeared to start a rapid climb, accelerating to an estimated 500 knots, and when it was at "an angle of about $10^{\circ}$ above the pilot's horizontal line of vision, it disappeared. When the object disappeared, the TBM was near position \#5. The object did not diminish in apparent size except possibly near the end of the chase, it just disappeared. The pilot was very positive in his statement that when he was north of Mitchel AFB he could see the object. The course on which the object disappeared was established by lining up the aircraft with the apparent path of object and reading the compass.

The object appeared to be dome-shaped, or similar to the vertical crosssection of a parachute canopy. The top was light colored, "like nylon in and the under-surface was dark. It had a length to depth ratio of about 1:3.

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While the object was in level flight it appeared to oscillate with a slow period.

The total time elapsed was estimated to be about two and one half minutes.

## II. STATUS OF INVESTIGATION

A field trip was made to Mitchel AFB to reinterrogate the pilot and other personnel having knowledge of facts pertaining to the sighting. The pilot's description of the incident was the same as was stated in his original report. His added details have been incorporated into Section I of this Appendix.

At 0950 EST on 21 January 1952, the weather section of Michel AFB launched a Rawinsonde balloon from the position shown on the overlay. These balloons are about six feet in diameter at time of launch and expand on asm cending. The expansion up to $6,000 \mathrm{ft}$. can be neglected, however, as it is small. The bailloons are a light gray color and have white streaks of talcum powder which is used in packing the balloons. The balloon carried a tin-foil radar 18 inch square reflector six inches below the balloon. The path of the balloon is ahown on the inclosed overlay.

These balloons are tracked by radar. It was hoped that the radar operators might have recalled seeing an aircraft return circling their balloon return. They stated, however, that due to the heavy air traffic in the area, it was not uncomon to pick up aircraft returns and they did not pay any attention to them.

The tower operators on duty at the time of the sighting were interrogated. They had not seen the TBM or the balloon. The tower log showed that the first contact with the TBM was at 0955 EST at which time pilot reported sighting an object east of the field. at 1008 the pilot again called the tower to describe the incident in detail. The pilot's description was a condensed version of that given in Part I of this Appendix except he stated that the object "appeared to be a parachute canopy with a dark colored object underneath:" The 0955 contact was made soon after the object was sighted, establishing the time.

## III. DISCUSSION OF INCIDENT

An accurate time of the initial sighting is needed to establish the position of the balloon at this time. It is assumed that the tower clock is more accurate than the clock in the TBM, thus the time of the initial sighting was probably closer to 0954 allowing for time to contact the tower than the 0950 which was estimated by the pilot.

At 0954 the balloon would have been at about 4,000 ft . and in the position marked 4,000 ft. on the overlay. The pilot stated that the object appeared low, at an angle of $45^{\circ}$ from vertical, and appeared to cover the

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same angle of vision as a house. This would make the slant range to the ground $8,500 \mathrm{ft}$. It can be shown that an object thought to be 30 ft . in diameter (assuming an average home is 30 ft . Iong) at $8,500 \mathrm{ft}$. range could also have been a six ft. diameter balloon only 1,700 ft. from the observer or at about 4, 800 ft. altitude. Allowing for errors in estimation of the angle, this coincides very closely to the altitude of the balloon at 0954. The position of the balloon in respect to the ground was approximately off the end of Runway \#30.

The pilot stated that the object appeared to be on a heading of $225^{\circ}$, the reciprocal of the heading of the TBM, and the speed of the object was about 200 knots. The balloon would appear to be traveling on a reciprocal heading and appear to be traveling at a higher rate of speed than the IBM if the pilot had assumed the balloon to be a large object close to the ground.

In examining the turn as sketched by the pilot (see overlay), it is believed that the radius of turn is too great. He stated that the air speed was kept at 160 knots and he estimated he pulled two to three G's, this would give a radius of turn of about $1,500 \mathrm{ft}$. instead of the nearly $6,000 \mathrm{ft}$. radius shown on the overlay. It will also be noted that in positions $0,1,2$, and 3 on the overlay, the bearing of the object is relatively constant, being of about 10 a'clock from the aircraft heading. A balloon seen from an aircraft making a $360^{\circ}$ left turn around the balloon would have a constant bearing at 9 o'clock, $^{\prime}$ however; errors in the sketch of the ground tracks could account for this discrepancy.

After the position of the aircraft given as point 3 on the overlay, it is more difficult to show that the object could have been the balloon. If point 4 (of aircraft) is shifted to near point 1 (aircraft) it is possible that the pilot started another $360^{\circ}$ turn around the balloon (see overlay).

Two major discrepancies in the theory that the object was a balloon are that the pilot was very sure that at one time during the attempt to intercept tife balloon he was north or northwest of the airfield and could still see the object. In addition, shortly before the object disappeared, the line of sight of the object began to swing toward the nose of the aircraft. If this were true and the object was a balloon, the pilot should have been able to come close enough to the object to identify it as a balloon.

It should be noted that the pilot admits that the sketch could be in error. During the reinterrogation, it was brought out by the Operation's Officer at Mitchel AFB, who conducted the original interrogation, that the first sketch the pilot drew was about helf the size (i.e. all radii one half) of the final sketch which has been coly in the inclosed overlay. This is further brought out by the calculations for the radius of turn. The pilot was positive that the airspeed was always 160 knots and that he was pulling about two to three G's. As stated before, this would give a radius of turn of about 1,500 ft. instead of the 6,000 ft. as shown on the overlay. a 6,000 ft. radius turn is not considered likely during any interception tactics in an aircraft as slow as a PBM. Changing the radius of the $360^{\circ}$ turn to $1,500 \mathrm{ft}$. would nshrink" the complete sketch to one-fourth the original size (see overlay).
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The time to turn，with a 1，500 ft．radius，is 35 seconds．Assurning the turn was not a perfect circle but more of an ellipse，the time would increase to possibly 45 seconds．This is also a discrepancy since the pilot judged the elapsed time to be two and one half minutes．This is not a serious dis－ erepancy，however，as it is known that short intervals are difficult to judge and the pilot did not actually time his maneuvers．

The description of the object could very well be that of a balloon． Observations have shown that a balloon appears to be more oval or dome－ shaped than spherical and due to shadows，the bottom appears darker than the top．The talcum powder used in packing the balloon could easily give the eppearance of segments such as the panels in a parachute．The oscil－ lations of the object described by the pilot are very similar in period to those of a balloon．The pilot stated that he did not observe anything sus－ pended from the object such as the radar reflector handing beneath the balloon， however，the tower operator was sure that the pilot had mentioned the fact that there was something dark beneath the object when he called the tower to des－ cribe the object he had seen．

A T－Il was the only aircraft in the area near the time of the sighting． The possibility of the pilot＇s first seeing the balloon then the T－11 were checked but the T－11 was on an entirely different heading than that of the object，and was out of the immediate area．

## IV．CONCLUSIONS

From the data obtained on this sighting，it cannot be definitely con－ cluded that the object sighted by the TBM pilot was the Rawinsonde balloon released by the Mitchel AFB Weather Station．However，enough of the data on the reported object does correlate with that of the balloon to indicate that there is a possibility that the object observed was a balloon．There were no other reports of persons observing any unusual objects and since the object appeared to be 20 ft 。 to 30 ft 。 in diameter and very unusual in appearance at only 200 ft 。 to $300 \mathrm{ft}_{0}$ altitude over a thickly populated area，it would seem very likely that itwould have been seen and reported by soneone on the ground．

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## APPENDIX III

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\text { Korea - } 29 \text { January } 1952
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## I. DESCRIPTION OF INCIDENT

On the night of 29 January 1952, 30 miles WSW of Wonson, Korea, three members of a B-29 crew, the tail, left, and top gunner, observed a light orange colored sphere for a period of five minutes. The object was on a parallel course to the B-29 at 8 o'clock level. The color of the object was further described as being the color of the sun with an occasional bluish tint. The outer edge of the object appeared to be fuzzy and it seemed to have an internal churning movement like flames or fiery gases. The object closed in on the B-29 to an undetermined distance, and then faded away in the distance.

The aircraft was on a heading of $274^{\circ}$, was at $22,500 \mathrm{ft}$. altitude and was making a ground speed of 148 knots. The time of the sighting was 2300 local Korean time. The weather was CAVU.

At 2324 local Korean time, members of another B-29 crew observed an identical object near Sunchon. This object was observed for one minute. The observers were the left and tail gunners. In this instance, the B-29 was at $22,250 \mathrm{ft}$.

The sources of these reports are all World War II veterans and veterans of previous combat missions in Korea. The crews were from different squadrons and were interrogated separately.

## II. DISCUSSION OF THE INCIDENT

The times that the object or objects followed the B-29's indicate that the objects were propelled by some means, which eliminates the possibility of an unguided ground-to-air missile, drop missiles, etc. The color and shape of the flame were studied by members of the ATIC Propulsion Group to determine whether or not the flame could have been the exhaust of a conventional jet engine with or without an afterburner, a pulse-jet, ram-jet, or rocket engine. None of these possibilities were considered to be applicable.

The report is somewhat similar to the reports of mireball-fighterstr, a type of phenomena observed in Europe during World War II. The exact nature of this phenomena was never determined but bomber crews reported large fiery balls, similar to the sun, passing through or near their formations. There is no documented evidence or data available on this phenomena, and all the information that has been obtained is verbal from World War II bomber crewmen, consequently, few actual facts are available.
III. GONCLUSIONS

No conclusions have been reached as to the identity or origin of these unidentified aerial objects. One possibility is that this may have been some type of flare towed by an aircraft to mark the B-29 for flak crews. No aircraft exhaust flame was raported, however.

## APPENDIX IV

Korea - 24 February 1952

## I. DESCRIPTION OF INCIDENI

On the night of 24 Pebruary 1952, at 2315 local Korean time, the navigator of a B-29 observed an unidentified aerial object. The B-29 was picked up by searchlights and about 45 seconds later the navigator sighted an object approaching from 7 o'clock. The object was estimated to be over Antung at this time. The object appeared to be cylindrical in shape and had a rapidly pulsating gaseous type of exhaust trail. The exhaust trail was approximately three times the length of the object with both the tail blast and the object bluish in color.

When first observed the object appeared to be climbing at $45^{\circ}$, however, it leveled off approximately $4,000 \mathrm{ft}$. from the B-29 and turned toward the B-29 as if taking up an interception course. The object continued to close on the B-29 at high velocity for approximately 15 seconds after which time it broke off level flight and headed down, passing under the B-29 at a gradual angle. As the object began to descend the flame diminished in size and got brighter. The navigator estimated that the object came within 3000 ft. of the aircraft and "it appeared to be the size of an automobile. (Assumed to mean the same size as an automobile viewed from 3,000 ft.)

The B-29 was flying at 22,000 ft. altitude and at a speed of 200 knots.
The searchlights stayed with the aircraft for approximately four minutes and weak inaccurate flak was encountered during the entire incident.

Weak electronic signals were picked up by the electronic countermeasures operator for a short time.

## II. STATUS OF INVESTIGATION

More details on the sighting have been requested from FEAF. Since the object resembles a surface-tomair guided missile, the incident has been referred to the ATIC guided missiles group.

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# PROJECT RHLIE BOOK - REPORT NO. 5 <br> FORMERLY PROJECT GRUDGE 

PROJECT NO. 10073

31 MARCH 1952.

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COPY NO. 84
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AUTH: CO, ATIC<br>BY: E. E. ROPPELT<br>Ist Lt, USAF<br>DATE 2 Apr 52

This report is the fifth of a series of monthly status reports of Project Blue Book. Each report is written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered outstanding will be sumarized in the appendices of the report so that more details can be presented. The overall status of the project will be presented.

Any additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attn: ATIAA-2c, WrightPatterson Air Force Base, Dayton, Ohio.

The security classification of this report is Secret due only to the inclosure of reports that were classified Secret by the originating agency and due to the fact that allied information pertaining to the project is Secret. The classification of each separate incident is noted with the incident.

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STATUS OT RROJECT BLUE BOOK

## I. OVERALL STATUS

## A. Change of Project Nickname

The nickname of the project, which was formerly "Grudgei", has been officially changed to "Blue Book".
B. Directive for Reporting fncidents

A proposed directive to replace the AFOIN-C/CC-2 directive dated 19
December 1951, subject, ilkeporting of Information on Unconventional Aircraft", has been coordinated with ATIC and forwarded to D/I for approval.

This directive is similar to the directive of 19: December 1951 except it will require that all reports be made by wire to ATIC, ADC, and V/TC and that these wire reports be followed up by an Air Force Form 112 sent directly to ATIC and V/TC. Past experience has shown that in order to carry our investigations successfully ATIC must be informed of sightings immediately, by direct channels.

## C. Holloman Report

Project Blue Book has recently received a copy of a report written by personnel of Holloman AFB, New Mexico. This report, dated 25 July 1951, compiles the results of an investigation of unidentified aerial phenomena carried out at Holloman AFB.

The project consisted of an organized watch for the objects, the watchers being equipped with cameras. Several photos were obtained with hand held cameras. The photos show only a round image with no details for identification. On two occasions objects were photographed with Askania theodolites, once on 27 April 1950 and again on 29 May 1950. The results were not satisfactory, however, anc ne data could be obtained because in the first instance only one station was tracking and in the second instance two stations tracked two different objects.

The report makes no conclusions as to the identity of the objects. However, it does establish the fact that some type of object did exist.

Action will be taken by Project Blue Book to establish liaison with Holloman AFB and determine if any additional results have been obtained.
D. Life Article on Unidentified Aerial Objects

Mr. Robert Ginna of the Life Magazine Staff visited ATIC on 3 March 1952 to obtain material for an article which will appear in Life on 4 April 1952. He was very familiar with this subject as he has spent a great deal of time in research. The article has been coordinated with Hq USAF.

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ore zineryuting asnect of the visit by Mr. Ginna was the fact that life has information on several sightings by highly qualified observers that were unknown to ATIC. These people, all civilians, had not reported their observations to any military sources, consequently, ATIC did not have the reports. with the exception of these and several more minor reports, ATIC did have information on all of the incidents that he inquired about.

It is believed that Mr. Ginna's contact with the fir Force established an excellent source of material in that Life has representatives all over the world and these people are sending reports to life as a matter of routine. ATIC will have access to these reports.

## E. Visit by Dr. Joseph Kaplan

On 7 March 1952, Dr. Joseph Kaplan, Professor of Physics at UCLA and a member of the AF Scientific Advisory Board visited ATIC to discuss methods of obtaining more factual information on the reported unidentified aerial objects than has been obtained in the past. His primary interest is the Green Fireball" phenomena, but the methods he suggested can be applied to any object.

Dr. Kaplan's suggestion is to use spectrum analysis as an aid in identifying the objects. Any object that emits light will have a definite spectrum. The first step in Dr. Kaplan's suggested plan is to obtain the spectrum of the object. This spectrum is then matched with the spectrom of known objects such as meteors, stars, etc., to eliminate or establish the fact that they are known objects. If the objects are not astronomical bodies and spectrum will give some indication as to what they might be. For example, a spectrum of an exhaust trail would show the composition of the exhaust. These examples apply to night sightings in general; however, bright objects appearing in the daytime could be analyzed in a similar manner. If the object were reflecting light instead of emitting it, the spectrum would be the same as that of the sun. Then it would be a case of establishing whether or not there was an aircraft in the area.

The system will afford a means of determining whether or not reported objects are actually some new type of aircraft or merely misidentification of known objects. This suggested system would not completely fulfill the requirements of the project, however, it is a quick, economical means of obtaining more concrete information than now exists and is considered a first step in the investigation.

To obtain the spectrume of the objects, two methods have been suggested. One is the use of a comparatively large ( 8 m $\mathbf{x} \mathrm{m}$ ) diffraction grating. The observer upon seeing an object would hold up the grating and observe the object through the grating. A means would be provided for marking the observed spectrum on the grating. This would then be sent to some expert for analysis. The second method, and the one under consideration would be to construct an inexpensive hand held camera with a diffraction grating over the lens. With this method a permanent record of the observation would be obtained.

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The gratings or grating camera combinations would be inexpensive enough so that several hundred could be procured. Areas where observations have been concentrated would be stressed: Groups such as security patrols, control tower operators, and anyone who spends a great deal of time ourmof-doors would be equipped with the instruments and be given a set of instructions as to how to use them.

Action has been taken to determine the feasibility of such a programo
Fo Air Defense Command and Joint Air Defense Board Briefing
On 19 March 1952, General Chidlaw and his staff, of the Air Defense Command, and General Gardner and his staff, of the Joint Air Defense Board, were briefed by an ATIC briefing team. The groups were briefed on the history and operations of Project Blue Book and a member of the Aircraft Performance and Characteristics Branch of ATIC presented data on missiles and types of unconventional aircraft that are known to exist or have existed.

The purpose of the briefing was to present the problem to ADC and deter. mine how they can help. It was found that ADC presently has about 30 radar sites equipped with scope cameras. These cameras are not operational on a 24 -hour basis but this could be accomplished in a minimum time particularly in locations of special interest to Project Blue Book. Radar scope photographs would be of great value in interpreting some of the unusual radar returns that are reported.

Action has been taken to initiate a program with ADC to utilize their radar facilities.

## G. Beacon Hill Group Briefing

The Beacon Hill Group, Air Force Technical Advisers, were briefed on 26 March 1952 in Boston. This group, consisting of AF consultants in the fields of electronics, optics, acoustics, data collation and other fields, was briefed so that they would have an understanding of the rrobleas confronting Project Blue Book and could offer suggestions. After the briefing several hours were spent discussing the project. The main point of the discussion was to arrive at some means of establishing whether or not there is some unusual type of aircraft flying over the United States.

Several very excellent suggestions were offered. One was to employ sound detection apparatus in the locations where concentrations of sightings have been reported. This equipment, which is very sensitive to sound, can be left unattended eliminating the problem of personnel for a continual watch. Sounds from aircraft, wind, insects, etco, can be identified, consequently, if the apparatus were placed far enough from a populated area and highway to eliminate a large percentage of the sounds, any unknown sound would be of value in indicating the presence of an unidentified object. It is understood that this equipment is available。

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The problem of photographic equipment was discussed. It was found that almost any type of photographic surveillance equipment desired could be built, however, some of it would be expensive. The question of the ability of large astronomical observatories detecting any umsual objects with any of their $t$-lescopes or meteor cameras was brought up. It was agreed that their chances of observing an object at random was low, unless they knew of its presence and directed their equipment toward it. This was very interesting because some people have had the theory that no unusual objects could exist because they would have been detected by observatories. In the future, cameras, professionally termed "patrol cameras", will be developed that can detect such objects, but this development is not contemplated in the near future.

Another suggestion offered by the group was to go back through old newspaper files and other sources and try to determine whether or not this phenomena is new. This has been done by several authors but the sources of some of these reports are doubtful. The group believed that if such phenomena as disk-shaped objects, green firebails, etco, did occur they would heve been reported and would be recorded.

This group, all of whom were experts in their fields, were very much interested in the problems of trying to identify these objects and can be counted upon for aid as problems arise.
II. REPPORTS OF SPPEIFIC IHDICENLS
A. Inclosed Sumnary List of Incidents

The inclosed list of incidents is (1) a summary of all incidents reported during the pefiod 1 March 1952 to 31 March 1952; and (2) those incidents reported in Status Report No. 4, dated 29 Februery 1952, which are still pending or have been closed during the month.



APPENDIX I<br>Tashkent, USSR - May to September 1947

## I. DESCRIPTION OF INCIDENT

During a period from May to September of 1947, a source observed three light phenomena almost every night between the hours of 2100 and 2200 and 2200 local time. The phenomena which occurred at 15 minute intervals were seen SSE of Pakhta Aral, which is about 31 miles SW of Tashkent, USSR ( $41^{\circ} 18^{\circ} \mathrm{N}-69^{\circ} 15^{\circ} \mathrm{E}$ ).

The phenomena first appeared as a large dark red batil or fire。 After about six seconds it reached the apex of a long trajectory, during which time it developed a trail of fire. As the ball of fire descended from the apex of the trajectory, it changed from red to pale green, to white. Smoke trails, noises, or detonations were not heard nor seen. At the apex of the trajectory and object seemed to be about onemfifth the diameter of a full moon.

## II. STATUS OF INVESTIGATION

No further investigation or interrogation is possible. Report is evaluated as F-3. This report was submitted to Project Blue Book because of the green color which might possibly relate to "Green Fireballs".

## III. CONCLUSIONS

No conclusions can be made due to the nebulous nature of the information. This report was submitted to the Fuels Group and Guided Missiles Group of ATIC. Both agreed that the object was not a liquid fuel missile, however, it could have been a smaller solid fuel rocket.

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## APPENDIX II

Fairchild AFB, Washington - 20 January 1952

## I. DESGRIPTION OF INGIDENT

At approximataly 1920 MST on 20 Jamuary 1952, two Wing Intelligence airmen noticed a bright spherical object traveling through the sky. At first it was assumed to be a meteor but then it was noted that it appeared to be traveling beneath a clotia" layyer" The object was traveling at a speed much faster than a jet aircreft. The object, which made no sound, was traveling in a path horizontel to the earth at an estimated 500 feet and left a blue trail. The trail seemed to come from the object in spurts. The object disappeared from sight behind a building.

The two airmen observers, a Tech Sergeant and Master Sergeant are considered reliable observers.

## II. STATUS OF INVESTIGATION

This incident is interesting due to the fact that there was an eight-tenths cloud coverage at $4,700 \mathrm{ft}$ 。 It is possible that the object was viewed between a break in the clouds and that it was extremely high, indicating that the sighting was a meteor. However, the sources indicated that they believed the object was below the cloud covier, and if this is true the slant range of the object can be computed to be about $7,300 \mathrm{ft}$. This would eliminate the possibility of the lighted object being a conventional aircraft, since no sound was heard. The possibility of a meteor is also nil because a meteor would not be traveling horizontally at 7,300 ft.

A request was made for the angular measurement of the arc made by the object, however, this information could not be obtained. It is presumed that the sources were not available for questioning.

## III. CONCLUSIONS

If the object was beneath the cloud cover it was not a conventional aircraft or meteor, and no conclusions can be made as to its identity.

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## APPENDIX III

Kansas City, Missouri - 11 February 1952

## I. DESCRIPTION OF INCIDENT

On 11 February 1952, between 1205 and 1215 CST the source, a civilian woman, was watching a $\mathrm{B}-36$ fly from East to West over Kansas City. While watching the B-36, she noticed a round bright object just north of the vapor trail left by the aircraft. The object was observed for ten minutes through $6 \times 30$ binoculars and during this period it drifted over the observer and continued south of Kansas City.

## II. STATUS OF INVESTIGATION

Two balloons were launched in the general area prior to the time of sighting. A piball balloon was launched from Fort Leavonworth, Kansas, at 0930 CST and a Rawinsonde balloon was launched from Fairfax Airport, Kansas City, at 1130 CST. It is doubtful if the balloon launched at 0930 would be in the area at 1205 CSI as they usually burst within an hour after the lannching.

The balloon launched at 1130 CST could have been observed, however. In the 35 minutes between the time of the balloon launch and the observation, the balloon would have ascended to approximately 30,000 feet and would have traveled approxio mately 15 miles. (The wind was from $315^{\circ}$ and averaged about 30 knotso) This would mean that the balloon passed near the source. If some allowance is made for an error in time, it is very possible that the balloon could have passed directly over the observer. (See inclosed overlay.)

The fact that it could be observed at $30,000 \mathrm{ft}_{\mathrm{t}}$ is probably due to the fact that the sun caused the balloon to glow.

## III. GONCLUSIONS

The object observed by the source was very possibly a kawinsonde balldon, launched from Fairfax Airport.

## UNCLASSIEIED

Sherman AFBFt. Leavonworth, Kansas


OVERLAY OF KANSAS GITY LOGAL AREA GHART
21
T52-6888

Washington, D. C. Area - 12 February 1252

## I. DESCRIPTION OF INCIDENT

On 12 February 1952, two MATS pilots flying a C-47 on a local flight observed a bright white object which appeared to be at 7,500 ft. to 8,500 ft. and abourt one-sixth the size of a rising moon.

The object was observed twice. The first time at 2030 EST, the $C-47$ was between Baltimore and Baltimore Friendship Airport. The object was estimated to be eight to ten miles away traveling slowly for a moment but then accelerated very rapidly and disappeared southwest of Washington, D. C.

The second time the object was observed wa's at about 2100 EST, the $0-47$ was about ten miles south of Baltimore at the time. The object appeared to approach Washington from the south and east, making a left turn toward the city. When it was within two or three miles ESE of Washington, it appeared to hover for about one minute and then it disappeared.

In both instances the object was observed for two or three minutes.

## II. STATUS OF INVESTIGATION

The description of this incident is very similar to the one reported on 28 December 1951 that proved to be a helicopter carrying experimental lighting. However, checks on local traffic did not reveal a helicopter in the area on this date.

## III. COMCLUSIONS

Hone.

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## APPENDIX V

El Paso, Texas UNC1 ASSIFIED.
35 February 1952

## 1. DISGUSSION OF INGIDENT

This report contained a photograph of two very unusual objects. The source, an AF Captain, stated that he was attempting to photograph "a circle ${ }^{3 i}$ that he observed near a rainbow. The "circle" disappeared but he took a pictare anyway. Upon developing, or having the negatives developed, two circular objects, similar in appearance to the planet, Saturn; were noticed.
II. STATUS OF INVESTIGATION

Examination of the negative under a microscope showed that the images on the print were caused, by two damaged spots on the negative. The cause of these damaged spots is unknown but it appeared that the emulsion had been heated or burned as it was brownish in color. The spots could also have been due to something touching the emulsion while it was still in a gelatin atate.
III. CONCLUSIONS

The images on the prilt were due to damaged spots on the negative. .

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## STATUS REPORT

# - PROJECT BLUE BOOK - REPORT NO. 6 

FORMERLY PROJECT GRUDGE

# AIR TECHNICAL INTELLIGENCE CENTER <br> WRIGHT-PATTERSON AIR FORCE BASE DAYTON. OHIO 

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2. WARNING: This document contains information affecting the national defense of the United States within the meaning of the Espionage Law, Title 18, U.S.C., Sections 793 and 794. Its cransmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

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This report is the sixth of a series of monthly status reports of Project Blue Book. Each report is written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered outstanding will be summarized in the appendices of the report so that more details can be presented. The overall status of the project will be presented.

Any additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attn: ATIAA-2c, Wright Patterson Air Force Base, Ohio.

The security classification of this report is Secret due only to the inclosure of reports that were classified Secret by the originating agency and due to the fact that allied information pertaining to the project is Secret. The classification of each separate incident is noted with the incident.

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STATUS OF PROJECT BLUE BOOK

## I. OVERALL STATUS

A. Briefing of the Civilian Saucer Investigations"

On the evening of 2 April 1952; a civilian group who are interested in the investigation of reports of unidentified aerial objects was briefed on all of the unclassified aspects of the project. This group consists of employees of the North American Aircraft, Inc., Aerophysics Laboratory, and several nontechnical persons. The organization is not, however, officially affiliated with the aircraft company. The majority of this group are qualified engineers and are working on missile developments.

The purpose of the briefing was to familiarize this group with the past. history and present operations of the project. It is believed that these people will possibly receive reports of unidentified aerial objects from civilian sources that might not be reported to the Air Force. They are also in contact with other civilian groups in the United States that are collecting similar reports.

Although this group is financially unable to conduct any largemscale investigations, liaison has been established so that the Air Force will be advised of any outstanding reports they receive.

## B. Visit to ranco

A group of Rand, Inc.g personnel were briefed on 4 April 1952. Although Rand, Inc., is not associated with the project in any way, some of the scientists are personally interested and have been following the status of the project. After the briefing, various aspects of the project were discussed, among them the use of a diffraction grating camera to obtain the spectrum of objects that may be observed. All of the group concurred that this would be an inexpensive method of obtaining more definite data.

The status of the Rand study on the satellite rocket was also discussed.
C. Status of Diffraction Grating Camera

The status of the proposed diffraction grating camera was discussed with Dr. J. Kaplan of UCLA on 2 April 1952. Dr. Kaplan used a laboratory set-up to demonstrate how the grating will function. Suitable gratings have been found and it is believed that they can be reproduced for from $\$ 15$ to $\$ 20$ each. Although these gratings are not of hioh quality, they will be good enough to give the results that are hoped for. Tests are now being conducted to determine how inexpensive a lens can be used to give the light gathering power and definition needed to obtain a satisfactory photograph. The intensity of the full moon is being used as the standard brilliance* for the tests.

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"Suggestions have been made for incorporating devices into the camera so that the azimuth, elevation and possibly the temperature of the source can be measured. The primary factors in determining whether or not these extra devices can be included are the cost and the fact that they will complicate the operation and maintenance of the cameras.
D. Visit of Look Magazine Reporter

On' 25-26 April 1952, a representative of Look Magazine visited ATIC to obtain material for a forthcoming magazine article.
E. Status of Utilization of Radar Scope Cameras

On 21 April 1952, a letter was forwarded to Air Defense Command requesting the location of all ADC radar sites that have operational radar scope cameras and those sites that have cameras but do not yet have them operational. When this information is received, a request will be made to pat all or part of these cameras on a 24 -hour alert basis.

Although this will not provide definite identification of radar returns, it will aid in determining whether or not the return is due to weather phenomena, a malfunction of the set or a return from some unidentified object. a photograph of the exact size and shape of the return will then be available for study and the impression of the operator need not be relied upon.

## F. Contractor Status

The contractual agreements.with for fur nishing aid in conducting this project have been finalized. At the present time these people are formulating a standard questionnaire which will contain all data pertinent to a sighting. There have been several such questionnaires used in the past. The good points of each will be combined to give a new, more complete system of obtaining information.

## G. Reaction to Life Magazine Article

On 4 April 1952, Life Magazine published on extensive article entitled, Wlave We Visitors From Space?" This article created a great deal of interest in the subject of unidentified aerial objects. During the period of 3 April to 6 April 1952, approximately 350 daily newspapers in all parts of the United States carried some mention of the article and some mention of the fact that the Air Force was interested in receiving such reports.

It should be noted here that the conclusions reached by life are not those of the Air Force. No proof exists that these objects are from outer space.

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UNCLASSIEIFP Ieters the article. The letters are divided among those that offer theories as to the origin of the objects as well as those reporting objects. The letters offering theories comprise about 20 percent of the total. Although it cannot be stated that the theories are incorrect, a majority of them cannot be further evaluated since they hare very little scientific basis. The letters which reported sightings comprised about 80 percent of the total. All but a few of these letters reported sighting that occurred within the last two years. The writers of these letters ranged from mystics to highly educated individuals.

All letters have been acknowledged.
It has been reported that Life Magazine has received 700 letters in response to the article.
II. REPORTS OF SPECIFIC INCIDENTS
A. Inclosed Suminary List of Incidents

The inclosed list of incidents is (1) a summary of all incidents reported daring the period 1 April 1952 to 30 April 1952; and (2) those incidents reported in Status Report No. 5, dated 31 March 1952, which are still pending or have been closed during the month.



## SIGHTINGS OF UNIDENTIFIED OBJECTS



## SIGHTIMGS OF UNIDENTIFIED OBJECTS



SIGHTINGS OF UNIDENTIFIED OBJECTS

| $\therefore$ DATE | $\begin{gathered} \text { TIME } \\ (\text { LOCDI) } \end{gathered}$ | LOCATION <br> sin | . $\quad . \quad$ OESCRIPTION OF INCIOENT | $\begin{aligned} & \text { LENGTH } \\ & \text { OF TIME } \end{aligned}$ | Sound | SPEED |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 May 52 | 2300 | Phoenix, Ariz. | Two couples in convertible with top down observed cigar shaped, glowing white object descending slightly. (Confidential) | 4 Sec . | - | 500 mph |
| 5 Yay 52 | 2200 | Phoenix, Ariz. | Rluish-green light ascending slightly. (Confidential) | 2 Sec. | - | 1000 mph |
| 7 May 52 | - | Rio de Janerio, Brazil | Photos of flying saucers taken by professional photographers. (Restricted) | - . | - | - |
| 7 May 52 | 1330 | Nashville, Tenn. | Dark circular object with pendulum motion. (Unclassified) | 5-8 Min . | - | $\begin{gathered} \text { Probably } \\ \text { slow } \end{gathered}$ |
| 8 May 52 | 0227 EDST | Atlantic Ocaan | PAA crew saw three lights, one after another, in opposite direction to them and at same altitude. (Confidential) | Ferr Sec. | - | Fast |
| $9 \text { May } 52$ | 1030 PDST | George AFB, Calif | Round, silver object observed from ground and from two F-86's. (Restricted) | - |  | - |
| 9 May 52 | 1250 PDST | George AFB, Calif | Two silver metallic objects moving with the wind at a slow speed and at certain angles to the sun giving off a bright glare. Another report at the same time stated only one object sighted. (Restricted) | 4 Min . | - | - |
| $9 \text { May } 52$ | 1750 PDST | George AFB, Calif | Dull colored object shaped like arrowhead which flew straight and level course. (Restricted) | 10 Sec. | -- | 1500 mph |
| 10 may 52 | -1500 MST | Albuquerque, N.M. | Two silver disc-shaped objects at different altitudes. (Confidential) | 5-10 Min. | --- | - |
| 10 May 52 | 2240 | Augusta, Ga. | Initially four discs observed then, 20 minutes later, one more was observed and finally, 10 minutes later another disc was observed. The discs appeared to be 15 inches in diameter and yellow or gold in color. | Few Sec. | -- | High |
| 11 May 52 | 0121-0132 | Seattle, Wash. | Red body tracing streaks or sparks. (Restricted) | 4 Sec . | Explosion | - |
| 11 May 52 | 2058 CST | Deephaven, Minn. | Object bright as meteor with a short tail on it. (Restricted) | 10 Sec. | - | Fast |
| 11 way 52 | 1220 \& 1226 | George AFB, Calif. | Three objects, one of which resembled a paper plate and was white, were observed in tro sightings six minutes apart. (Restricted) | 1 Min. | - | - |
| 13 May 52 | 11152 | E1 Centro, Calif. | a. Five flying saucers as large as $\mathrm{B}-36$ with light underneath. <br> b. F-94 pilot reported shooting star. <br> c. Sheriff sighted object like parachute flare. <br> d. Tower operator sighted pulsating orange and blue object hovering and changing position. (Confidential) | - | - | Terrific |
| 13 Kay 52 | 1425 PDS 2 | George AFB, Cal if | A round, shiny, metallic object which appeared to reflect or glow white or silver was observed from T-6G aircraft at $10,500 \mathrm{ft}$. (Restricted) | 30 kin . | - | Stationary |
| 14 tay 52 | $\frac{y_{4} \mathrm{O}-y_{1} 30}{\mathrm{PDST}}$ | George AFB, Calif. | Same as above. | 25 Min. | - | - |
| 15 May 52 | 2135 | Washington, D.C. | Goldish-orange, saucer-like object gave impression of spinning motton. Two observers at different levels, i.e., one at street level while cther at roof level, hence variations in observation. (Restricted) | 6-10 Sec. | - | Slow and/ or extreme ly fast |

## GHTINGS OF UNIDENTIFIED OBJECTS



## APPENDIX I

Artesia．New Mexico－ 16 January 1952
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## I．DESCRIPTION OF INCIDENT

On 16 January 1952，two members of a balloon project from the General Mills Aeronautical Research Laboratory and four other civilians observed two unidentio fied aerial objects in the vicinity of the balloon they were observing．The balloon was at an altitude of $112,000 \mathrm{ft}$ 。 and was 110 ft 。 in diameter at the time of the observation．

The objects were observed twice，once from＇Artesia，New Mexico，and once from the Artesia Airport．In the first instance，one round object appeared to remain motionless in the vicinity，but apparently higher，than the balloon。 ．The balloon appeared to be $1 \frac{1}{2}$ inches in diameter and the object $2 \frac{1}{2}$ inches in diameter（ratio 3：5）and the color was a dull white．This observation was made by the two General Mills observers．

A short time later the same two observers and four civilian pilots were observing the balloon from the Artesia Airport．Two objects at apparently extremely high altitude were noticed coming toward the belloon from the northwest．They circled the balloon，or apparently so，and flew off to the northeast．The time of observation was about 40 seconds．The two objects． were the same color and size as the first object．They were flying side－by－ side．When the objects appeared to circle the balloong they disappeared and the observers assumed they were disc－shaped and had turned on edge to bank．

## II．STATUS OF INVESTIGATION

Unfortunately this report was not made until 5 April and did not reach ATIC until 16 April．Due to this time lapse，no further investigation is contemplated．The observers are known to be very reliable and experienced．

## III。

CONCLUSIONS
None．

APPENDIX II

Nenana, Alaska - 22 January 1952

## I. DESCRIPTION OF INCIDENT

At 10202 on 22 January 1952, a radar station at Murphy's Dome, Alaska, observed an unidentified radar return. The target was going away from the station on an azimuth of $210^{\circ}$, at a speed of about 1500 mph when first observed but appeared to reverse its direction and returned toward the station. The set was adjusted so that the target could be observed as it closed in on the station but after this change was made the target was no longer observed. Seven minutes later (approximately 1030Z) the target was again observed, however, at about its original location, and again going away from the station. Just before it faded it appeared to be making a turn back toward the station.

At 10302 an F-94 was airborne to search for the object. At this time the object was going away from the station at a high rate of speed so the $F=94$ was told to orbit. About this time the ground station lost contact with the object but continued to track the F-94.

At about $1100 Z$ as the $\mathrm{F}-94$ was approaching Nenana (near Fairbanks) ${ }_{9}$ the radar observer in the $\mathrm{F}-94$ observed two targets, one faint and one bright. The aircraft was at $30,000 \mathrm{ft}_{\mathrm{c}}$. and the target was at $25,000 \mathrm{ft}$. The targets crossed from right to left and appeared to be traveling slowly and as the F-94 approached the target a high rate of closure was indicated. The contact was lost at a range of 200 yards.

Approximately one hour later, again near Nenana, another contact was made by the F-94. In this instance the terget was kept dead ahead and level. When the target was at a range of 200 yards, the pilot puiled up and the target was lost. The rate of closure during the run was 100 knots even though the Fa94 had flaps down. No other contacts were made and the aircraft was released at 12102.

During the two airborne contacts the F-94 was being tracked by the ground station but the object was not being picked up.

The weather was clear but no visual sighting was made。 On the same night, the same crew had visually identified a $C-54, a \cos 47$, and a small civilian aircraft from 300 to 500 yards. There were no clouds in the sky but it was a dark night.

Ho malfunctions were found in either radar set.

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## II. STATUS OF INVESTIGATION

Report is being studied by the Electronics Branch of ATIC.
III. CONCLOSIONS

Pending.

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## I. DESCRIPTION OF INCIDENT

On 3 April 1952 at $0815 \mathrm{MST}_{g}$ three civilian AF pilot instructors and several other people observed an object from the Benson A Arizona, airport. The object $^{\text {a }}$ was about the size of a bright star but was prominent enough to be continually observed (i.e. not necessary to scan the sky to find it).

At 0823 MST , one of the instructors took a fix on the object by sitting in a T-6 and sighting across the canopy with the aircraft on a magnetic heading of $255^{\circ}$ at the time. Fixes were taken at intervals until 0914 at which time the object disappeared. The object did not move during the 51 minute period. How the object disappeared is not known as one of the observer's attention was distracted for about 15 seconds and when he looked up the object was gone.

One of the instructors flew a $T-6$ up to $13,500 \mathrm{ft}_{\mathrm{o}}$ in an attempt to better observe the object, however, there was no relative change in the size.

Several cadets flying T-6's in the area also observed the object.

## II. STATUS OF THE INVESTIGATION

The excellent forethought of the instructor to take continual fixes on the object has eliminated the possibility of the object being an aircraft or balloon since no motion was observed. In addition, an investigation was made and it was determined that there were no balloons in the area.

It is possible that the object was a bright planet. This is doubtful, however, since a planet would appear to move some in 51 minutes.

The approximate elevation of the fix has been requested. In the original report it was given as "ntwo inches above the canopy". This angle will depend on height of the pilot, height of seat, etc. When this information is received, a nearly exact fix can be obtained and known astronomical bodies checked.
III. CONCLUSIONS

Pending。

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## APPENDIX VI

Madison, Wisconsin - 16 April 1952

## I. DESCRIPTION OF INCIDENT

This incident is cited not so much because it is outstanding but because of the excellent attempt at jdentifying the object by $A D C$ units.

2015 CST: Civilian telephoned fighter operations of Truax Field to report that he had just sighted a formation of yellowishwhite lights traveling at a high rate of speed on a heading of $90^{\circ}$.

2020 CST: Fighter operations called $A C$ and W Squadron. The radar was closed down for preventive maintenance but was operational within three minutes. A flight of $\mathrm{F}-80^{\prime} \mathrm{s}$ were directed to investigate and returned with negative results. A flight of F-86's were sent to 30,000 ft., also returned with negative results.

In addition to this the $A C$ and W Squadron Intelligence Officer checked all airline flights and checked two observatories for any unusual astronomical displays. Results were negative.

## II. STATUS OF INVESTIGATION

It is possible that the observer saw either the F-80's or F-86's over Madison, since they were in the area, however, the source reported no sounds. The objects were also reported to have turned very sharply and climbed at a high rate of speed. Jet aircraft far enough away not to be heard would normally not appear to make a sharp turn and fast climb.

## III. COMLDSIONS

Source possibly observed jet aircraft in area and the apparent high speed and rate of climb was an illusion.

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## APPETDIX VII

Bethesda. Maryland - 18 April 1952

## I. DESCRIPTION OF INCIDENT

Four civilians reported that they observed a V-formation of from 7 to 9 lights traveling north over Bethesda, Maryland, at 0130 EST on 18 April 1952. *
The included angle of the formation or 口V" $^{\prime \prime}$ was estimated to be $40^{\circ}$. There was one light at the apex and three to four in each leg. Each light appeared to be orange-yellow, circular, and to occupy 15 percent of the total length of the leg.

The formation, or object, was first sighted at an elevation of about $60^{\circ}$ in the south and disappeared behind some trees at $60^{\circ}$ in the north. The total time of observation was from four to eight seconds and there was no sound.

A11 four observers were interrogated and their accounts of the incident were similar. They stated that they had not seen the Iife Magazine article describing the Labbock incident prior to the sighting.

## II. STATUS OF INVESTIGATION

The possibility of jet aircraft in the area was checked. A similar report of light formations did turn out to be very probably a B-45 type aircraft, however, no jets were known to be in the area at the time of this incident.
III. COMCLUSIONS

Hone.

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# STATUS REPORT 

PROJECT BLUE BOOK - REPORT NO. 7<br>FORMERLY PROJECT GRUDGE

PROJECT NO. 10073
31 MAY 1952

# AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE BASE DAYTON. OHIO 

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This report is the seventh of a series of monthly status reports of Project Blue Book. Each report is written on or near the last day of the month and will contain a list of all incidents reported during the month covered by the report. The reports that are considered outstanding will be sumarized in the appendices of the report so that more details can be presented. The overall status of the project will be presented.

Any additional information may be obtained on any incident by directing requests to Chief, Air Technical Intelligence Center, Attn: ATIAA 5 , Wrightm Patterson Air Force Base, Ohio.

The security classification of this report is Secret due only to the ins closure of reports that were classified Secret by the originating agency and due to the fact that allied information pertaining to the project is Secret. The classification of each separate incident is noted with the incident.

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STATUS OF PROJECT BLUE BOOK

## I. OVERALL STATUS

A. Briefings on Project Blue Book

On 8 and 9 May 1952, three briefings were given on Project Blue Book in Washington, D.C. The people briefed included Secretary of air Finletter, Major General Samford and Brig General Ackerman of the Directorate of Intelligence, Brig General Maxwell of the Research and Development Board, and members of the Office of Naval Research.
B. Field Investigations

During the month of May 1952, two field investigations were made.

1. 20-24 May 1952 - George Air Force Base, Calif.
2. 21 May 1952 - Pan American crew at New York, New York
C. Visit by Representative of the ONR

A representative of the Office of Naval Research visited ATIC on 28 May 1952. The purpose of the visit was to discuss the operation of Project Blue Book and to determine what aid, if any, the ONR could offer: It was decided that at the present time the Navy could best assist the Air Force by publishing some type of directive pertaining to reports of unidentified aerial objects. A liaison with the ONR was also established so that any contacts with the Navy can be expeditiously handled. (Action on the above Navy directive has been started.)

## D. RCAF Interest in Project Blue Book

Two RCAF personnel, members of the Directorate of Scientific Intelligence, Defense Research Board of Canada, visited Project Blue Book at ATIC on 14 May 1952. Canada is setting up a project very similar to the U.S. Air Force project for the investigation of reports of unidentified aerial objects. The RCAF people were briefed on the operations of the project and the difficul. ties that have been encountered, and the proposed future plans were discussed.

Action is being taken to establish channels for communications between the Canadian and U.S. project personnel.

## E. Ourrent Directive for Reporting Sightings

On 29 April 1952, Air Force Letter 200-5, Subject: Reporting of Unidentified Flying Objects was published. This AFL states the channels to be

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used in reporting, types of reports to be made, and the information to be included in reports. Although this AFL has only been in effect a month, excellent results in timely reporting have already become evident.

## F。 Information on Balloon Releases

A large amount of detailed information on the release of weather sounding balloons has been received from the air Weather Service. The information includes the timos, locations, and types of balloons launched daily in the United States. This information has been plotted on a map and incorporated into a card file so that it is now possible to make a rapid check of all sightings for the possibility of their being balloons.
G. Contractor Status

The civilian contractor for Blue Book has finished a tentative questionnaire to be used in interrogating observers. A great deal of time has been spent in selecting and wording of the questions. Approximately twelve engineers and scientists in varied fields have been consulted and have given their comments on the form. An effort has been made to word the questions so that they are not "leading" and so that the maximum amount of information may be obtained. An astronomer and a psychologist will be consulted next and after their comments have been received the questionnaire will be finalized.

The contractor, which is a civilian research institute, has also established a panel of twelve scientists and engineers. These people, all specialists in certain fields, can be called together at the request of ATIC to discuss any pertinent reports, questions, or problems that arise. In the past month, two meetings were held to discuss the questionnaire.

## H. Diffraction Grating Cameras

This phase of the project is not being handled directly by Project Blue Book and the exact status is unavailable at the time of this report.

## I. Utilization of ADC Scope Cameras

A request has been sent to Air Defense Command asking them to put all of the Type 0-15 Radar Scope Cameras on a 24 -hour alert basis so that any unidentified radar returns may be photographed. These photographs, in conjunction with a special electronics questionnaire that has been prepared by ATIC, will aid in the interpretation of the electronic observations.

## J. Recent "Mirage" Theories

Several theories on the possibility that some sightings can be explained

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as theories, and will be investigated. More details on the ideas have been requested and as soon as they are received they will be submitted to the Blue Book civilian contractor's panel for analysis and comments.

## SIGHTINGS OF UNIDENTIFIED OBJECTS



## SIGHTINGS OF UNIDENTIFIED OBJECTS

| TION OF INCIDENT | LENGTH. OF TIME SESERVED | SOUND | SPEED | Altitude | HEADING | SOURCE | ACTION OR COMEAENTS |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| - be a red rocket burst at an estimated 500 yds. nfidential) | - |  |  | 5,000 ft. | - | MATS Crew | Delayed report. No invectigation due to time lapse in report. |
| (adontial) | - | - | - | $\square$ | - | NATS Crew | No investigation due to time lapse in report. |
| matteled oval and as large as B-29 fuselage. | $15 \mathrm{Kin}$. | - | $\begin{gathered} \text { 150-200 } \\ \text { mph and } \\ \text { dtationery } \end{gathered}$ | 10,000 ft. | - | AF Officer | No conclusions. Report too late to investigate. |
| Wh sighting of flash of 1ight. (Secrot) | - | - | 78 Knots | $\begin{aligned} & 22,500 \text { and } \\ & 25,000 \mathrm{ft} . \end{aligned}$ | $\begin{gathered} 30^{\circ} \text { and } \\ 180^{\circ} \end{gathered}$ | Pilot and Ground Radar Operator | No conclusion. |
| thrill of three small balls of fire. (Restricted) | 40 Sec . | - | - | $30^{\circ}$ | - | AF Officer | Too great lapee of time to got accurate data. |
| thineat. Fhame yellor and enitted sparks. (Restrictod) | 30 sec . | -- | - | $2,000 \mathrm{ft} .$ | NE | Toch Advisor Instructor | Resembles fire ball. |
|  | 1 Hour | - | - | Tremendous | $\square$ | M/Sgt and wife | No conclusion. |
|  | 52 Kin. | - | Hovered | High | Hovered | AF Personnel | Pending. |
| 6 5 WSon, objecte wers olroular, dark, opaque and <br>  | - | - | - | - | $90^{\circ}$ | Civilians | No conclusion. |
| 111. bray oolor with no wings, Flame, or smoke. | - | - | $\begin{aligned} & 1 / 2 \text { fall- } \\ & \text { ing comet } \end{aligned}$ | 40,000 ft. | N | Civilians | Three $F$-5l's in area and Nying north at the time. |
| Secta shiapod like a disc and in formation, changing | 3-30 Min. | - | - | $30^{\circ}-40^{\circ}$ | - | Civilian | No conalusion. |
| Whathe 8 lor neer top and shaped like cotton basket. Exunce. (Restriotod) | Few Sec. | - | Many times commercial aircraft | $\cdots$ | NNW | Civilian | Similar to fire ball or meteor. |
| oream oolored object which circled Barksdale AFB. | - | $\sim$ | 200-400 mph | 4,000 ft. | W \& SE | AF Pilots | Two F-84 and three silvery-white balloons were in the area at time. |
| 4. It startod out as a circle became oval and then htiots. (Bestrictod) | - | - | - | - | S | Civilians | Possibly Fire ball |
| ources from the rost, turned northeast and | 4 min . | - | - | Very high | NE | Civiliana | Could be the vapor trail of an aircraft being struck by the rays of the setting sun. |
| fer the chif of Wexico. (Restricted) | 4-5 Sec. | $\sim$ | Fast | $30^{\circ}$ | W | AF Officer | Wo conclustons. |
|  | - | - | Fast | 12-20,000 ft. | NT | Airline Pilot | No conolusions. |
|  |  |  |  |  |  |  |  |
| anling tortical and gloming red. (hestricted) | 45-60 Sec | - | Rapld | 2,000 ft. | - | Navy Pilots | No conclusions. |



## SIGHTINGS OF UNIDENTIFIED OBJECTS



> Description resembles meteor except for erratic flight path.

Object was apparently a large fireball. Reports on this object were received from all over Texas. Astronomers believe it was a fireball.

Pending. See Appendix III.

No investigation. Lack of data. No conclusions.

No investigation. Lack of data. No conclusions.

Probably large metecr or fireball. Several reports of similar object from Uissouri and Tennessee

No conclusions. Lack of data.
Pending.
Pending. (See Appendix IV.)
Description similar to large meteor or fireball.

Description similar to large meteor of fireball

Pending addition informatyon.

See Appendix $V$

See Appendix VI.

Radiosonde balloon (unlighted) was in area. Half noon low in East at time of sighting. Possibly balloon but no definite conclusions. Speed might be due to illusion of some type.

## SIGHTINGS OF UNIDENTIFIED OBJECTS



## SIGATINGS OF UNIDENTIFIED OBJECTS



## SIGHTINGS OF UNIDENTIFIED OBJECTS



## 4). SIGHTMNGS OF UNIDENTIFIED OBJECTS



## APPENDIX I

## I. DESCRIPTION OF INCIDENT

Between 2100 and 2145 hours on 25 April 1952, eight observers reported sighting unidentified flying discs which appeared in a wide wry formation. There were five discs per flight and a total of five flights at eight minute intervals. The direction of flight was consistently south to north.

The formation was described as a wide "rru", irregular or more specifically, sloppy, in that the disc pilots, if such is the case, appeared to have trouble maintaining constant speed and altitude.

## II. STATUS OF THE INVESTIGATION

The Comanding Officer of Detachment 2, 462nd Ground Observer Squadron, Fargo Filter Center, Fargo; North Dalkota, followed up the report personally. He proceeded to the top (10th floor) of the Black Building in Fargo, North Dakota, at about 2030 hours on 28 April 1952 equipped with binoculars, highspeed camera, telescope, etc., and awaited the mysterious flights. number of local citizens shared his vigil with him.
III. CONCLUSIONS

The unidentified discs seen traveling very high and fast and of bright red and orange color were identified by the above observers (II) as being migrating mallard and teal ducks.

## APPENDIX II

Rio de Janerio, Brazil - 7 May 1952

## I. DESCRIPTION OF INCIDENT

On 7 May 1952 two photographers of "0 Cruzeiro Magazine in Rio de Janerio, Brazil, reported that they had photographed a "flying disc" at a position $23^{\circ}$ $01^{\prime \prime} \mathrm{S}, 43^{\circ} 26^{\circ} \mathrm{W}$. The object reportedly was in view one minute during which time five photographs were taken.

It approached from the southeast, made a $180^{\circ}$ turn and went out of sight toward the sea at what was described as high speed. The color of the object. was blue-gray and it seemed to be over 1000 meters in altitude and about twice the size of a DC-3.

## II. STATUS OF THE INVESTIGATION

The photographers reportedly were asking $\$ 25,000$ for the five negatives, consequently, the negatives are not available for strady.

## III. CONGLUSIONS

Until the negatives are analyzed, it is impossible to draw any definite conclusions. It is doubtful that the pictures and story are authentic.

## APPENDIX III

## Atlantic Ocean - 8 May 1252

## I. DESGRIPTION OF INCIDENT

On 8 May, approximately 600 miles off the east coast of the United States, between Jacksonville, Florida, and Savannah, Georgia, the pilot and compilot of Pan American Airline Flight 203, enroute to San Juan from New York, sighted three unidentified aerial objects. The objects were on a reciprocal heading of approximately $355^{\circ}$ to $360^{\circ}$ at the same altitude as the airliner.

The first object resembled a landing light but was much whiter and about ten times as large. It was followed by two slightly smaller orange objects with tapering teils which were fringed with blue. These three round objects were equally spaced and between $1 / 8$ and $1 / 4$ mile off the left wing.

## II. STATUS OF THE INVESTIGATION

The sources were interrogated and stated that the objects were completely foreign to them. There was no know missile, naval or air activity in the area at that time.
III. CONCLUSIONS

No conclusions.

## APPENDIX IV

## Seattle, Washington - 11 May 1952

## I. DESCRIPTION OF INGIDENT

At approximately 0124 to 0132 PST, on 11 May 1952 many individuala reported sighting a vivid blue object with flaming sparks or streamers coming nearly straight down over Seattle, Washington. The object exploded in a brilliant flash, lighting up the sky and then disappeared. After the explosion, some of the witnesses experienced a tremor or shock wave of approximately
nine seconds duration.
II. STATUS OF THE INVESTIGATION

Two local astronomers were contacted and they stated that the object was a meteor. At the present time the astronomers are searching for fragments to III. GONCLUSIONS

Object was probably a meteor but file will not be closed until confliming
ence is found.

APPENDIX $V$

$$
\text { El Centro, Califo Area - i3 May } 1952
$$

## I．DESCRIPTION OF INCIDENT

In the El Centro，Califo，Area on 13 May 1952 four separate reports of unidentified aerial objects were made．They were as follows：
a． 11154 －Hovering over El Centro，five mflying saucers＂as large as B－36＇s，with a light underneath，disappeared to the southwest at a terrific rate of speed．They were reported by the El Centro Sheriff＇s Office。
b． 11152 －An F9F pilot taking off from El Centro Naval Air Station reported what appeared to be a shooting star diving at an angle of $60^{\circ}$ 。
c． 11427 －A sheriff＇s car at Neland，Calif．，sighted a strange object resembling a parachute flare over the south end of the Salton Sea．
d． 11502 －A control tower operator at Yuma，Arizona，sighted an orange and blue object $320^{\circ}$ and 20 miles from his position．After hovering for a short time in one position，it changed to another position and began hovering againo：Operator said it was sighted for too long a period to be a falling star．

## II。 STATUS OF INVESTIGATION

There were no AF fighters airborne at the time but four F9F ${ }^{8}$ s from El Centro Naval Air Station were airborne from 11002 to 1230Z．

## III．GONCLUSIONS

a．It is possible that the F9F ${ }^{8}$ s and what appeared to be a shooting star account for the first report．
bo What appeared to be a shooting star was probably a meteor．
c．No conclusions．
d．The tower operator stated that he had observed the same phenomenon several times previous and is convinced that it is merely the reflection of automobile headlights on the highway at night．

## APPENDIX VI

$$
\text { George AFB, Calif. } \infty \text { 1, 2, 13, 14, 20 May } 1952
$$

## I. RESCRIPTION OF INCIDENT

The sighting on 1 May 1952 at George AFB, Califo, was the first of a series of nine sightings there in a three week period. These sightings were all by military personnel.
a. 1 May 1952 - Five round, disc-shaped objects, flat white in color which gave no glare or reflection were sighted. They were in formation with three in front and two in the rear. The latter two darted around in a circular or zig-zag manner.
b. 9 May 1952, 1030 PDST An unidentified round, silver object was sighted visually from the ground and from two F-86 aircraft.
c. 9 May 1952, 1230 PDST - Two unidentified objects moving with the current or breeze at a slow speed. They appeared to be a silver metal color with a dark spot in the center and at certain angles to the sun gave off a bright. glare.
do 9 May 1952, 1720 PDST - Object was of dull color like a thundercloud。 It was shaped like an arrowhead but had no known aerodynamic features.
e. 11 May 1952, 1220 PDST - Object looked like a white paper plate flipping end over end with an initial speed comparable to a jet although later it reduced its pace。
f. 13 May 1952, 1425 PDST © Single object, appeared round, shiny, metallic which glowed or reflected white or silver was observed for thirty minutes.
go 14 May 1952, 1405 to 1430 PDST © Same description as object sighted on 13 May and by same sources.
h. 20 May 1952, 1425 PDST A silver colored, bright, round abject was observed for five minutes. Initially the object was stationary but eventually moved and faded away.

## II. STATUS OF INVESTIGATION

Only balloons released from Edwards AFB can be tracked accurately over George AFB, consequently, for the most part they are the only balloons with which we are concerned. These balloons are released irregularly thus accountm ing for some of the unusual times of sightings reported in cases which are probably balloons.

The project monitor of Blue Book went to George AFB to investigate the various reports.
a. 1 May 1952 - Report well documented. No additional information obtained.
b. 9 May 1952, 1030 PDST - A balloon was released from Edwards AF'B, 55 minutes prior to this sighting.
c. 9 May 1952, 1230 PDST - No known activity which could account for sighting.
d. 9 May 1952, 1720 PDST - No known activity which could account for sighting.
e. 11 May 1952 - Third report in three days from same individual. No activity in area.
f. 13 May 1952 - Balloon launched from Edwards AFB at 1340 PDST.
g. 14 May 1952 - No balloon release officially reported.
ho 20 May 1952-Balloon released from Edwards AFB at 1332 PDST.
III. CONCLUSIONS
a. 1 May 1952 - No Conclusions.
b. 9 May 1952, 1030 PDST - Very probable that the balloon released from Edwards AFB was the object sighted.
c. 9 May 1952, 1230 PCST - Very possible that paper was caught in the thermals and swept along. A similar sighting turned out to be just that.
d. 9 May 1952, 1720 PDST - No conclusions.
e. 11 May 1952 - No conclusions.
f. 13 May 1952 - Probably was balloon released from Edwards AFB, 45 minutes previous.
g. 14 May 1952 - Description fits incident of 13 May so perfectiy it is highly probable that the object was a balloon.
ho 20 May 1952 - Balloon released 53 minutes prior to sighting was probably object observed.

Nenane，Alaska－ 22 January 1952

## I．DESCRIPTION OF INCIDENT

At 10202 on 22 January 1952，a radar station at Murphy ${ }^{8}$ s Dome，Alaska， observed an unidentified radar return．The target was going away from the station on an azimuth of $210^{\circ}$ ，at a speed of about 1500 mph when first ob－ served but appeared to reverse its direction and returned toward the station． The set was adjusted so that the target could be observed as it－closed in on the station but after this change was made the target was again observed，how－ ever，at about its original location，and again going away from the atation． Just before it faded，it appeared to be making a turn back toward the station．

At 10302 an F－94 was airborne to search for the object．At this time the object was going away from the station at a high rate of speed so the F－94 was told to orbit．About this time the ground station lost contact with the object but continued to track the Fom94．

At about 1100Z as the F－94 was approaching Nenana（near Fairbanks），the radar observer in the F－94 observed two targets，one faint and one bright． The aircraft was at $30,000 \mathrm{ft}$ 。 and the target was at $25,000 \mathrm{ft}$ ．The targets crossed from right to left and appeared to be traveling slowly and as the F－94 approached the target a high rate of closure was indicated．The contact was lost at a range of 200 yards．

Approximately one hour later，again near Nenana，another contact was made by the F－94．In this instance the target was kept dead ahead and levelo When the target was at a range of 200 yards，the pilot pulled up and the target was lost．The rate of closure during the run was 100 knots even though the F－94 had flaps down．No other contacts were made and the aircraft was released at 1210Z。

During the two airborne contacts the Fo94 was being tracked by the ground station but the object was not being picked up．

The weather was clear but no fisual sighting was made。 On the same night， the same crew had visually identified a $C-54$ ，a $0-47$ ，and a small civilian aircraft from 300 to 500 yards．There were no clouds in the sky but it was a dark night．

No malfunctions were found in either radar set．

## II. STATUS OF INVESTIGATION

Report by Electronics Branch of ATIC.
Target being slanted instead of perpendicular to radil from radar station indicates possible weather target. Speed may be accounted for by the momentary appearance and disappearance of other weather targets. Further explanation cannot be made.

III。 CONCLOSIONS
Target caused by weather phenomena.

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## STATUS REPORT

PROJECT BLUE BOOK $\upharpoonright$ - REPORT NO. 8<br>FORMERLY PROJECT GRUDGE

PROJECT NO. 10073
31 DECEMBER, 1952

## AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE BASE OHIO

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This report is the eighth of a series of Status Reports of Project Blue Book. Normally each report is written on or near the last of each month and includes all project activities for that month. This procedure has not been followed during the months of June, July, August, September and October due to an extremely heavy workload caused by an increase in reports. The procedure of listing all reported sightings will also be eliminated in this report since 886 reports were received during the period covered by this report and compiling such a list nould not be feasible at the present time.

Any additional information may be obtained on any incident by directing requests to the Commanding General, Air Technical Intelligence Center, Attn: ATIAA-5, Wright-Patterson Alr Force Base, Ohio.


STATUS OF PROJECT BLUE BOOK .

## I. OVERALI STATUS

The period since the last status report of this project was published (Project Blue Book Status Report \#7, 31 May 1952) has produced a volume of reports exceeding the total number of reports received in the period 1947 to 31 Dec 51. For the month of Jul 52, the total was over 440 reports. During the period 1 Jun 52 to 31 Oct 52, the period covered by this status report, $\$ 86$ reports have been received, evaluated, cross-indexed and filed. This total of $8 \$ 6$ represents 149 more reports than had been received during the previous five-year period this project has been in existance. It should be noted that these reports are those coming through official channels to ATIC and do not include the approximately 800 letters received from the public during this period.

A noticeable increase in reports started in Jun 52 and reached a peak on 28 Jul 52 when 43 reports were received (see Appendix I). yuch of the increased volme of reports can be accredited to the widespread publicity given by Life, Time, Look and many other magazines and newspapers. One noticeable characteristic of the reports is that in general the quality has improved, a factor which resulted from the distribution of Air Force Letter 200-5, Subjecte Reporting of Unidentified Flying Objects", and to widespread briefings given by Project Blue Book briefing teams.

In Jul 52 the workload of project personnel had risen to the point that the number of personnel was increased to a total of four officers, two air men, and tro secretaries. For a period of 45 days, a weather officer was on TDI to the project.

All reports received were screened and evaluated as soon as possible after they were received. A breakdom as to the evaluations of the reports is given below. The categories used in the evaluation of reports are as follows:
A. Unknown

These are reports that contain relatively enough data to evaluate, but cannot be associated with any known phenomenon or object. There is a passibility that some of these reported objects or phenomena in this category could be identified if more background data on balloon tracks, aircraft movements, etc., were available.
B. Insufficient Data

This category represents reports which do not contain enough data to evaluate. A great many of the cases are due to poor reporting on the
part of the reporting agency. All cases where there is only a single observer, unless his or her reliability is unquestionables are put in this category.

## C. Aircraft

This category of reports varies from those reports of pbjects that were definitely proven to be aircraft to those that were possibly aircraft. In evaluating reports as aircraft, a great deal of importance is put on any comments by the reporting officer about local air traffic. Another criterion is the elevation of the reported object. It has been found that if an observer sees an aircraft above a $60^{\circ}$ angle from the horizon and is in a relatively quiet location, he can hear the sound of the aircraft. Thus all reports of moving lights at night or "shiny" objects in the daytime, moving at moderately fast speeds (i.e., in view for $2-5$ minutes), and observed below $60^{\circ}$ could be aircraft and are evaluated as aircraft. Conversely, any object that passes directly over, or within $30^{\circ}$ of the zenith of an observer, at moderately fast speeds and if no sound is heard, is not likely to be an aircraft.

## D. Balloons

Several criteria are used to determine whether a reported object was or possibly was a balloon. Objects that are reported to hover or move very slowly could be balloons. In this type of report, the times are checked. All weather balloons in the United States are launched at 0300Z, 0900Z, 1500Z and 2100Z. If an object is reported near a balloon launch síte within an hour after these scheduled launch times, it is classed as a balloon. If the object is moving and a track is reported, the track is checked against winds aloft for that area. If the reported movement is with the wind at any altitude, the object could be a balloon. Many balloons are tracked by radio and radar and in these cases, the actual track of the balloon can be correlated with the data obtained from the observers.

The possibility of observers seeing balloons that have developed slow leaks and have drifted long distances is always present. In cases where the description of the object is identical to that of a balloon and yet no balloons can be positively determined as having been in that area, the feport is evaluated as possibly a balloon on the chance that a balloon has become "lost" and has drifted into the area.

## E. Astronomical

Reports in this category are those that are proven to be or are similiar in all respects to known astronomical bodies such as meteors, fireballs, planets, or stars. The estimated azimuth and elevation of a reported object and the time of the observation can be checked to determine the known location of astronomical bodies. In some cases, this is done by project personnel and in more difficult cases by an astronomer.

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Keteors are identified mainly by the observer's description as to size, shape, and maneuvers. In some cases, exceptionally large metéors or fireballs are plotted by observatories and these plots are obtained.
F. Other

This category contains reports that have been proven to be known objects or phenomena, or the descriptions of the reported objects are similiar to reports of known objects that do not fall into the above categories. Examples of these are birds', anomalous radar phenomena, bugs, etc.

A percentage breakdown of the evaluation of reports is as follows:
A. June

| Category | No. Roports | \$ Tatal |
| :--- | :---: | :---: |
|  |  |  |
| Unknown |  |  |
| Insufficient Data | 27 | 38.77 |
| Alrcraft | 23 | 15.64 |
| Balloons | 14 | 9.52 |
| Astronomical | 22 | 14.96 |
| Other | 22 | 14.96 |
|  | 14 | 6.12 |
|  | 147 | $100.00 \%$ |

B. July

| Unknom | 93 | 21.04 |
| :--- | ---: | ---: |
| Insufficient Data | 118 | 26.69 |
| Aircraft | 52 | 11.76 |
| Balloons | 107 | 24.21. |
| Astronomical | 57 | 12.89 |
| Other | 15 | 3.39 |
|  |  | 412 |

C. August

| Unknown | 34 | 15.59 |
| :--- | ---: | ---: |
| Insuffici ent Data | 55 | 25.23 |
| Aircraft | 28 | 12.84 |
| Balloons | 70 | 32.11 |
| Astronomical | 22 | 10.09 |
| Other | 9. | 4.13 |
|  |  | 100.008 |

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Category
No. Reports
\% Total
D. September

| Unknown | 22 | 27.85 |
| :--- | ---: | ---: |
| Insufficient Data | 20 | 25.32 |
| Aircraft | 7 | 8.86 |
| Balloons | 12 | 15.19 |
| Astronomical | 12 | 15.19 |
| Other | 6 | 7.59 |
|  | 79 | $100.00 \%$ |

E. Cumulative total for June, July, August, and September

|  | 206 | 23.25 |
| :--- | :--- | :--- |
| Unknown | 24.38 |  |
| Insufficient Data | 216 | 11.39 |
| Aircraft | 101 | 23.81 |
| Balloons | 211 | 12.75 |
| Astronomical | 113 | 40.40 |
| Other | 39 | 100.008 |

(Note: No breakdown for the month of October 1952 is included since at the time this report was written all October reports had not been evaluated.)

## II. SPECIAL REPORT ON CONFERENCE WITH 44 PROFESSIONAL ASTRONOMERS

During the past summer a professional astronomer, under contract with ATIC as a consultant on Project Blue Book, held conferences with $\psi_{4}$ professional astronomers in the U.S.A. and submitted a report of his findings. These people were either contacted on trips or at professional society meetings. Of these, 5 had observed objects or phenomena they could not readily explain. The feelings of the 44 astronomers toward the investigation of unidentified flying objects were as follows:
\% Total Number
Completely Indifferent Mildly Indifferent

| $6 \%$ | 7 |
| :---: | ---: |
| $27 \%$ | 12 |
| $40 \%$ | 17 |
| $17 \%$ | 8 |
| $100 \%$ | $\frac{84}{4}$ |

Although the report is too lengthy to reproduce in total, an excerpt from the summary of the report is as follows:

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"Over 40 astronomers were interviewed, of which five had made sightings of one sort or another. This is a higher percentage than among the populace at large. Perhaps this is to be expected, since astronomers do, after all, watch the skies. On the other hand; they will not likely be fooled by balloons, aircraft, and similiar objects, as may the general populace.

It is interesting to remark upon the attitude of the astronomers interviewed. The great majority were neither hostile nor overly interested; they gave one the general feeling that all flying saucer reports could be explained as misrepresentations of well-known objects and. that there was nothing intrinsic in the situation to cause concern. I took the time to talk rather seriously with a few of them, and to acquaint them with the fact that some of the sightings were truly puzzling and not at all easily explainable. Their interest was almost immediately aroused, indicating that their general lethargy is due to lack of information on the subject. And certainly another contributing factor to their desire not to talk about these things is their overwhelming fear of publicity. One headline in the nation's papers to the offect that "Astronomer Sees Flying Saucer" would be enough to brand the astronomer as questionable among his colleagues. Since I was able to talk with the men in confidence, I was able to gather very much more of their inner thoughts on the subject than a reporter or an interrogator would have been able to do. Actual hostility is rare; concern with their own immediate scientific problems is too great. There seems to be no convenient method by which problems can be attacked, and most astronomers do not wish to become involved, not only because of the danger of publicity but because the data seems tenuous and unreliable."

## III.

## PRESS CONFERENCE

On 29 Jul 52 a press conference was held in the Pentagon to answer the many questions that were being directed to the Air Force by the press. The conference was held by Major General John A. Samford, Director of Intelligence, USAF. Others participating were Kajor General Roger M. Ramey, Director of Operations, USAF, and officers of the Air Technical Intelligence Center.

In essence General Samford stated that to date there were no indications that any of the reported objects that could not be identified constitute a menace to the United States. However, the Air Force would cantinue to give the subject "adequate, but not frantic attention".

## IV. PROPOSED THEORIES AS TO THE NATURE OF THE REPORTS

Several widely publicized theories as to the nature of the reported objects or phenomena have been advanced in recent months. These theories have been discussed with authorities on the subject of atmospheric physics and they have agreed that none of the theories so far proposed would account for more than a very small percentage of the reports, if any.

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## V. STATUS OF STATISTICAL ANALYSIS

In the spring of 1952 the Air Technical Intelligence Center established a project with a civilian contractor to make a statistical analysis of all incidents. As of 31 Oct 52, all reports for 1947, 1948, 1949, 1950, and 1951 had been reviewed and coded for IBM punch cards. By the end of October the data to date on 1952 incidents will be on punch cards ready for a preliminary analysis by statisticians.

When this is completed, the contractor will begin work on the coding of the 1952 reports. No completion date has been established for this phase. It is not contemplated that the 1952 reports will be completed in the near future, because, as was stated in Section I of this report, the total for the year of 1952 exceeds the total muber of reports for all previous years.

## VI. TEGHNIGAL INFORMATION SHEEPT

A questionnaire or technical information sheet to be filled out by observers making a Visual sighting was completed in Oct 52: Proliminary work on this questionnaire began in May 52. A panel consisting of Blue Book personnel and several civilian scientists and engineers met and drafted a list of questions whose answers would be needed in evaluating reports. These questions were then given to a pañel of psychologists who reworded them and made them into questionnaire form. Test samples of these questionnaires were reproduced and sent to persons reporting sightings. As test questionnaires were completed and returned by observers they were studied by the psychologists and others. Several such test questionnaires were developed before a final form was established. The final questionnaire is inclosed in this report as Appendix II.

These questionnaires are now being sent directly from ATIC to all persons making reports, if a mailing address is in the report. This includes both reports made by military in accordance with AFL $200-5$ and reports made directly to ATIC by civilians.
VII. COOPERATION OF AIR DEFENSE COMMAND

Excellent cooperation has been received from the Air Defense Command in the utilization of their radar, fighter aircraft and the Ground Observer Corps.
$A D C$ has directed all their radar sites that are equipped with operational radar scope cameras to keep these cameras on a 24 -hour alert basis. It has been found that scope photos are an extremely valuable aid when it is necessary to evaluate reports of extremely high speed or unusual radar tracks.

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A secondary duty of the Ground Observer Corps is the reporting of unidentified aerial phenomena or objects. This duty was established by ADC Regulam tion 55-31.

## VIII. NAVY REPORTING REGULATION

On 26 Sep 52 the United States Navy published an OPNAV very similiar to AFL 200-5. This notice directs all naval units and installations to report sightings directly to Hq USAF, ATIC, ADC, and other agencies.

## IX. BALIOON AND WEATHER DATA

In order to achieve more positive identification of unidentified flying objects, the Air Technical Intelligence Center has established channels of communication with the Air Weather Service, whereby the track of any weather balloon released by the USAF, US Navy, or Weather Bureau, within the continental limits of the United States or from US ships at sea and overseas bases, can be obtained. Basically the system works as follows: If the analyst at ATIC concludes, by reason of the description of a UFO, or the time and place of the sighting, that the UFO is possibly a weather balloon, he initiates and transmits to AWS a specific request for the tracks of all weather balloon releases at or near that time and place. Comparison of these tracks with the Flyobrpt frequently completes the analysis of the report.

Additionally, the US Navy and the USAF are currently engaged in the launching of special project uppor air research balloons. These balloons are plastic polyethylene, a highly reflective surface, and since they often are on the order of one-hundred feet in diameter, they are visible to the naked eye under certain atmospheric conditions, even at extreme altitudes. Further, the loads carried are usually heavy and metallic, and electronic contact with these balloons can occur. In view of this situation, ATIC has, through the Ent Weather Central, Ent AFB, Colorado, taken steps to optain the tracks of all such balloon releases, and these tracks have often resulted in positive identification of a UFO. To cite cases in point, the tracks of sixteen flights released in July by a US Navy contractor resulted in four positive, two probable, and four possible identifications of UFO's.

Another factor having a great deal of bearing in the analysis of a Flyobrpt, though it may not be the actual cause, is the meteorological condition of the atmosphere at the time and place of sighting. To obtain this data, the Air Technical Intelligence Center utilizes three sourceso Firstly, when dotailed information is needed immediately, it can often be obtained from the Base Weather Office at W-P AFB. Secondly, since ATIC receives daily RAOB's, constant pressure charts, surface charts and winds aloft charts, the necessary information is frequently on hand. Thirdly, when the data needed


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is voluminous and complex, and time is relatively unimportant, the Air Technical Intelligence Center utilizes the records of the Air Weather Service in exactly the same manner as that employed in obtaining weather balloon release data.

## X. CAMERAS

In an effort to obtain technical information concerning UFO's, ATIC has underway a program for the distribution of a large number of stereo cameras equipped with a diffraction grating over one lens. The camera in question is called the "Videon". It contains two $F 3.5$ lenses with focal lengths of 45 mm . As supplied by ATIC, the shutter speed and distance settings will be locked at $1 / 20$ th of a second and infinitys respectively. The "Videon" utilizes standard 35 mm cartridge film, and is extremely simple to operate.

The diffraction grating actually consists of a thin cellulose compound which contains 15,000 vertical "hairlines" to the linear inch. It is mounted between two sheets of optical glass and placed over one lens of the Videon by means of a filter adapter ring. The grating operates on precisely the same principle as a prism; it separates a light into its component parts which will appear as well defined spectrum bands upon the film. Since each chemical element emits a wave of characteristic length, and the grating, so to speak, "picks up" these characteristics and shows them as significant bands on the film, comparative study of the film is expected to reveal much data concerning the chemical composition of a given UFO. The Videon camera, equipped as described above, does not represent the epitome of scientific equipment, however, actual comparison with other models has revealed that it offers a good probability for success in accomplishing the stated purpose, and this factor, along with the economy and availability factors, was responsible for ATIC's decision to purchase and distribute these cameras.

Simultaneously with the experimentation involving ground cameras, ATIC mounted diffraction gratings over the lenses of 16 mm gun cameras of $\mathrm{F}-86$ aircraft of the 97th Fighter-Interceptor Squadron, W-P AFB. These fighters then undertook air-air photography of known light sources, and the spectrums obtained were comparable to those obtained with the Videon; the smaller film surprisingly enough recorded equivalent definition and band separation. Therefore, as a part of the long range program, ATIC is considering the possibility of equipping certain USAF fighter-interceptor aircraft with diffraction gratings for air-air photographic coverage of UFO's.

At present, ATIC is negotiating with Hq ADC, a plan for the placement of a cortain number of Videon cameras with ACsW Squadrons. Similiarly, Videon cameras may be distributed to tower operators of AACS. Future plans allow for the procurement and placement of more Videon cameras and the placement of the diffraction grids in aircraft, however, these plans are entirely contingent upon the degree of success obtained in present operations.

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## EI. RECENT SIGHTINGS

Appendix III gives sumaries of a few of the reports made to ATIC during

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## APPENDIX I

This chart shows the frequency of reports during the months of June, July, August, and September 1952. The dates of publication of several magazine articles and widely publicized incidents are noted on the chart.



## APPENDIX II

The final form of the questionnaire used for the interrogation of observers making visual sightings.

## 

## U. S. AIR FOTCE TECTNIEAL INFORMATHON SHEEY

This questionnaire has been propared so that you can give the U. S. Air Force as much infarmation as possible concorning the unidentified aerial phenomenon that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes, and will be regarded as confidential material. Your name will not be used in connection with any statements, conclusions, or publications without your permission. We request this personal information so that, if it is deemed necessary, we may contact you for further dotails.

1. When did you see the object?


1
3. Time zone:
(Clicle One): a. Eastern
b. Contral
c. Mountoin
d. Pacifie

- Other $\qquad$

2. Time of doy:


3. Estimate how long you saw the object. $\square$ Minutes Seconds.
5.1 Circle one of the following to indicate how certain you are of your answer to Question 5.
a. Certain
c. Not very sure
b. Fairly certain
d. Just a guess
4. What was the condition of the sky?
(Circle One): a. Bright daylight
d. Just a trace of daylight
b. Dull daylight
o. No trace of daylight
c. Bright twilight
f. Don't remember
5. IF you saw the object during DAYLIGHT, TWILIGHT, or DAWN, where was the SUN located as you looked at the object?
(Circlé One): a- In front of you
b. In back of you
c. To your right
d. To your leit
e. Overhood
f. Don't ramember

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8. IF you sow the object at NIGHT, TWILIGHT, or DAWN, what did you notice concerning the STARS and MOON?
8.1 STARS (Circle One):
8.2 MOON (Circle One):
a. None
a. Bright moonlight
b. Dull moonlight
c. No moonlight - pitch dark
d. Don't remember
9. Was the object brighter than the background of the sky?
(Circle One):
a. Yos
b. No
c. Don't remember
10. IF it was BRIGHTER THAN the sky background, was the brigititness like that of an automobilo headight?:
(Circle Ono) a. A mile or more away (a distant car)?
b. Sevoral blocks away?
c. A block away?
d. Soveral yards away?

- Other

11. Did the oblect:
a. Appoar to stand still at any time?
b. Suddenly speed up and rush oway at any time?
c. Break up into parts or explode?
d. Give off s moke?
-. Change brightness?
f. Change shape?
12. Flicker, throb, or pulsate?

## (Circle One for each question)

| Yes | No | Don't Know |
| :--- | :--- | :--- |
| Yos | No | Don't Know |
| Yes | No | Don't Know |
| Yos | No | Don't Know |
| Yos | No | Don't Know |
| Yes | No | Don't Know |
| Yes | No | Don't Know |

12. Did the object move behind something at anytime, particularly a cloud?
(Circle One): Yos No Don't Know. IF you answered YES, then toll what
it moved behind:
it moved behind: $\qquad$ IF you answered YES, then toll what
$\qquad$
in front of something at anytime, particularly a c coud?
(Circle One): Yas No Don't Know. IF you answered YES, than tell what
it moved in front of:
it moved in front of: $\qquad$ Dont know.

IF you answered YES, than tell what
$\qquad$
14. Did the object appoor: (Circle One):
a. Solid?
b. Transparent?
c. Don't Know.
15. Did you observe the objoct through any of the following?
a. Eyeglasses
Yos
b. Sun glasses
Yos
No

- Binoculars
Yes
No
c. Windshield Yos
No
No
f. Tolescope
Yos
No
No
d. Window glass
Yes

9. Theodolita
Yos
No
h. Other $\qquad$
$\qquad$
10. Did the object move in front of something at anytime, particularly a cloud?

11. Toll in a fow words the following things about the object.
a. Sound $\qquad$
b. Color $\qquad$
12. Draw a pieture that will show the shape of the object or objects. Labol and include in your sketch any details of the object that you saw such as wings, protrusions, otc., and especially oxhaust trails or vapor trails. Place an arrow beside the drawing to show the direction the object was moving.
13. The odges of the object were:
$\qquad$
b. Like a bright stor
c. Sharply outlined
d. Don't romember
14. IF there was MORE THAN ONE object, then how many were there? Draw a picture of how they were arranged, and put an arrow to show the direction that they were traveling,
15. Draw a picture that will show the motion that the object or objects made. Place an "A" at the beginning of the path, a "B" at the end of the path, and show any changes in direction during the course.
16. IF POSSIBLE, try to guess or estimate what the real size of the object was in its longest dimension. -
17. How large did the object or objects appear as compared with one of the following objects held in the hand and at about orm's length?
(Circle One):
a. Head of a pin
g. Silvor doHar
b. Pea
h. Básoball
c. Dime
18. Grapafruit
d. Nickol
i. Basketball

- Quartor
k. Other $\qquad$
f. Half dollar
22.1 (Circle One of the following to indicate how certain you are of your answer to Question 22.
a. Cortain
c. Not very sure
b. Fairly cortain
d. Uncertain

23. How did the objoct or objocts disappear from viow? $\qquad$
$\qquad$
24. In order that you can give as clear a pieture as possible of what you saw, we would like for you to imagine that you could construct the object that you sow. Of what type material would you make it? How large would it be, and what shape would it have? Describe in your own words a Éommon ablect or objects which when placed up in the aky would give the same appoarance as the oblect which you saw.

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 (Circle One):
a. Inside a bullding
a. In that bus iness section of a city?
b. In a car
b. In the residential section of a elty?
c. Outdoors
c. In open countryside?
d. In an airplane
e. At sec

Flying noar an airfield?
-. At sec
o. Flying over a city?
f. Other
f. Flying over open country?
g. Other
27. What were you doing at the time you saw the object, and how did you happen to notice It?
28. IF you were MOVING IN AN AUTOMOBILE or other vahicle at the time, then complete the following questions:
28.1 What direction wore you moving? (Circle Ono)
a. North
c. East
-. South
g. West
b. Northieast
d. Southeast
f. Southwest
h. Northwest
28.2 How fant ware you moving? $\qquad$ miles par hour.
28.3 Did you stop at any time while you were looking at the object?
(Circle One)
Yos
No
29. What direction ware you looking when you first saw the object? (Circle One)
a. North
c. East
e. South
g. West
b. Northoast
d. Southoast
f. Southwost
h. Northwest
30. What dirpction ware you looking when you last saw the object? (Circle One)
a. North
c. East
e. South
g. West
b. Northeast
d. Southeast
f. Southwest
h. Northwest
31. If you are familian with bearing terms (angular direction), try to estimate the number of degress the object was from true North and also the number of degrees it was upward from the horizon (elovation).

### 31.1 When it first appeared:

a. From true North $\qquad$ degrees.
b. From horizon $\qquad$ degrees.

### 31.2 When it disappeared:

a. From true North $\qquad$ degrees.
b. From horizon degrees.

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 high the object was above the horizon (skyline) when you first saw it. Place a "B" on the same curved line to show how high the object was above the horizon (skyline) when you last saw it.

33. In the following" largor sketch place an " $A$ " at the position the objoct was when you first saw it, and a " $B$ " at its pasition when you last saw It. Refor to smaller sketch as an example of how to complete the larger skotch.

34. What were the weather conditions , hhe time you saw the object?
34.1 CLOUDS (Circle One)
a. Clear sky
b. Hazy
c. Scattered clouds
d. Thick or hoovy clouds
e. Don't remember
34.3 WEATHER (Circle One)
a. Dry
b. Fog, mist, or light rain
c. Moderate or heavy rain
d. Snow
c. Don't remember
34.2 WIND (Circle One)
a. No wind
b. Slight breeze
c. Strong wind
d. Don't remember
34.4 TEMPERATURE (Circle One)
a. Cold
b. Cool
c. Warm
d. Hot
e. Don't remember
35. When did you report to some official that you had seen the object?
$\qquad$
36. Was anyone else with you at the time you saw the object?
(Circle One) Yes
No
36.1 IF you answered YES, did they see the object too?
(Circle One) Yos No

- 36.2 Please tist the ir names and addresses:

37. Was this the first time that you had seen an object or objects like this?
(CircleOne) Yes
37.1 IF you answered NO, then when, where, and under what circumstances did you soe other ones?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
38. In your opinion what do you think the object was and what might have caused it?

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39. Do you think you can estimate the speed of the object?
(Circle One) Yos No
IF you answered YES, then what speed would you estimate?
_m.p.h.
40. De you think you can estimate how far away from you the object was?
(Circlo One) Yes No
IF you answered YES, then how far away would you say it was?
41. Please give the lollowing information about yourself:

NAME $\qquad$ First Name
Middle Neme

ADDRESS $\qquad$
$\qquad$

TELEPHONE NUMBER $\qquad$
What is your present job? $\qquad$
Age $\qquad$ Sex $\qquad$

Please indicate any spocial educational training that you have had.
a. Grado school $\qquad$ e. e. Technical school $\qquad$
b. High school $\qquad$ (Typo)
f. Other spocial training $\qquad$
c. College $\qquad$
d. Post graduate $\qquad$
42. Date you completod this questionnaire:

Day Month Yeor

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## APPENDIX III

This appendix contains resumes of several of the more significant incidents that were reported to ATIC during the period covered in this report.

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Greenville, South Carolina

## Description of Incident

On the night of 13 May 1952 at 2233 EST, four amateur astronomers observed a diamond formation of four oval-shaped objects. The objects were observed visually from the ground. The objects were sighted nearly overhead and disappeared at an angle of about $12^{\circ}$ in three seconds. They were described as being reddish-yellow or reddish-brown in color. They were relative in size to a half dollar, quarter turned, at arm's length. The objects appeared to wobble in their flight and being oval-shaped appeared to be flying sideways.

The night was extremely clear. The sources stated that there was haze and ground illumination near the city; but that they were on the Furman University campus and that there were no ground lights near nor haze.

One observer was inclined to belleve these were geese.

## Comments

The description of this incident is very similiar to others from drive-in theaters and one from Fargo, North Dakota, on 25 April 1952, that were ducks. In this case, however, there were no ground lights in the area to reflect from a bird. This is borne out by the fact that these people had set up their telescopes in a dark area, which is essential for good astronomical observing.

It is not known how much light a bird will reflect, but it seems logical that a relatively bright ground source of light would be needed.

As was stated, one source was sure they were geese but the other three were just as sure they were not.

The possibility of aircraft is nil since they passed directly overhead with no sound.

## ConcIusion

Unknown

Patrick AFB, Florida

## Description of Incident

At approximately 2245 EST on 18 July 1952 seven people, three officers and four airmen, observed a series of unidentified lights near Patrick AFB, Florida. The lights were described as being much brighter than a star and amber-red in color and similiar to a star. The first light was observed at a $45^{\circ}$ angle of elevation west of the air base. It remained stationary for approximately one minute, then began to slowly move north. It stopped, then moved south at a slow speed. While observing the first light, a similiar light was observed about $20^{\circ}$ below the first light and moving north at a much higher speed.

As the first light continued to move south, a third light was seen over the base traveling in a westerly direction at high speed. Before this light had faded in the distance, a fourth light was observed following the same path as the third. At this time, all the lights except number four had disappeared.

A fifth light appeared in the west and came directly over the airfield where it appeared to make a gradual $180^{\circ}$ left turn and head toward the west until it faded from view. This light appeared coming over the base and disappeared in 15 seconds.

## Comments

An attempt was made to pick up the object on $\mathrm{APQ}-13$ radar, but the attempt was unsuccessful. It should be noted that APQ-13 is not a search radar, conse quently, the fact it could not make contact is not significant.

A balloon was in the area but the balloon was tracked continuously and drifted west of the air base. At no time was it over the observers. It is possible that a balloon could drift into the area from another location, but the number of reported lights, their motion and the winds aloft do not substantiate this theory.

Air traffic was checked and there were no aircraft in the area.

## Conclusion

Unknown

Port Huron, Kichigan

## Description of Incident

On the night of 29 July 1952 an AC8W Station in Michigan observed an unidentified return on the scope. The time was shortly before 2140 CST. The target was plotted at 550 knots on a $360^{\circ}$ heading for 20 minutes.

Three $\mathrm{F}-94 \mathrm{~B}$ aircraft were in the area making practice runs on a B-25. One of these aircraft was requested by GCI to investigate the unknown target. The aircraft climbed out of the practice area on a heading of $270^{\circ}$ to $20,000^{1}$. GCI called and requested a visual search to be made at $3 o^{\prime} c l o c k$. A turn to 3 o'clock was started when the radar operator got a lock-on from a target at 2:30 o'clock level, four miles away. The lock-on was held for only 30 seconds. As the turn was made, a bright, flashing, colored light was observed by the pilot. He turned into the light on a heading of $360^{\circ}$ and followed it for twenty minutes at an IAS of 350 knots at $21,000 \mathrm{ft}$. The Hght remained between 12 and 1 o'clock. At the time of the lock-on, the aircraft was 20 miles west of Port furon, Kichigan.

The GCI radar was carrying both the unidentified target and the F-94 on the scope. Since the F-94 could not close, it was assumed by GCI that the object increased its speed to that of the F-94.

## Comments

Two other F-94 aircraft were airborne, but they continued making practice runs on a $\mathrm{B}-25$ and were not in the area at the time of the sighting.

The star, Capella, is directly in line with the F-94's line of flight and the aircraft would have been flying straight toward it. It is very low on the horizon and appears to be flashing green, blue, red, etc. At first it was believed that this is what the pilot saw, but when it was established that both the $\mathrm{F}-94$ and the UFO were being carried on the GCI scope, Capella becomes a doubtful suspect.

It could be that this is a series of coincident weather phenomena affecting the radar equipment and sightings of Capella, but this is stretching probabilities too far.

A balloon can be disregarded since the speeds are too high for even a jet stream.

Three weak inversions were noted below 10,000'.

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Conclusions
Unknown

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Los Alamos, New Mexico

## Description of Incident

At approximately 0949 LST on 29 July 1952, several pilots and guards from Los Alamos observed an UFO. The object was flying straight and level at high speed north of the los Alamos landing field. The object, which was a shiny metallic color, was observed for 30 minutes with binoculars.

Fighters in the Los Alamos area were diverted to the area of the sighting and visually vectored toward the object. The object disappeared but reappeared in front of the fighters, made a $360^{\circ}$ turn, came around in back of the fighters, followed for two minutes and disappeared. The fighters did not observe the object. The aircraft which were at 40,000' left vapor trails, but the object did not.

The only other aircraft in the area left Los Alamos at 0950 MST and headed directly south.

## Comments

The report states the object was flying at high speed straight and level, yet it was in sight for 30 minutes. The object could not have been traveling too fast, or it would have gone out of the area within the 30 minutes it was observed.

If the aircraft were high and the object was a drifting balloon at low altitude, the balloon would appear to stay ahead of the aircraft for a short period of time. A balloon would not make a $360^{\circ}$ turn, however.

The report is incomplete, no Form 112 was submitted, and the data in the wire is sketchy.

Conclusion
Although there is hardly enough data to evaluate the report, it will be classed as unknown.

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Albuquerque, New Mexico

## Description of Incident

At approximately 2230 MST on 29 July 1952, the source, an employee of the Los Alamos Laboratory (also a Reserve It Colonel, four-engine pilot with 1500 hours) observed an UFO from his home in Albuquerque, New Mexico. The bearing of the object from his position was $225^{\circ}$ and the elevation was $20^{\circ}$ to $25^{\circ}$ above the horizon.

The object was described as a "fattened ellipse". The color was a dull yellow. Light rays the same color as the image and approximately half the length of the horizontal axis appeared to be emanating from the object in all directions. They were not pulsating, but steady. After about 45-60 seconds, it began to shrink in size rapidly. Within 15 seconds, it disappeared. It did not change in elevation or azimuth. The color changed from a pale yellow to a yollowish-white to clear white as it disappeared. There was no sound. The angular length of the horizontal axis was about $4^{\circ}$.

The ceilometer at Kirtland AFB was on and the object was near it. The source was definite that this was not what he saw as he located the ceilometer beam and the moon.

## Comments

This occurred two hours and thirty minutes after a balloon launch, so it is doubtful that it was a balloon. As was noted before, the source definitely saw the moon and the ceilometer beam.

There is a -possibility that some atmospheric condition caused the ceilo meter beam to split. This is doubtful, however, because the elevation of the object was different. If the cloud base was at a constant level, the difference in elevation would indicate that the object or spot on the cloud bases would be farther away from the observer than the ceilometer.

It is possible that the source saw another ceilometer or a searchlight. This is doubtful, however, since the area, past Kirtland, in the direction the source was looking, is nearly uninhabited. In addition, a searchlight beam would either move or go out faster. When a searchlight is turned off, there is a period in which the image on a cloud would dim out due to cooling of the electrodes but this does not require 15 seconds.

All in all, the report is excellent, one of the few where the source was thoughtful enough to measure angles and make careful observations.

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1 August 1952
Bellefontaine, Ohio

## Description of Incident

At 15512, a radar track appeared 20 miles NNW of $\mathrm{W}-\mathrm{P}$ AFB. The course was $240^{\circ}$ at 400 knots. Two F-86's under GCI control were then located ten miles SW of that position. The fighters were vectored and made visual contact at 1555Z. Fighters stayed with the object until 1613Z.

Interrogation of sources, an AF major and lieutenant, reveal the following:


#### Abstract

a. The F-86's climbed to 48,000is, fell off, and then made a second climb to 45,0001 . The major made a camera run the second time and received a weak return on his radar gunsight. The lieutenant's sight was "caged" so he received no return. The major estimated the object at $12,000-20,0001$ above his altitude of 48,000 . This estimate was substantiated by the range capability of the radar gunsight. The object's sizes accepting source's estimate of distance, was 24-40' in diameter and source said his optical sight just covered the object. The films were not sufficiently clear. The object appeared as a fuzzy, small image in the upper right hand corner with discernable motion to lower left. b. The AC\&W Squadron established two important facts: Re-affirmation that the UFO moved at 400 knots and indication that the two F-86's and UFO appeared simultaneously on the GCI scope. It is obvious that all eyes and antennas were fixed on the same object.


## Gomments

The object was not a balloon, since the speed was too fast. A rawinsonde was released at 15002 and moved off to the east. The object moved against the wind. The blip size was that of a normal aircraft. The object was not a known aircraft because the altitude was too high. The object was not astronomical as dual radar returns eliminate this. Flectronic or visual mirage of meteorological phenomenon is out of the question as the radar set was on high beam, and both would not occur simultaneously in the same place. The sighting occurred "above the weather".

## Conclusion

Unknown

## Description of Incident

On 3 August 1952, the source, a civilian engineer, observed three motionless cylindrical objects from the town of Truth or Consequences, New Mexico. The objects were in an inverted "V" formation at about $45^{\circ}$ elevation. Their angular length was the span of two widths of the little finger at arm's length and the depth was $1 / \mathrm{g}^{\prime \prime}$ at arm's length. They were light green in color. At one time, one object shifted its position to form an echelon formation. This movement was smooth not erratic. As it moved, it seemed to roll on its longitudinal axis. The apparently disappeared by rising at a rapid rate.

The total time of observation was 9 minutes.

## Comments

The object was seen in the direction of the local airport which has a rotating beacon. Since they were motionless, except for movement within the group, it is extremely doubtful that it was the beacon since the beacon was rotating. In addition, the elevation was $45^{\circ}$.

The size, which the source seemed to be sure of, would eliminate aircraft. Any aircraft appearing as large as source describes would be heard.

Light phenomenon such as diffraction or reflection is unlikely since some of the objects remained stationary while one shifted position.

Unfortunately, there was only one source so too much weight cannot be put on the report.

## Conclusion

Unknown

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Haneda AFB, Japan

## Description of Incident

The object was first noticed by two airmen walking across the ramp at Haneda AFB on the night of 5 Aug 52 at 23301 (local time). The airmen were on their way to the tower to "relieve the operators. On reporting to the tower, the object was called to the attention of the tower operators who were going off duty.

The four operators agreed that the object, which they observed for from 50 minutes to an hour through $7 \times 50$ binoculars, was circular in shape and with constant brilliance. The light appeared to be a portion of a large, round, dark shape which was about four times the diameter of the light. When the object was close enough for details to be seen, a smaller, less brilliant light could be seen along the lower edge of the dark shape. The object faded to the east twice but reappeared; it could have faded or actually gone away and come back. The size of the light, when closest to the tower, was approx imately the same as the ceiling balloons that are released near the tower. A comparison was made to these $24^{\prime \prime}$ diameter balloons at $2000^{\circ}$. This would make the object $50^{\circ}$ in diameter at 10 miles. During the observation, a lighted balloon was released but this light was extremely dim and yellow compared to the object.

An airborne C-54 was requested to check the object, which the pilot did, but he reported seeing only a star.

An ACsW unit was notified soon after the original visual sighting and shortIy after 2345 I picked up an unidentified return. The object was tracked at varying speeds from hovering to 300 knots. At 00121 the return "broke into three pieces" and they maintained intervals of $1 / 4$ mile. No visual observation was made from the AClW unit although it was attempted and, at one time, the object was within 10 miles of the station. The radar was directed onto the target by visual observations from the tower, so it can safely be assumed that both visual and radar contacts involved the same object.

At 0003 I an Fo94 was airborne on a scramble and was requested to search to the NE of Haneda AFB over Tokyo Bay. They could make no visual observations, but could see the North Star and Venus. The Fa94 was vectored to the object by GCI (both the Fog4 and object were on the scope) and held for 90 seconds. Shortm Iy after this, both the object and the Fa94 disappeared into the ground clutter on the GCI. At no time did the F 94 make visual contact. The radar contact indicated the target was at 6000 yards, $10^{\circ}$ below and $10^{\circ}$ to the right of a $320^{\circ}$ bearing from the station.

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Soon after loss of radar contact, the object was lost visually.

## Comments

The F-94 crew reported excellent visibility, yet they could not visually observe the object during a thorough search of the area. They stated that the moon was bright and might possibly have caused reflections off the few scattered clouds. This, however, is not in agreement with the description of an exceptionally bright light given by the tower operators.

Since the weather was not given, it is not possible to determine whether the radar return was caused by some type of anomalous propagation.

ConcIusion
Uniknown

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Azores Islands

## Description of Incident

At approximately 01162 ( 2316 local time), a C-124 enroute from Harmon AFB, Newfoundland, to the Azores on a MH of $135^{\circ}$, TAS of 200 mph , and altitude of 9000 ', obserted two distinct green lights $15^{\circ}$ forward of the right wing and slightly above. The c-124, was at $47^{\circ} 00^{\prime N}-35^{\circ} 00^{\prime} \mathrm{F}$ at the time. The lights were observed by the pilot, co-pilot, engineer, and aircraft commander. The lights remained off the right wing and appeared to alternate leading each other. At one time, the lights appeared to turn toward the C-124. The lights were visible until the aircraft sighted the Azores.

All other known aircraft in the area were checked with the tower and asked to blink their lights. Each aircraft was either located or it was established that they were too far away to be seen. Surface vessels were also checked but none were in the area.

The weather was CAVU.

## Comments

The only possible explanation is another aircraft or some light phenomenon. The possibility of other aircraft is slight because no aircraft came in to land behind the $\mathrm{C}-124$ and very few aircraft overfly the Azores. In addition, all aircraft flying in that area keep their position known to the Air Force so they can be aided in an emergency. The only other possible aircraft would be unfriendly and again this is doubtful.

Light phenomenon is possible since the right wing carries a green light, the "reflection off a vertical inversion" could have been the cause. However, since there are no data on this proposed phenomenon the sighting cannot be attributed to this.

Conclusion
Unknown

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## STATUS REPORT

# PROJECT BLUE BOOK - REPORT NO 9 

FORMERLY PROJECT GRUDGE

PROJECT NO. 10073

31 JANUARY 1953

AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE EASE OHIO

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This roport is the minth of a series of monthly atatus reports of Project Blue Book. Normally each report is written on or near the last of each month and contains a summary of all incidents reported during the month covered by the report.

Ans additional information nay be obtained on any inoident by directing requests to Commanding Conaral, Air Technical Intelligence Center, ATTNz ATIAR 5, Wright-Pattorgon Air Force Base, Ohio.

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## STATUS OF PROJECT BLUE BOOK

## I. OVERALL STATUS

A. General

During the period I November 1952 to 30 November 1952 a total of 27 reports were received through AF channels. This total represents a decrease of 13 from the October 1952 total of 40 reports.

Time not being spent on the actual evaluation of reports is being devoted to cataloging and reviewing reports received during the ennmer of 1952. At the time many of these reports were received, the workload was of such a degree that they were given only quick preliminary screening.

All reports received during 1952 are being cross-indexed. The crossinderdng of all reports up to 31 December 1951 was accomplished in March 1952. The categories for cross-indexing are:

> 1. Date
> 2. Location
> 3. Type of Observation (1.e., visual, electronic, etc.) 4. Conclusion
B. Briefing Given to Personnel of the Los Alamos Scientific Laboratory

On 23 October 1952, Col D. L. Bower and Capt E. J. Fuppelt presented a briefing on Project Blue Book to a group of 400 scientists, engineers, and technicians at the Los Alamos Scientific Laboratory. The briefing consisted of a brief history of the project, details of the present operations, and several recent sightings. Approximately an hour and a half was devoted to a question and answer period following the presentation of the briefing.

After the briefing, the balance of the day was devoted to a meeting with a group of people from the Laboratory who have shown a great deal of interest in the subject of Unidentified Flying Objects.
C. Briefing Given to the OSI District Comanders Meeting

The Office of Special Investigations District Commanders Meeting was briefed at Kelly AFB, Texas, on 27 October 1952. Personnel from the Current Estimate Branch of D/I, Hq USAF and ATIC presented the briefing which stressed collection, analysis methods, and current situation.
D. Proposed Changes in Air Force Letter 200-5

A proposal for changing certain sections of Air Force Letter 200-5 has been writton and forwarded to the Director of Intelligence. The major proposed change in the directive is to eliminate the presently required written Air Force Form 112 and to add several items to the required wire message.

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If a written report is necessary in addition to the wire, it will be specifically requested by ATIC.

It is believed that by eliminating the written report, a great many manhours can be saved on an Air Force-wide basis. In some instances, the Form 112 has merely been a repeat of the wire.

## E. Status of Videon Camera

Letters have been prepared and sent to Air Defense Command and Aircraft and Air Communications Services (AACS) to obtain concurrence on the current plan to place cameras in control towers and at certain selected radar sites.
F. Contractor Status

## 1. Analysis of Existing Sighting Reports

Sighting reports dated up to and including Jane 1952 have been processed. Except for the reports dated 1947 and 1948, all sighting reports up to and including March 1952 have been evaluated. The sighting reports for 1947 and 1948 are not available for evaluation. As soon as the 1947 and 1948 reports are available and can be evaluated, all sighting reports for the years 1947 to 1951 will be ready as a group for preliminary analysis utilizing IBM equipment.

Sighting reports for the month of July 1952 have been received. Beoause there are 450 sighting reports for July, processing them will not be completed until the first week in December. Evaluation of reports for the months of April, May, June, and July 1952 will require about six days of conference time. Conferences for the evaluation of sighting reports will be arranged as reports becone processed in groups of 200 . Each group of reports will require about two days of work for a cooperating researcher Blue Book evaluation team.

The evaluation of 1952 reports will be more time consuming than was the case for earlier reports, because reports now are in more detail and often consist of sightings of one object by more than one individual.

Since October 16, 1952, it has been necessary to establish a rotation system for handling sighting reports, no more than 100 sighting reports being permitted away from Blue Book at any one time. Questionnaires and work sneets completed here must therefore be put in duplicate folders before sighting reports matching these questionnaires and work sheets are returned to WPAFB in return for unprocessed sighting reports. When evaluation conferences are held, these folders must be matched before an evaluation is made. The necessity for establishing a rotation system has caused some delay in progress.

## 2. Analysis of Soil and Vegetation Samples

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Tro samples of vegetation and soil from Pittsburgh, Kansas, which were submitted by Blue Book for analysis, have been thoroughly studied. Examination by experts on soil and vegetation disclosed no difference between the two samples from the two areas where the opecimers were obtained. Tests for radioactivity likewise showed no signiflcant difference between the two samples of soil and vegetation. Tests were made for beta, ganma, and alpha radiation. Samples of the "Kansas" soil and the vegetation will be returned to Blue Book in the near future.

## 3. Consultant on Astronomy

Dr. J. Allen Hynek, of the Ohio State University, attended the Boston meeting of the Optical Society of America on 11 October 1952. The Society took cognizance this year of the many reports of unusual aerial phenomena by including three invited papers on the subject in their othervise straightforward scientific meeting. One of the invited papers was by Dr. J. Allen Hynek, entitled "Unusual Aerial Phenomena". The other two papere were by Drs. Menzel and Liddell, of Harvard Observatory and the Atomic Energy Commission, respectively.

The papers of Menzel and Liddell, though differing somewhat in content, were identical in spirit. Both papers were characterized by the fact that numerous explanations for unexplained sightings were given without a single reference to a specific sighting in the files of the Air Technical Intelifgence Center. Both papers presented a series of well-worn statements as to how jet fighters, meteors, reflections from balloons and aircraft, and optical effects, suoh as sundogs and mirages, could give rise to nflying saucer" reports. Since there was nothing new in either of the two papers, the trip from this standpoint was unproductive.

The paper by Dr. Hynek, in essence, was to the effect that flying saucers represented a science-public relations problem; 1.e., when a sighting is made by several people, at least one of whom is an experienced observer, the matually corroborated reports are entitled to a scientifle hearing, rather than ridicule. It stressed the point that here was a subject in which the public has shown great interest. It was recomended that the relatively few well-screened reports be dealt with specifically to $88 \theta$ whether any of the causes suggested by Drs. Liddell and Menzel are applicable, and, if so, to make this known in these specific instances. On the other hand, if the suggested explanations of Drs. Liddell and Menzel do not explain well-screened cases, this should also be made known and given further scientific study.

In conclusion, it was the opinion of Dr. Hynek that little was gained by attendance at the meeting. The results were negative in the sense that it was confirmed, as Dr. Hynek. already believed, that Drs. Liddell and Menzel had not studied the literature and the evidence and, hence, were not qualified to speak with authority on the subject of recent sightings of unidentifled aerial phenomena.

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An attempt to arrange a meeting by Dr. Hynek with Dr. Menzel and Dr. Ifddell, after the meeting was over, was unsuccessful because Ifddell and Menzel both had to leave immediately after the meeting.

## 4. Interrogation Forms

Five hundred copies of the NU.S. Air Force Technical Information Sheet" (Form A and Form B) were delivered to W-P AFB on 20 October 1952. This questionnaire was used in place of the "Tentative Observers Data Sheet" to record data on all sighting reports dated after 31 March 1952. It has proved to be more satisfactory than the previous form, especially from the standpoint of recording data from sighting reports in greater detail.

Additional copies of the "U.S. Air Force Technicel Infomation Sheet" can be supplied to Blue Book as needed.
5. Fature Work

Coding and evaluation of 1952 sighting reports will continue. A proliminary analysis of data on all sighting reports dated previous to 1952 will be given to Blue Book as soon as possible after evaluation is completed of the 1947 and 1948 sighting reports.

By 10 December 1952 all sighting reports dated before 15 June 1952 should be processed and evaluated ready for IBM analysis. Complete IBM analysis of all sighting reports will not be started until all reports dated previous to 1953 are processed and evaluated. Because of the nature of the work required, and the fact that the namber of reporte for the last three monthe of 1952 is not yet known, no estinate can be given as to the time flnal IBM analysis will begin. It is hoped, if the frequency of sighting reports follows the present decreasing trend, that complete IBM analysis for sightings dated through 2952 may be started by 1 February 1953.

## II. RECENT REPORTS

The following reports are summaries of reports that were received during the month of November 1952.

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## Priona, Texas

November 1952

## I. Desoription of InoIdent

Source supposedly picked up pieces of an exploded "flying saucer" and sold half the pleces to the Soviet Embasey. He had previously notifled the Pentagon, but hadn't heard from them so he sold out to the Soviets.
II. Dlscussion of Inotident

It is believed that this is a "orackpot" report. The original report was made to the F.B.I. and forwarded to ATIC.
III. Conclusion

Hoax

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## I. Description of Incidont

At 1829 CST on 3 November 1952, two control tower operators at Laredo AFB, Texas, observed a long, elliptical, whitish-grey object approach the AFB from the SE. It appeared to pause south of the base then depart to the SE with an apparent burst of speed. The object was in view from 3 to 4 seconds. No tail or trail was noted.

A $I$-33 aircraft was in the area but was in sight during the observation.
The weather was given as two layers of acattered and broken clouds at 5,000 and 10,000', visibility 12 miles. Wind at surface was NNE at 10 knots.

## II. Discussion of Incident

The apparent high speed and length of time in view eliminate the possibility of a bailoon or airoraft. Many aspects of this sighting are similar to the description of a meteor. If, however, the object came toward the tower (1.0., from the report it apparentiy appeared to get larger) then went away, it could not have been a meteors but since the flight path of an object not going directly overhead is hard to judge, this approach and retreat might be an illusion.

## III. Conclusion

Possibly astronomical.

## I. Description of Incident

On 4 November 1952 a civilian woman noticed two groups of two or three objects moving in a SE direction at a slow speed. The observation lasted 30 seconds and took place at 1730 EST. The objects were approximately $40^{\circ}$ above the horizon with the observer looking $S$ and appeared to be whirling like a IIghted wheel.

## II. Disoussion of Incident

The source states that there were scattered clouds in an umusual formation and that she first noticed the objeots between two banks of clouds. There is a silght possibility that the incident was caused by the afternoon sun roflecting off this cloud formation thereby cauaing a strange effect, but there is no way to substantiate this explanation.

However, the report is so sketchy and incomplete that there is insufficient factual data for an evaluation. Added to this is the fact that only one rather inexperienced source observed the phenomenon.
III.

Concluaion
Insurficient data.

## CONFIDENTIAL

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## I. Description of Incident

On 4 November 1952 a slow-moving light of varying colors was observed by both airborne and ground observers for a period of four hours from 1730 EST to 2130 EST. It was desoribed by all observers as first atationary and then sinking down below the horizon. The colors were white, red, orange and bluo-green.

The object was first, sighted by an Air Force oaptain and lat Lt flying at $2,500^{\prime}$ on a heading of $360^{\circ}$ in a T-6 a/c. The light appeared at a 7 a'clock position, elevation approximately $25^{\circ}$. Presque Isle AFB was contacted and several ground observations were made by the senior control tower operator from that base.

## II. Discussion of Incident

An Incoming Northeast Airlines flight at Presque Isle also sighted an object in the aame relative position with many changing colors. The pilot stated that he thought it was a star. After thinking the sighting orer, the orew of the T-6 as well as the control tower operator also came to this conclusion. It is true that a atar or planet's light under certain haze conditions will refract and change color. The disappearance of the object below the horizon can be attributed to the normal rotation of the earth.

## III. Conclusion

Probably a bright star or planet.

UNCLASSIFIED

9
Erding Air Depot, Germany

4 November 1952

## I. Description of Incident

Three airmen observed an object described as being dark and oval-shaped. It appeared to be tumbling end-over-end as it travelod eastward at a low speed. Object appeared to be low. The time of the sighting was 25002.

Weather at the time of the sighting was scattered clouds at 2,5001 and an overcast at 4,500'. Winds at 1,000 ' were from $310^{\circ}$ at 10 knots and at 5,0001 rinds were from $300^{\circ}$ at 6 knots.
II. Discussion of Incident

If balloons are launched at 1500 Z in Germany as they are in the U.S., this could very well be a balloon. The observers say it was traveling East which is with the wind.

## III. ConcIusion

Probably a bsilloon launched from the alr depot.

## I. Description of Incident

Civilian source reported observing a bright, circular object, stationary In the sky east. of Auburn, Alabama, at 1645 CST on 7 November 1952.

Weather at the time of the sighting was scattered clouds at 12,000!, broken clouds at 25,000'. Visibility 4 miles due to amoke.

Source stated object looked like a star.
II. Discussion of Incident

It is possible that the object observed was a star. At 1645 CST it is dark enough to see the brighter stars. Sunset was at 1645 CST.

## III. ConcIusions

Probably a atar.

## CONFIDENTIAL <br> UNCLASSIFIED

Auburn, Alabama - Columbue, Georgia 8 November 1952

## I. Description of Incident

At approximately 1715 EST on 8 November 1952 many people in the Columbuif, Georgia, and Auburn, Alabama, area observed a ailver colored spherical or oval shaped object. The outer edge was described as translucent and emitting a groen light. There were two bright apots on the object.
II. Disoussion of Incident

Many of the sources who observed the object stated that it was a balloon. Some made observations through telescopes.
III. Concluations

Probably a belloon.

## I. Description of Incident

At 01052 on 9 November 1952, a radar at EL Vado, New Maxico, F1rst observed a "blip" $20^{\circ}$ wide, 45 miles and $145^{\circ}$ from the station. The "blip" was clocked at from 600 to 1400 mph as it went off the scope at 130 miles . It soon returned on the same azimuth, came to within 65 miles of the stations hovered approximately two mimutes, turned, and went off the scope again. It was observed a total of ten minutes.

During the sighting, the frequency of the radar set was changed 20 megaoyoles with no apparent change in the target.
II. Discusgion of Incident

Many similar types of returns have beon shown to be due to cortain atmosipheric conditions. It is very posaible that this return was due to weather.

## III. ConcIusion

Weather caueed the unusiual radar return.

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## CONFIDENTIAL

Corington, Ohio
10 Hovember 1952

## I. Dascription of Incident

At 1700 EST a civilian phoned the AIIC duty officor to report that he was observing a brilliant bluish light in the sky N of his home.

## II. Miscussion of Incident

Patterson operations, W-P AFB, advised the duty orficer that a B-29 was testing photo ilash equipment in the area.

## III. Conclusion

Was aircraft.

## -CONFIDENTIAL

Washington, D.C.
10 November 1952

## I. Description of Incident

Civilian sources reported that they used 8-power binoculars to observe two. lights that appeargd to be east of Washington National Arport. The lights were observed at 2150 EST on 10 November 1952 for a period of one hour. There was no apparent movement but they grew alternately brighter and dinmer. The ilghts were close enough together to be included in the field of view of the binoculars.

Weather reported to be 0-0 at Bolling AFB at 2200 EST but source atated there was no fog where he was.
II. Discussion of Incident.

The data in the report is too sketchy for a complete evaluation. but it is possible two exceptionally bright stars were observed.

## III. Conclusion

Possibly astronomical.

## UNCLASSIFIED CONFIDENTIAL

Lott, Texas
11 November 1952

## I. Description of Incident

Two civilian men reported observing two objects at 1540 CST on 11 Novem ber 1952. The objects were described as being non-metallic in appearance, globe-shaped, and of a cloud grey color. The two objects appeared to be connected by a "wispy, cloud-like" band. The objects appeared at a $75^{\circ}$ elevation, $20^{\circ}$ azimuth, moving in a general ESE direotion to about $95^{\circ}$ asimuth; it then turned NNE.

The weather was clear with winds from the WiNW of 15 knots at 19,000' and 35 knots at 39,000'.

## II. Disoussion of Incident

Source is know to be very enthusiastic about this aubject, he has made four aightings.

A balloon was released from the James Connally AFB at Waco, Texas, at 1500 CST. The winds at 39,000 were from the WNW and according to source'e description, the object was traveling approximately with the wind. Iott, Texas, is about 30 miles SSE of Waco and with 35 knot winds, the balloon could be in view at Iott 40 minutes after the scheduled launch. No data on the length of time observed is given.

## III. ConcIusion

Probably a balloon.

## I. Description of Incident <br> At 16152 (local time) on 11 November 1952, approximately 40 civilians observed an object whicn they reported first to be oval-shaped then changing to a conical shape, then changing back to an oval shape. It disappeared in a bright flash. The color and apparent size and speed was not reported. There was no sound. The observers were located at $51^{\circ} 26^{\prime} \mathrm{N}-00 \mathrm{M}_{4} 5^{\prime} \mathrm{E}$. The object was observed to the SE and was seen several times over a fiveminute period.

At $1620 Z$ on the same day, a police sergeant and 20 police recruits observed an object described as a slowly moving small oval "nucleus" (i.e., body) brilliant reddish-white, and with a long fiery tail ten times the diameter of the main body. The observers were located at $51^{\circ} 05^{\prime} \mathrm{N}-01^{\circ} 101 \mathrm{E}$, It was first seen on the western horizon, moving to the north. The object disappeared into a heavy stratus cloud layer after being observed for ton minutes.

## II. Miscusgrön of Incident

A plot shows that the police that made the observation were 24 miles south and 29 miles west of the civilians. The civilians reported making their observation to the SE and the police stated that what they saw was west of them traveling to the north. There is a time discrepancy of five minutes in the reported times but this is not unasual since there could very well be errors in estimating the time or in a difference between two watches or clocks. It can be reasonably assumed that both parties observed the same thing.

The data received is very sketchy but indicates that the object may have been the vapor trail of a jet aircraft. More details on the sighting would be necessary before a definite conclusion can be reached, however.

Conclusion
Insufficient data for evaluation.

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12 November 1952

## I. Description of Incident

A security guard at Los Alamos reported observing four, blinking, red, green, and white or yellowish lights. The lights appeared to be stationary or moving very slowly to the north. They were observed continuously for 16 mimites and first seen at 2223 MST.

The weather was CAVU. A fighter aircraft was put in readiness to soramble, but was not scrambled since no radar contact was made.

## II. Discuasion of Incident

The time, 05332, is two hours and 33 minutes past the scheduled 03002 weather balloon launch at Albuquerque. This balloon drifted east and was very probably out of the area at the time of the sighting. It is possible that another weather balloon drifted into the area although in general lights on these balloons last only about one hour. In addition, weather balloons carry only one light. The low speed, absence of radar contacts, and the fact that the area is a prohibited flight area discount the possibility of an airoraft. It Is also possible that a large research type balloon was in the area, although ATIC has no such flights recorded.
III.

## Conclusion

Possibly a balloon.

Ophiem, Kontania - Glasgow, Montana

13 November 1952

## I. Description of Incident

At 0243 UST on 13 November 1952 a weather observer taking a theodolite reading on a weather balloon at Glasgow, Montana, reported he observed flve oval-shaped objects with "lights all around them" flying in a V-formation. Each object seemed to be changing position vertically by climbing or diving, as if to hold formation. The speed appeared to be very fast, the total time of observation being 20 seconds. The reported objects came from the NH, went straight over the center of the tom, made a $90^{\circ}$ turn, and departed toward the SW.

At 0220 UST an AC\&W Station obtained an unidentified radar track begin-
 altitude was estimated to be 158,0001 and the speed was 210 knots.

## II. Discussion of Incident

If these data are plotted it shows that it is doubtful that the crack observed on radar and the reported visually observed objects were the same. While the radar "blip" was going straight east, south of Glasgow (Glasgow being north of the radar track), the observer saw something come in from the NW, turn, and go to the SE over his position.

Since the objects were reported directly over the observer and no sound was heard, it is doubtful as to whether the objects were aircraft.
III. Conclusion

This was not a combination radar-visual sighting of the same object. There are no conclusions as to the nature of the reported visual sighting. The radar track, however, could be due to weather.

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Davis, Callfornia
13 November 1952

## I. Description of Incident

At 0605 PST on 13 November 1952 three businessmen from Davis, Callfornia, observed what they described as an indistinct, blunt, cylindrical object, with a bright flame behind it. The flame color was described by one source as bluered and by another as silver-white. It was estimated that if the object had been a half mile away it would have been $20^{\prime}$ in diameter. The objeot was observed for $15-30$ seconds.

From their position at $38^{\circ} 29^{\prime N} N-121^{\circ} 37^{\prime \prime}$ the object traveled through an arc of $45^{\circ}$. It was of low aititude when first seen.

The weather at 0630 PST was reported as scattered clouds at 5,0001 , visibility 25 miles. Sunnrise was 0647 PST.
II. Discussion of Incident

All phases of this fit the description of a large fireball or meteor.
III. Conclusion

Probably astronomical.

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Witchita, Xansas

15 Noreaber 1952

## I. Desoription of Incidont

at 2025 CST on 15 November 1952, an AF major with 5,000 houre flying time was ongaged in watohing pilots under his ccmand shoot landings in a B-l47. He, anothor rated offloer, and several airmon observed what appeared to be an elliptieal, bluewhite light with an orange or red tail. The objeet moved orratically at a apeed greater than that associated with a T-33 or B-47. The object was first observed to the morth traveling rapidly on a hoading of about $45^{\circ}$, then it suddoniy appeared to stop. Whon the objeot stopped, the orange glow appeared to be on what had been the leading edge of the object. The object moved out again on a heading of $45^{\circ}$ to a position Niw of the alrport, then stopped again for two mimutes. It finally disappeared to the porth. It was in Fiew a total of five to ten minutes.

The weather was CAVU. The winds weros

$$
\begin{aligned}
& 19,0001-265 \% / 35 x \\
& 24,0001-265 \% / 40 x \\
& 34,0001-265 \% / 40 x \\
& 39,0001-235 \% / 64 x
\end{aligned}
$$

II. Discussion of Inoident

Two Iighted weather balloons wore launched at 2030 CST. Although there is a disorepanoy of 5 mimutes in time betreen the alghting and the balloon launches, the description of the objeot, the described course, otce, flits that of a balloon.

It is believed that the reported object was one of the weather balloons.
III.

Conclusion
Probably a balloon.

## CONFIDENTIAL

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Washington, D. C.
15 Norember 1952

## I. Description of Incident

At O240 EST an AF captain and his wife observed some type of light they. could not identify. Their attention was called to the object by its loud noise, described as similar to a flight of "six or more jets at low altitude". The light was white or pale blue and passed slightly to the east of the observer's zenith on a southerly heading. No wing tip lights were noted. After about seven or eight seconds the light made a left turn then started a steep climb. The light went out shortly after the climb was started.

## II. Discussion of Incident

No follow-up was made on this incident, however, the description could well be that of an F-94 aircraft with its afterburner on and flying "blacked out ${ }^{\text {n }}$.

## III. Conclusion

Possibly aircraft.

## UNCLASSIFIED

## I. Description of Incident

Two civilian sources reported observing "deep orange glow with intermittent white lights". One observer was in Bower's Beach, Delaware, and one In Frederica, Delaware. Both observers saw the light generally south of their posituions. It was first observed at about 1845 EST and was ip view for ten mirutes. It apparently had no lateral motion, aince one observor Iined up the object on a fixed reference point and he could not notice any motion.

Weather at the time was scattered olouds at 6001 and an overcast at 5,0001. Visibility was seven miles.

## II. Dhsoussion of Incident

Since there was an overcast, any astronomical body can be ruled out.
Aeronautical charts show that in the general direction of the sighting and $10-12$ miles away there is a reserved air apace or caution area used by the Nary. Some activity in this area, such as a rlare; could have been seen.
III. Conoluaion

Poasibly a nare.

## CONEIDENTIAL

## UNCLASSIFIED

16 November 1952

## I. Description of Incident

Fran 10452 to 1900z, the GCA radar at Rhein-Main picked up radar returns whose speed varied from 100 to 120 mph . The measured altitudes were from 200 ' to $800^{\prime}$. Both GCA operators have had two years' experience. Ground observers were sent to location of returns, but could not see anything in the air.

One operator had seen a similar situation while stationed in Alaska and it was thought to be caused by icing conditions.

The weather was reported as $7 / 8$ mile visibility, light fog, ceiling 400 - 600 ', overcast, with a ground temperature of $-3^{\circ} \mathrm{C}$.

## II. Discussion of Incidont

The reported maneuvers and speeds of the radar returns are similar to those that have occurred at Washington National Airport.

No data on inversions are available, but similar sightings have been due to weather.

## III. Conclusion

Returns due to weather.
I. Description of Inai dent

At 1838 PST two duty officers at a Naval station sighted an unusual large orange disc of light which hovered over the water for three to four minutes and then proceeded upward at a high speed. The object later appeared again and appeared to be a large yellow ball whioh, when looked at through binoculars, seemed to have a bluish tinge around the edges.

## II. Disoussion of Incident

At approximately this time the Navy and U.S. Weather Bureau released radiosonde and piball weather balloons and since the objects hovered and then olimbed, it is felt that either one of these caused the incident. The orange diac description fits here also as many times a rising balloon will catch the setting sun's rays and appear to be a glowing ball.

## III. Conclusion

Probably a weather balloon.

## UNCLASSIFIED

 CONFIDENTIAL
## I. Description of Inci dent

At 1815 EST flve oivilians observed a bright orange, oblong; object moving slowly across the sky. No sound was heard.
II. Discussion of Incident

A jot aircraft was known to be in the area and flying in the ame headIng as the reported object. The aun shining on this airoraft undoubtediy accounted for the sighting.

## III. Conclusion

Probably airoraft.

## CONFWDEENTAL

16 November 1952

## I. Description of Incident

At approximately 00152 on 16 November 1952 two observers, a tech sergeant and the base OD, observed a "large, brilliant object the size of a grapefruit". The object appeared to be traveling very fast as it came in from the SW, made a $90^{\circ}$ turn directly overhead, and disappeared in a westerly direction. As it left the area it appeared to give off a brilliant "cold white light". The duration of the sighting was five to six seconds. No sound was heard.

Many other sightings of a similar nature were reported by Air Police Guards earlier in the evening.

Local radar was checked but they had carried no unknown tracks during the period.

An aircraft crew reported that they had seen a meteor at 24002 while $17 y-$ ing into the area.

The weather was scattered to no clouds at 2,000'; visibility 10 miles.

## II. Discussion of Incident

There is a possibility that the reported object was the same meteor seen by the air crew at 2400 Z , an error of 15 minutes is possible. Meteors, however, do not make $90^{\circ}$ turns and since the turn reportedly occurred directly over the observers it is difficult to say the turn was an illusion. There are infrem quent reports of fireballs "glancing" off the atmosphere. This phenomenon might appear to be a $90^{\circ}$ turn.

The object evidently was very spectacular since the OD stopped his car, shut off the ignition and go out to watch. One observer stated that he was afraid the object was about to hit him.

Lacking data on the "odds" of a meteor or fireball appearing to make a $90^{\circ}$ turns, the object cannot be identified as a meteor.
III. Conclusion

Unknown

## UNCLASSIFIED

 CONFIDENTIALFlorence, South Carolina

17 November 1952

## I. Description of Incident

At 1715 EST, several observers in and near Florence, S.C., observed a bright, elliptical-shaped object, thick in the center and tapering at the edges. It appeared to be traveling slowly. Observers included airport manager, Eastern Airlines captain (not airborne at time of aighting), a weather observer, radio operator, and a tiower operator.

A Jet aircraft was reported due over Florence radio at the time of the oighting.

## II. Discussi on of Incident

This is another sighting that appears better than averages as far as sources are oonoerned, but again certain data are lacking. Since a jet air oraft wae due over the area, it could have been the jat. It is interesting to note that so many widely separated sources would all report an aircraft, ospeoially ainee they oan be considered fairly reliable observers.
III. Conclusion

Probably aireraft.

## I. Description of Incident

The pilot of a B-50 aircraft reported observing a light that changed color from white to red to green. The B-50 was flying at an altitude of 16,000 on a heading of $275^{\circ}$. The time was 2005 MST. The light was observed at 11 o'olock from the aircraft. At flirst it appeared to be státionary then moved to the NH, disappearing as if it had been turned off.

## 1I. Discussion of Incident

Although the description of the object is similar to a star or bright planet, the fact that it "went out" eliminates this possibility. The sighting was an hour and five minutes after a ballion launch and normally lights on balloons do not burn this long, it is not an impossibility, however.

This raport is aimilar to past reports that have been received from this area.

## III. Conclusion

Possibly a balloon.

## UNCLASSIFIED CONFTDENTTAL

## I. Description of Incident

At 2120 EST on 21 November 1952 an observer, not identified in the report, observed a bluewhite object traveling WNW. The object was reportad to be "the size of a golf ball". Object terned dull orange after several seconds and disappeared. One minute later it reappeared in the original color,' turned north for approximately two minutes, then turned SSE and held this course until it was out of sight:

## II. Discussion of Incident

The description of this object is similar to a meteor except for the longth of time observed, over three minutes, and the disappearance, and roappearance. The reported change in course does not fit a meteor; but aince it was a small change, WNW to $N$, it could have been an illusion.

Another posisibility is a jet airoraft. The report makes no mention of the location of the object in relation to the observer nor to sound. If the object did not pass over the source and was only seen low on the horizon, it could have been an airoraft.
III. Gonolusion

Possibly aircraft. <br> \section*{UNCLASSIFIED <br> \section*{UNCLASSIFIED <br> CONFIDENFIAL}

## I. Description of Incident

On 21 November 1952 at 1822 EST, two heavy equipment operators working In the Savannah River AEC installation observed one round, glaring red, objeot with no tail, which appeared to be traveling at high speed. The object faded from view in the SSE after being in aight for about 30 seconds. It appeared to be losing altitude when it disappeared. No sound was heard.
II. Discussion of Incident

The description of the reported object fits the typical fireball or Large meteor.
III. ConcIusion

Probably a fireball.

## UNCLASSIFIED

## CONFIDENTIAL

Annandale, Virginia
24 November 1952

## I. Description of Incident

For one hour between 1830 and 1930 EST on 24 November 1952, a civilian couple observed a bright glowing light "the size of a baseball" to the south of Annandale, Virginia. The light came north over the observers then made a $90^{\circ}$ turn. When almost out of sight, it made a $180^{\circ}$ turn and came back toward the observers. Binoculars were used to make the observation. There was no sound.

The weather was CAVU.

## II. Disoussion of Inoldent

This could very well have been a jet aircraft, possibly with an afterburner, except for the absence of sound. The light was apparently traveling fast and was large (1.e., larger than the "pinpoint" of light made by a high flying jot). If it was low enough to appear to be traveling extremely fast, it should have been heard since it passed nearly directly over the observers. It would be difficult to say it was definitely an aircraft.
III.

Conoluaion
Possibly airoraft.

# CONFIDENTIAL <br> UNCLASSIFIED 

## I. Description of Incident

At approximately 1548 PST three employees of a westwcoast aircraft plant observed four unidentified flying objects in formation near Grand Central Air Terminal. The objects were described as being spherical in shape, and of unknown size. They were a dull grey aluminum color, and appeared to be oither emanating light or reflecting shafts of sunlight. They first appeared in the NW and appeared to be on an easterly heading. At one time, a B-25 passed between the objects and the observers. The B-25 appeared to be at 15001 and the objects seemed to be about the rolative size of a nacelle on the B-25.

The objects seemed to take on an olliptical shape, diminish in brililiance, then disappear at high speed. Only the sound of the B-25 was heard. The sighting lastad about 1 minute.

## II. Disoussion of Inoident

These could have been a/c reflecting sunlight. The "sudden disappearance at high speed" could be due to a change in the angle of reflection causing it to rapidly diminish and fade from view.

No data about the angles are given so no angular velocity can be estabIished.

## III. Conclusion

Possibly aircraft.

White Sands, New Mexico
25 November 1952


#### Abstract

I.- Description of Incident

The following is an extract from the Monthly Intelligence Sumnary, White Sands Proving Crounds. The source is a fleld grade officer assignod to White Sands:


While returning to White Sands Proving Ground from Wm Beaumont Hospital, at approximately 2030 hours on 25 November 1952, I observed what appeared to be flares, or pyrotechnics; on the right side of the road. Ky first throught was that these objects were flares that were being fired by troops on a night project. However, shortiy thereafterma matter of seconds-I observed what appeared to be a flare land right in the middle of the road, about three or four hundred yards distant. It assumed the shape of a ball, having a green center, fading to a light hazy blue at the exterior. - This light disappeared before my car arrived at the apot. After observing this Ilght, I thought that the Department of Army had a new type pyrotechnics that. I was not familiar Whith that they were using on a night problem. Approximately three to five minutes later I observed a light, or series of lights, approaching from the right side of the road, in the heavens, at an altitude of about three to five hundred feet and between $1 / 4$ and $1 / 2$ mile distant. I thought that probably, in conjunction with the night problem, this was an airborne drop of troops. I first thought it might be a $\mathrm{C}-119$ or a $\mathrm{C}-123$. However, this object made a right hand turn above the road and then disappeared at an angle of approximateIy $90^{\circ}$ straight into the sky: I cannot state whether $1 t$ was a plane or a type of aircraft. I can merely state that there were two rows of what appeared to be windows, brilliantly lighted, and I mould estimate that they were five to aly feet in height and six to eight windows in each of the two rowe. After this object disappeared, I stopped my car and got out to see if I could see a plane but could see nothing. I turned off the motor on my car to see if I could hear the motors of a plane, but I could near no sound. I then proceeded to White Sands Proving Ground."

## II. Discussi on of Incident

It is possible that the object was an aircraft except that from the desoription it appeared to be low if it were an aircraft, and evidentally no sound was heard. No follownup investigation was made and since additional data are needed no evaluation can be made.

## III. Conclusion

Insufficient data for evaluation.

## I. Description of Incident

From 18002 to 23492 on 25 November 1952, two unidentified objects were tracked on gun-laying radar. The objects flew at an estimated speed of 275 knots and varied altitude between 1,0001 and 28,000'. The area was put on a yellow alert after all known air traffic had been checked. Four aircraft were scrambled for visual search, but had no success.

At one time, 23302, an AF major observed a glowing yellow light traveling rapidly from east to west near France AFB. At the time of this visual sighting, the radar had the target in the France AFB area. Other reports of visual sightings were received, however, further investigation showed these to be the aircraft that had been scrambied for the attempted intercept.

Weather showed two inversion layers in the area, but the report atates the possibility of weather causing the targets was cheoked before the yellow alert was called.

## II. Discussion of Incident

Although the report on this incident is complete, there is still not onough data to make a complete analysis. The fact that inversions were noted raises the possibility of weather phenomena causing the targets.

## III. Conclusion

Radar returns probably due to weather.

26 November 1952

## I. Description of Incident

At 02302 ( 2230 local time) an $\mathrm{F}-94$ crew attempted to intercept a bright orange and red light, the light had no definite shape. The intercept was unsuccessful in that the object seemed to keep the same distance from the F-9li. The F-94 was on a $180^{\circ}$ heading from Goose AFB. No radar either airborne or ground was made.

The weather was CAVU.

## II. Discussion of Inoident

The report atates that all aircraft in the area were accounted for. There is no reason to believe, however, that the $\mathrm{P}-94$ was observing a bright star or planet. This has occurred several times in the past. The fact that the light appeared to stay the same distance from the airoraft is characterm istic of a "star chase".
III. Conolusion

Possibly an astronomical body.

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## I. Description of Incident

While on a flight from E1 Paso, Texas, to Nellis AFB, Nevada, in a B-26 aircraft, an AF It colonel and his crew chief observed four quiok bursts of black smoke in tandem, directly ahead of their aircraft and at their altitude. The time was 1210 PST. After about 2 minutes, three more bursts appeared then three more. At 1218 PST, three more puffs were seen to the left of their course and ahead, with three more appearing at 9 olclock. At this time, the pilot made a $90^{\circ}$ turn to the left. The puffs of smoke contimed as the B-26 made several turns in the area. Once the puffs of amoke would have bracketed the a/c had it contimed on course. At one time, the pilot flew close to the puffs and they appeared to be yellowish in color and about 201 in diameter. Exceedingly rough air was noted close to the smoke puffe.

The entire incident lasted 20 minutes.
II. Discuission of Incident.

The description of the smoke puffs would lead one to believe that the B-26 had encountered flak. The area of the encounter was far from any target area, however, and since the a/c was only at 10,000' under VFR conditions, it is doubtful that even if it were in a practice area it would be contimally fired upon.
III. Conclusion

Unknown

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Dequincy, Louisiana

27 November 1952

## I. Description of Incident

On 27 November 1952 at 2015 CST a woman reported seeing a "round and/or pyranidal shaped object with a bright reddish-pink colpr". At first it was stationary, then it began to move up and down. It was observed for $21 / 2$ hours.

## II. Discussion of Incident

Although no angles are given so an almanac can be checked, it is highly probable this lady was looking at a planet or atar.
III. ConcIusion

Probably astronomical body.

# CONFTDENTHAL <br> UNCLASSIFIED 

Ogden, Utah
28 November 1952

## I. Description of Incident

Tro pilots in a $T-33$ aircraft flying at 20,0001 reported observing an object trailing a long amber-rose colored stream. The time of sighting was 1945 PST, 28 November 1952, and lasted for 20 minutes. The object appeared to be wavering alightly from side to side and remaining in a fixed position until the T-33 passed it, then it appeared to pick up speed.
II. Discussion of Incident

At 1745 PST the sun would be in a position to illuminate a vapor trail similar to the way the sun lights or colors clouds in a sunset.
III. Conclusion

Probably an aircraft.

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## I. Description of Incident

Source reported two stationary lights over Washington, D. O., at 2230 EST on 30 November 1952. Source "called from bar and grill and sounded incoherent." The lights remained for several minutes then disappeared. in airoraft with both landing lights on appeared in the same location shortly afterward.

## II. Disoussion of Inoident

Doubtiful source calling from doubtful location.

## III. Conolueion

Probably airorait.

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## CONFTDENTIAL

Washington, D. C.
30 November 1952

## I. Description of Incident

At 0030 EST on 30 November 1952, the CAA radar at Washingtion National Airport again began to show "blipg" similar to those in July 1952. They showed the same pattern and behavior as before with speeds of $90-100 \mathrm{mph}$ with maneuvers identical to normal aireraft excopt for sporadic appearances and disappearances. The "blips" continued for an unspecified period of time. Aircraft in the area were alerted but could aee nothing.

The weather included light snow. ${ }^{\text {do }}$ mention was made of whether there was or was not an inversion.
"Blips" similar to the ones reportal were seen on the previous night (29 November 1952). The weather at that time was CAVU with no inversion. at this time, the targets appeared orer Androws AFB but oould not be seen from the ground.

## II. Discussion of Incident

As stated above, this report is similar to the ones reported from the Washington National Airport Tower. In these there was a great deal of disoussion as to the effects of inversions on radar.

## III. Conclusion

## None

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## STATUS REPORT

PROJECT BLUE BOOK - REPORT NO. 10<br>FORMERLY PROJECT GRUDGE

PROJECT NO. 10073.
Z7 FEBRUARY 1953

# AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE BASE OHIO 

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AUTH: $\quad \propto$, ATIC BY: $\frac{\text { H.C. JOHNSTON }}{\text { Lt Col, USAF }}$ K.6.Q. DATE 21 Apr 53

This report is the tenth of a series of monthly status reports of Project BIue Book covering the months of December 1952, January 1953, and February 1953.
1 Any additional information may be obtained on any incident by directing requests to Commanding General, Air Technical Intelligence Center, ATTN: ATIAE-5, Wright-Patterson Air Force Base, Ohio.

## STATUS OF FROJECT BLUE BOOK

## I. OVERAJI STATUS

There has been a noticeable decrease in the number of unidentified aerial object reports submitted to this Project in the period covered by this Status Report (necember 1952, January and February 1953) when compared with the number submitted in the period covered by Status Report No. 9 (June, July, August, September, October and November 1952). Presently from two to three reports are received daily as compared to eight reports received daily during the period covered by the previous report.

Because of a marked decrease in newspaper publicity, fewer reports have been received from civilians with the result that military sightings now account for at least 60 percent of all unidentified object reports. In spite of the dropping of the subject by the national press, it is significant to note that a steady influx of three reports daily come in to Project Blue Book from persons who sincerely believe they saw an unusual phenomenon in the sky and this is one of the main reasons why the Air Force is still continuing and taking an interest in the Project.

Three incidents which occurred in January serve to illustrate the direct effect of publicity on the number and quality of FLYOBRPTS received by the Project. During the period 21 January to 27 January, a sighting from Northern Japan near Russianheld territory, a television program involving "flying saucers", and a sighting of an unidentified aerial object by a jet pilot on the West Coast all received considerable newspaper publicity which resulted in a noticeable increase in reports at the Air Technical Intelligence Center. This is illustrated by the graph in Section $X$ of this Status Report.

Prior to the incidents mentioned above, the quality of flying object reports continued to improve in quality and completeness even to the extent that base intelligence personnel were analyzing reports at the locale of sighting, something which Project Blue Book encourages. There was a noticeable increase in the percentage of radar sightings made during this time. However, many reports submitted as a result of the flurry of late January sightings were so incomplete that many of them had to be categorized as "insufficient data". The probable reason for this is that the base intelligence officer responsible for preparing an unidentified aerial object report has lost interest in the subject due to the heavy load of low grade reports which he had to submit last summer.

During December, January, and February, Project Blue Book personnel spent a good portion of their time briefing such interested agencies as the Air Defense Command, the 4602 nd Air Intelligence Service Squadron, and the Sandia Corporation with the dual purpose of (1) general education about Project Blue Book, and (2) bettering the quality of flying object reports themselves in addition to improving channels for obtaining supporting information necessary for analysis of a FLYOBRPT.

All reports received were screened and evaluated as soon as possible after being received. A percentage breakdown as to the evaluations is given below, along with a further breakdown of sources:

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100 Total Reports for December 1952, January 1953, and February 1953

| Unknowns | $17.00 \%$ |
| :--- | ---: |
| Insufficient Data | $26.00 \%$ |
| Aircraft | $13.00 \%$ |
| Balloons | $17.00 \%$ |
| Astronomical | $20.00 \%$ |
| Other | $7.00 \%$ |
|  | $100.00 \%$ |

15\% of the total involved radar detection.
Sources:

| Military | $62 \%$ |
| :--- | :--- |
| Civilian | $38 \%$ |

II. SIGHTINĠS OVER NORTHERN JAPAN

In the last month there has been a definite increase in the number of reports received from FEAF by ATIC. They have been accompanied by some publicity in the national press. Included in the reports have been a certain number of observations from Northern Japan near Russian-held territory and for this reason they have been given a good deal of attention by Project Blue Book.

The two most publicized sightings occurred on 30 December 1952 and 9 February 1953; the first was seen by a Colonel in an F-84 over Hokkaido Island, the second by a pilot and a radar observer in an F-94 aircraft also over Northern Japan. Reports of both sightings have been received and checked by ATIC. The F-84 sighting was analyzed as a probable star since it seemed to semain on the same azimuth ( $270^{\circ}$ ) and elevation throughout the feriod of sighting. The F-94 report involves a radar contact by the radar observer with a simultaneous visual sighting of the object and cannot te explained at the present time.

Since July 1952, 16 reports of unidentified flying objects being sighted over Japan have been received from FEAF. Undoubtedly, there were numerous other observations reported to FEAF intelligence personnel which were evaluated and eliminated as known phenomena on the spot. Seventy-five percent of these sightings have been explained to the satisfaction of Project Blue Book. Of the total number of sightings from Japan, 18.75 percent involved some type of radar equipment.
III. CORRELATION OF RADATION COUNTS

In the summer of 1952 it was reported to Project Blue Book that in the past several years there have been some instances where there existed a supposed correlation between the visual sighting of unidentified object and a rapid rise in radiation count on radiation detecting devices in areas close to the Mt. Palomar Obsarvatory, California, and later at Los Alamos, New Mexico. In early fall of 1952 Project Blue Book began to make inquiries about these occurrences. It was found that in October 1949 such an incident had occurred at the Mt.' Palomar

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Observatory and that the Navy had investigated. It was also learned that several times during 1950, 1951, and 1952 that same occurrence had taken place at the Los Alamos Scientific Laboratory in Los Alamos, New Mexico.

A trip was made to Los Alamos and the personnel who had made a study of the possible correlation were contacted. They very, graciously made their files available to ATIC personnel and a thorough check of their radiation recorder records was made. Dates of all the sudden flurries of radiation were checked against Project Blue Book files of sightings; they were checked with the local newspapers in the Albuquerque area in an attempt to pick up any sightings that ATIC did not have on file; and they were checked against pick-ups of unknown targets on radar in the Albuquerque area. In no instance could any direct correlation be found. It is possible that something was observed and not reported or at least no. record of the sighting was kept. However, there is no way to check back on this.

To further inquire into the matter, the Navy report of October 1949 was obtained. It stated that on two occasions at Mt. Palomar at the same time the radiation detection devices picked up some unknow flurry of radiation personnel from the observatory observed something in the air. In one instance the object appeared similar to a bird and in another instance very similar to a formation of aircraft. The Navy made a very detailed check into the equipment and went so far as to fly aircraft over the area to determine whether or not radar or other electronic equipment in the aircraft could have caused the sudden burst of radiation. These tests were made with negative results. It was finally determined that there was a very good possibility that the sighting and the detection of radiation was merely a coincidence, that the objects were possibly birds or aircraft, and that the sudden burst of radiation was due to a malfunction of equipment or interference that is not completely understood at the present time.

The results of the investigation were reviewed by several highly qualified scientists and it was their opinion that there was nothing highly significant in the supposed correlation.

## IV. CONTRACTOR STATUS

Project Blue Book has a contract with a civilian research organization which serves the project with an IBM analysis of unidentified aerial object reports and technical analysis of any specific problem submitted. As was pointed out in the last status report (Status Report No. 9) coding and evaluation by the contractor of 1952 sighting reports is continuing and all reports for this year should be completely processed and ready for the IBM system by 15 March 1953. All sightings from 1947 to 1951 were submitted to a preliminary IBM analysis on 26 January 1953. This work is continuing and results of the analysis will be forwarded informally to Project Blue Book as soon as they are available.

A two-day evaluation conference between a Blue Book team and a contractor team was held on 22 and 23 January 1953 in whi ch 1451952 cases were given final evaluation in preparation for submission to the IBM analysis.

A rock sample was sent to Project Blue Book by a retired Lt Commander in the Navy in connection with a sighting he had made on 12 September 1952. The ex-officer, who was also a Naval flier, was convinced that the rock, which has an unusual shape, was directly associated with the flying object he observed. Blue Book asked for a contractor analysis and after close study the contractor
confirmed the opinion of Blue Book that the rock merely represented a piece of common slag from an open hearth furnace.

## V. BRIEFINGS GIVEN

A. Sandia Corporation, Albuquerque, New Mexico

On 6 January 1953 at 1330 hours MST, Project Blue Book personnel presented a briefing to 200 scientists and engineers of the Sandia Corporation. The briefing consisted of a short history of the project, details of present operations and recent sightings. Including the question and answer period, the briefing lasted 2 I/2 hours. The briefing was requested by the Sandia Corporation as a matter of general interest to its scientific personnel.
B. 34th Air Defense Command Division, Albuquerque, New Mexico

On 6 January 1953, the Project Blue Book briefing team met with Headquarters personnel and intelligence personnel of the 34 th Air Defense Command Division; Kirtland AFB, for the purpose of briefing these personnel on Project Blue Book and also to meet scientific personnel of the Los Alamos Scientific Laboratory. In addition to outlining a general picture of the function of Blue Book, the specific items of (I) an instrumented area for recording unidentified flying objects was discussed with the 34 th, and (2) radiation correlation with unknown sightings was discussed with the Los Alamos scientists.
C. A.D.C. Officer's Call, Ent AFB, Colorado Springs, Colorado

An Air Defense Command Officer's Call was briefed on 24 January 1953. The briefing consisted of a presentation of Project Blue Book's background and was slanted toward gaining the assistance of Air Defense Command organizations in the analysis of a FLYOBRPT.
D. Officer's Intelligence Class, Lowry AFB, Denver, Colorado

On 13 February 1953 a briefing was given to a representative officer's class of the Air Intelligence School at Lowry. Many officers graduating from this basic school will undoubtedly submit a FLYOBRPT to ATIC and such a briefing was considered highly desirable in an attempt to raise the standard of reporting.
E. Air Intelligence School Instructor's Briefing, Lowry.AFB, Denver, Colorado

Since it is not feasible to brief the many classes of Air Intelligence Officers at Lowry on the requirements of Blue Book, the best compromise plan was to brief the instructor personnel of the school so that they may pass the information along to their classes. This briefing was given on 16 February 1953.
F. The 4602nd Air Intelligence Service Squadron, Peterson AFB, Colorado Springs, Colorado. On 13 February 1953, AISS was briefed and the feasibility of Project Blue Book's utilizing their field units was discussed. This organization has the responsibility, in the case of combat, of supporting the intelligence mission of the Air Defense Command by overt collection, limited field

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analysis and rapid reporting of air combat intelligence within the area of ADC's responsibility. Due to the combat-ready nature of the 4602nd's mission, it is concerned mainly at the present time with training its personnel. For this reason ATIC hopes that the organization will be able to assist Project Blue Book in the rapid reporting and evaluation of widentified aerial object reports.

Headquarters of the 4602nd is at Peterson Field, Colorado Springs, Colorado, and has three detachments at San Francisco, Kansas City, and Newburg, New York, which in turn have control of 14 flights spread through the Z.I. The flights are the field agencies which would do the actual collection of enemy equipment and personnel in the event that enemy aircraft fell in the United States. Project Blue Book has initiated preliminary plans with AISS to utilize personnel in these flights to investigate and analyze reports of unidentified aerial objects and it is hoped that final coordination on the plan and its implementation will come about in the near future. This would give Project Blue Book rapid firsthand information from trained intelligence officers.

## VII. VIDDON CAMERA STATUS

Since the period of the last status report, tests have been made on the camera and it has been found that the diffraction grid has disintegrated on a majority of them. The grids are slowly losing their light separating ability due to what is apparently some type of chemical decomposition. The Project's scientific contractor is attempting to analyze the difficulty and will advise ATIC of its findings.

Coordination has been received from the Air Defense Command and the Airways and Air Communications Services (AACS) to place the grid cameras in control towers and selected radar sites. This cannot be realized; of course, until the cameras are made operational.

## VIII. CONTRACT ASTRONOMER

Blue Book has a working agreement with its contract astronomer whereby he reviews all sightings for possible meteor or astronomical explanations on a weekly basis.

## IX. REVIEW OF 1952 SIGHTINGS

For the years 1947 to 1952 Project Blue Book has received through military channels and analyzed over 2,500 reports. In addition, the project has received hundreds of letters from civilians. In general, the data contained in these letters are too nebulous to evaluate. Since 1 January 1952, Blue Book has analyzed over 1,000 reports received through military channels and these have been broken down into the following categories by percentages of the total reports:

| Balloons |  |
| :--- | ---: |
| Known -1.57 |  |
| Probable - | 4.99 |
| Possible - | 11.95 |

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| Aircraft |  |  | 11.76\% |
| :---: | :---: | :---: | :---: |
| Known | 0.98 |  |  |
| Probable - | 3.04 |  |  |
| Possible - | 7.74 |  |  |
| Astrononitical |  |  | 14.20\% |
| Known - | 2.55 |  |  |
| Probable - | 4.01 |  |  |
| Possible | 2.64 |  |  |


| Other | $4.20 \%$ |
| :--- | ---: |
| Hoaxes | $1.67 \%$ |
| Radar (where explanation is not obvious) | $6.84 \%$ |
| Insufficient Data to Evaluate | $22.72 \%$ |
| Unknown |  |
|  |  |

As to the breakdown of types of sources making the report, the following figures represent percentages received from arbitrarily categorized groups:

| Civilians (General - no special qualifications that would <br> establish them as better than average observers) | $47.08 \%$ |
| :--- | ---: |
| USAF Pilots and Aircrew Members (while flying) | $11.02 \%$ |
| Airline Pilots (while flying) | $2.00 \%$ |
| Civilian Pilots (non-airline while flying) | $4.14 \%$ |
| Tower Operators (civilian and military) | $0.86 \%$ |
| Balloon Observers | $1.00 \%$ |
| Civilian Scientists, Engineers, etc. | $3.29 \%$ |
| Military Personnel (general) | $18.03 \%$ |
| Radar Returns | $12.58 \%$ |

Thus far the relatively limited statistical approach to unidentified objects has proceeded along only the most general trends. For example, the month of July 1952 was high with 440 sightings. Another general trend exists in the geographical location of sightings since they concentrate around Washingtion, D. C.; San Antonio, Texas; Albuquerque, New Mexico; and San Francisco, California. Another interesting development shown by the statistical survey is that a comparatively high percentage of sightings occur during the twilight hours. The simplest explanation is that many people are out-of-doors at that time and the rays of the setting sun penetrating the upper atmosphere will reflect brightly from any reflective surface. The IBM analysis by the contractor should afford any significant trends involving shapes, sizes, estimations of velocity and altitude, course headings or characteristic maneuvers of unidentified flying objects.

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## X. FRERUENCY OF FLYOBRPTS

Frequency of FLYOBRPTS for the period of December 1952 to February 1953 and correlation with nationally publicized incidents follow.

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## XI: SHNOPSIS O FLYOBRPTS

An individual account of the majority of unidentified aerial object reports submitted to Project Blue Book during the months of December 1952, January and February 1953, follows.

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1 December 1952

## I. Description of Incident

Between 0430 and 0500 EST a number of observers from varying locations around the New York City area noticed a single, round object with colors ranging between white, white-orange and amber. All observations placed the unknown in the NW approximately $15^{\circ}$ above the horizon on a $300^{\circ}$ azimuth heading with a slow drift to the south finally sinking out of sight. All observations were unaided visual sightings or with binoculars. Although radar was tried, there was no electronic return from the object.

Observers were experienced CAA rated Alrways Operations Specislists and Control Tower Operators. Observations of the reported object were as follows:

| Location | Azimuth | Elevation | Times |
| :---: | :---: | :---: | :---: |
| a. Teeterboro Tower | $275^{\circ}$ | $0^{\circ}$ | 0447 |
| b. Westchester Tower | $280^{\circ}$ | $15^{\circ}$ | 0445 |
|  | $280^{\circ}$ | $0^{\circ}$ | 0456 |
| c. Newark Tower | $315^{\circ}$ | 20 | 0458 |
|  | $270^{\circ}$ | $0^{\circ}$ | 0509 |
| d. La Guardia Tower | $290^{\circ}$ | $4^{\circ}$ | 0430 |
|  | $310^{\circ}$ | $2^{\circ}$ | 0455 |
| e. Idlewild Tower | $270^{\circ}$ | $15^{\circ}$ | 0445 |
|  | $225^{\circ}$ | $0^{\circ}$ | 0500 |
| f. Mitchel AFB Tower | $265^{\circ}$ | $6^{\circ}$ | 0441 |
|  | $305^{\circ}$ | $0^{\circ}$ | 0459 |

An Eastern Airlines Flight inbound to La Guardia was queried as to a strange light appearing in the west. The pilot sighted the object after several minutes of scanning and reported "a cluster of lights" close to the western horizon.

The weather at the time of observation was CAVU and extremely clear for the New York City vicinity with the winds NNW at 16 knots average.

## II. Discussion of Incident

Intelligence personnel at Mitchel AFB determined that the planet Jupiter, on 1 December, has an approximate azimuth of $300^{\circ}$, a -2 magnitude (extremely bright), and disappears below the horizon at approximately the same time the object was last observed. Undoubtedly, the unknown object is thus explained. The white to amber color range can be explained by the presence of light refracting through atmospheric dust. This report is one of the most complete in ATIC files and the resourcefulness and common sense of the litchel Inteligence officers is.to be commended. Complete personal statements and azimuth and elevation headings vere obtained from 6 points of independent observation. If the object had not turned out to be Jupiter, triangulation from these data would have been. possible.

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 52, which also was determined to be Jupiter.

## III. Conclusion

The planet Jupiter.

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Colorado Springs, Colorado


## I. Description of Tncident

An Air Force sergeant and a civilian sighted a round aluminum colored object flying east to west. It appeared to be changing shape as it proceeded out of sight to the west. The approximate time of sighting was 1100-1200 kST, for 1 minute of duration. The two men state that the object was going slightly faster than a conventional jet aircraft, but did have a perceptible aluminum hue. No sound was heard as a large machine was operating at-close range. While the object was overhead, several right angle turns were made without apparent slowing of speed.

## II. Discussion of Incident

Aircraft in the area included B-29's and B-50's as well as a Camp Carson observation plane. The B-29's and B-50's are ruled out as a possibility since they were on a south heading 7 minutes after the sighting took place.

The observation plane, however, was in the area at the exact time of observation and on a westerly heading. The changing shape, which happened only once, could have been the bright mid-day sun reflecting from this aircraft. The weather conditions were CAVU.
III.

Conclusions
Possibly aircraft.

UNCLASSIFIED
Congaree Air Force Base, South Carolina
4 December 1952

## I. Description of Incident:

One unidentified object was sighted by radar at Congaree AFB at 0342 EST by an AN/MDS-5 radar set. The sighting was strictly electronic, not visual. The objectwas sighted 100 miles NE of the radar site, traveling at an estimated speed of $6,000 \mathrm{mph}$ with contact lasting 5 minutes. The weather at the time consisted of low stratus clouds, no precipitation, and winds NE at 5 mph.

All observers were airmen graduates of radar operator's school with between two to five years experience and considered excellent and reliable sources.

## II. Discussion of Incident:

Several past radar sightings of this type have been received by ATIC and evaluated as probable interference from another radar station. This incident may fall into this category eventually in that the excessive speeds of 6,000 mph plus the object's tengency to the radar beam's sweep indicate that interference may have been present. However, not enough information has yet been gathered on local weather, temperature and moisture v.s. altitude, so this incident will be carried as unknown until such information arrives.
III. Conclusion:

Unknown

## I. 'Description of Incident

While orbiting over Lackland AFB a T-28 type aircraft sighted an unusual blue light of about half the intensity of the normal glow emitted by a T-33 position light. The time of sighting was approximately 2048 CST under clear weather conditions with the wind at 6,000 feet from 15 degrees at 25 knots. The object's maneuvers consisted of a counter-clockwise orbit over the air base, an apparent pass on the T-28 and finally an irregular rapid ascent and disappearance to the south. The pilot of the observing aircraft attempter an interception but overshot. The object was not sighted after 2056 CST.

## II. Discussion of Incident

Student flying in jet type aircraft was in progress at the time of sighting. The observing pilot saw these aircraft and could not have confused them with the unidentifled object. A scheduled balloon launch from Lackland AFB was set for approximately 2100 CST, very close to the time of sighting. In addition, the orbiting climb of the object as well as its general southerly heading (which ties in with the winds aloft) Indicate that the unknown was probably a balloon. Project Blue Book has had many reports in the past of know balloons apparently intercepting investigating aircraft.
III. Conolusion

Probably a balloon.

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I. Description of Incident

The co-pilot of a London-to-Frankfurt commercial flight sighted a fast moving object for a 4 to 5 second period. The unknown phenomenon crossed his flight path in front of him at a $90^{\circ}$ angle and abruptly disappeared in a downward direction. Time of sighting was 1800. The object was bright at its core with a faint tail.

## II. Discussion of Incident

This is a rather incomplete report. A check was made with the Frankfurt flight service center which revealed that no aircraft were in the vicinity. These factors enter into the evaluation of this report: 1) The object arched downward and had a tail. 2) It was seen for 4 to 5 seconds. These points are characteristic of a meteor.
III.

Conclusion
Probably a meteor.

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Angoon, Alaska
6 December 1952
I. Description of Incident

An Air National Guard pilot sighted an object consisting of two shiny globes connected by a solid rod proceeding in a southerly direction. Time of sighting was 19157 and lasted 3 minutes. The object assumed a flattened shape at times, but the observing pilot was unable to distinguish any lights, vapor trails or exhaust smoke although he chased the object until it apparentiy accelerated and disappeared in the sun. The pilot estimated size comparable to a Grumman Goose aircraft. Weather at the time of sighting was clear.

## II. Discussion of Incident

This report is very sketchy and vague and there is not sufficient information to come up with a conclusion. The description of the object is quite similar to reports of known upper air research balloons and the fact that it appeared to gain altitude would lend credence to this explanation. However, among other items, no wind direction is known thereby eliminating a tie-up between the object's path and upper air mind currents.

## III. Conclusion

Insufficient data to evaluate.

Madison, Wisconsin
9 December 1952
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## I. Description of Incident

Four bright lights in diamond formation were sighted at 1745 by a captain and a lieutenant flying in a $T-33$ aircraft located south of Madison, Wisconsin. The pilots followed until they overtook the iobjects and continued following them until low on fuel at which point they returned to their base. At no time was a silhouette visible, even against the lights of lilwaukee. Visibility was almost unlimited with a broken cloud deck at 25,000 feet. The observing aircraft was at an altitude of 8,000 feet.

## II. Discussion of Incident

Local radar was contacted to determine if they picked up the unidentified objects with negative results. The objects were traveling at a very high speed, excessive for weather balloons. The only possible explanation would center around aircraft in the area. To fit the speed of the object the aircraft would probably have to be in the jet category. There is no record of local or transient aircraft in the area. Furthermore, local radar was carrying the T-33 on its scope but had no return from the unidentified object. If the unknown was an aircraft it would have been evident on the scope.
III. ConcIusion

Unknown

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 SECRETOdessa, Washington

I. Description of Incident

Two pilots, in an F-94 made visual and radar contact with a large, round white object larger than any known type of airoraft. A dim reddish-white light came from the object as it hovered, reversed direction almost instantaneously and then disappearod. The object appeared to be level with the intercepting F-94 at 26,000 to 27,000 feet. Airborne radar and visual contact were simultaneous and lasted for 15 minutes. F-94 attempted to contact local GCA but without success. Weather was clear above 3,000 feet. Time of sighting was 1915 PST.

## II. Discussion of Incident

Two additional F-94 were in the general area but at lower altitudes and thus are eliminated as possible cause for the sighting. The description of "large, round and white and extremely large" is significants Upper air research balloons are tear-shaped and made of translucent polyethylene and at cruising altitude expand to as much as 90 feet in length. The equipment hanging below the balloon is capable of making a return to airborne radar. Although ATIC has received no record of upper air research balloon tracks for this date the description of the object allows a preliminary evaluation of "possible balloon".
III. Conclusion

Possible balloon.
I. Description of Incident

From $1 / 20$ to 2215 z a ground radar station picked up an unidentified object on its scope. It appeared as a stationary object with a slight circular motion which did not cancel out when the moving target indicator was employed. The sighting showed that its altitude was 8,000 feet at $81 / 2$ miles from the station. Weather conditions were fair with alto cumulous clouds, no temperature inversions present in the area. Eight transient aircraft flew through the area during the radar observation and an $\mathrm{F}-51$ was directed to investigate. The pilot saw nothing unusual. The radar operators involved have had several years experience.

## II. Discussion of Incident

Photographs were taken of the PPI scope but have not been received by ATIC. There is a possibility that local cloud formations may have caused a spurious radar return. Other than this there appears to be no plausible explanation for the incident.
III. Conclusion

Possibly weather phenomena.

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## I. Description of Incident

At approximately 1915 diST an Atomic Energy Commission security employee sighted an unusual phenomenon consisting of an object which appeared to him as a white tennis ball leaving a trail of sparks. The object was in sight approximately 3 seconds, disappearing suddenly.
II. Discussion of Incident

The description above closely resembles many others submitted to ATIC which have been evaluated as astronomical phenomena. The short time in sight and the "sparks" are significant.
III. Conclusion

Probably meteor.

McGuire Air Force Base, New Jersey
12 December 1952

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I. Description of Incident

Two observations were made of an unidentified light at 0025 and 0030 EST by two airmen of this base. At first, the object appeared directly overhead, where it remained for 1 minute then reappeared 5 minutes later for 40 to 50 seconds. Observation was visual without the aid of binoculars or electronic equipment. The position of the object at the time of the second sighting seemed lower, heading to the east. The light appeared noticeably larger.
II. Discussion of Incident

The night was cold and clear with high winds. It is probable that an aircraft in the McGuiretraffic pattern could have caused the sighting.
III. Conclusion

Probable aircraft.

UNCLASSIFIED
London, England
12 December 1952

## I. Description of Incident

An observer in London observed a watermelon-shaped object of white light estimated to be as high as 1,000 feet then disappearing behind some buildings. Object was slow moving and was sighted at 0300 for 3 minutes.

## II. Discussion of Incident

This report is very brief. Nothing is known about the reliability of the observer; local air traffic, beacons on water towers, eto. Therefore, no real evaluation can be attempted although the description sounds like the landing light on an incoming plane.

## III. Conclusion

Insufficient information.

14 December 1952

## I. Description of Incident

From 0355 to 04102 an object was observed from an AFB in Southern Japan. Object appeared very similar to an evening star, was first yellow in color, but then intermittently turned orange. It was located low on the horizon at a $200^{\circ}$ azimuth from the point of observation and appeared to be sinking slowly to the south. However, when it finally disappeared below the horizon, it again assumed the $200^{\circ}$ bearing.

Weather in the locality was excellent. Radar attempted to pick the object up, but with no success.

## II. Discussion of Incident

Several factors in this sighting are significant. Primarily, the object was described by the observers themselves as "starlike". Secondly, the initial observation as well as the final observation placed the unknown at a $200^{\circ}$ azimuth. This indicates that the object probably was a star setting in a straight downward line in the SW. The changing color is a well-known phenomena caused by seeing at great distances.

## III. Conclusion

Probably astronomical.

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Hurstville, South Carolina
15 December 1952

## I. Description of Incident

At 0915 EST an RF-80 over this location visually sighted a circular silver object about the size of a half-dollar. Object was seen for a period of 10 to 15 seconds and apparently was oscillating, losing and gaining altitude alternately. The pilot was on a $270^{\circ}$ heading at $15,000 \mathrm{ft}$. and saw the unknown at a relative bearing of $330^{\circ}$ at approximately $30,000 \mathrm{ft}$. The weather was clear with CAVU conditions.

## II. Discussion of Incident

Since this sighting occurred 10 minutes before a similar one at Greensboro, North Carolina, the possibility of the two pilots actually seeing the same object has been looked into. The following conclusions have been drawn: The objects could not have been a single weather balloon launched at Hurstville, South Carolina, because the prevailing winds for the general area were from $360^{\circ}$ at 75 knots, or blowing directly against a free floating object and carrying it south of the original observation point, nor north. Secondly, the objects could not have been a single jet aircraft traveling from Hurstville north to Greensboro. The distance is 115 miles between sightings and the sightings were 10 minutes apart thereby necessitating a ground speed of 690 mph . With a general wind from the north blowing at 75 knots at $25,000 \mathrm{ft}$. it seems unlikely that a jet could hit this speed. Furthermore the description of the unknown as "round and silver" from experienced fighter pilots indicates that the objects probably were not jets. Although there was much lócal air traffic in both sightings, aircraft has been eliminated as a possibility for the above reason.

Both sightings occurred within an hour of a scheduled rawinsonde weather balloon release at Greensboro, North Carolina, and an unscheduled release around the Hurstiville area. Taking the descriptions given of both objects, which are, incidentally, very characterisivic of balloon observations received by ATIC, the conclusion reached is that the object seen at Hurstville was possibly a balloon. At Greensboro probably a balloon.
III. Conclusion

Possibly a balloon.

## I. Description of Incident

An RF-80 in flight over Greensboro sighted a spherical object with a bright silver color at about 0925 EST on 15 December 1952. It moved from a 12 o'clock high position to $6 o^{\prime}$ clock high when the pilot lost contact with the unknown. Pilot was on a north heading at 25,000 feet traveling at 300 mph .
II. Discussion of Incident

Two aircraft from Shaw AFB were in the area at the time of sighting as was a balloon released from the weather station at Greensboro. The pilot probably could have recognized the aircraft but a silver, round, weather balloon might not be so easily recognized due to its small size. It appears that the latter explains the cause for this sighting.

## III. Conclusion

Probably a balloon.

15 December 1952

## I. Description of Incident

Visual contact was made by two aircraft, a T-33 and an F-94, of an unidentified aerial object after being vectored to the target by GCA. The object had no definite shape, was bright red and white and was seen from 23152 to 23402. Airborne visual contact was established as soon as the F-94 entered the intercept area. No engine or jet exhaust was visible. The F-94 chased the object an an indicated airspeed of 375 knots but could not overtake it.

Weather was clear with visibility of 30 miles , winds at $14,000 \mathrm{ft}$. (altitude of the observing aircraft) was from $270^{\circ}$ at 25 knots. The $\mathrm{F}-94$ was on a heading of $270^{\circ}$ while on its intercept run.

## II. Discussion of Incident

Two C-54's from Goose AFB were in the area at the approximate time of sighting. One of these aircraft was observed by the F-94, the other was not. However, the unidentified object could not be the unobserved $C-54$ due to the speed factor. The $\mathrm{F}-94$, at 375 knots , could have overtaken a $\mathrm{C}-54$. There may have been a balloon launch at 21002 from Goose Air Weather Service but here again there is a conflict because the object was sighted at 2315, two hours after launch. An astronomical explanation does not ring true since it is improbable that stars and meteors can be recorded by ground radar or alrborne radar. Therefore, a plausible explanation for this sighting seems to be impossible.
III. Conclusion

Unknown.

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Newcastle, Indiana
17 December 1952

## I. Description of Incident

From 2120 to 2122 CST a visual sighting was made from the ground by members of the Ground Observer's Corps on duty at Newcastle. They sighted a round and flat object of orange color disappearing normally into the distance from east to west.
II. Discussion of Incident

This report is too incomplete for even preliminary interpretation.
TII. Conclusion
Insufficient information.

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## I. Description of Incident

An unidentified aerial object was sighted to the northwest of this air base by an Air Force Staff Sergeant and a civilian. The unknown object appeared to climb vertically and then level off. It gave off a black smoke at the beginning of its ascent.
II. Discussion of Incident

There was an $\mathrm{I}-20$, a $\mathrm{C}-54$, an $\mathrm{A}-16$, and an $\mathrm{SB}-17$ in the area. The air base making the report later notified ATIC that the object had been definitely established as the SB-17.
III. Conclusion

Was aircraft.

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## I. Description of Incident

From 2050 to 2055 hours an unidentified aerial object was sighted from three separate points of observation -- (1) ground crew personnel at Anderson AFB, Guam, (2) a Naval Officer 14 miles south of Anderson AFB, and (3) from an inconing $B-17175$ miles from Guam on a westerly heading. The object or objects in all cases were reported to be on a heading of $270^{\circ}$, appeared cylindrical in shape, of silvery color with a bright flame trailing from the rear. The speed was considered to be in considerable excess of that of a conventional jet and in each case the sighting did not exceed 45 seconds.

## II. Discussion of Incident

The object was seen at 0850 a.m. at which time it would be too bright to see a meteor or star. It appears that all observers saw the same object since descriptions, directions given to the unknown, and time of sighting all coincide. The B-17 pilots sighted the object 115 miles west of Guam, five minutes after the other sightings and jet the object was reported to have been going west of Anderson AFB five minutes earlier. This seeming discrepancy here might be explained by the fact that the time estimate by the $B-17$ pilots was off. The object appears to be going too slow to be a meteor and all local aircraft have been accounted for. There was a scheduled balloon launch at Guam at $2100 Z$ close to the sighting time but the description of the object does not coincide with usual balloon descriptions.

Conclusion
Unknown


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21 December 1952

## I. Description of Incident

One round, unidentified object of undetermined size, that emitted an intense green light was observed and reported by a civilian man while driving in his car In San Antonio. Time of sighting was $1815 \mathrm{hrs.}$, CST, for a few seconds only. Object looked like a "Roman Candlen and faded just before disappearing.

## II. Discussion of Incident

This can be written off with quite a bit of assurance as simply a common meteor. It has all the characteristics, including a short time in sight and fad out just before disappearing.

## III. Conclusion

Probably meteor.

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## I. Description of Incident

Observers at Camp Carson sighted a silvery unidentified flying object at 0617 MST. It appeared circular in shape about the size of a baseball, changing later to a "tear-shaped" configuration and hovered in view for two to three minutes after which it disappeared at a high rate of speed. Observers ware three airmen assigned to this base and all stated that the unknown object was located south of their observation point. The object emitted an intermittent white light while in view.

## II. Discussion of Incident

Although the sighting took place two hours after a scheduled piball balloon release at Pueblo, Colorado, this report has been evaluated as possibly balloon due to the description. Its tear-drop shape indicates that it may be a large pear-shaped upper air research balloon with a pilot light. ATIC has not yet had the opportunity to check the object against known upper air research balloon tracks but tentatively evaluates the sighting as shown below.
III. Conclusion

Possibly balloon.

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## I. Description of Incident

Several civilian eye-witnesses observed an unidentified aerial object between 2200 and 2300 hours CST, for two to three minutes. It was described as round, bluish-white light of high intensity and disappeared by going out of sight to the southwest. The object passed low overhead then appeared to climb upward at the end of the sighting.
II. Discussion of Incident

Local air traffic has not been identified in this sighting. Pending this, the object appears to be a jet aircraft's exhaust seen at a low altitude, perhaps with its afterburner cut in. The night of sighting was extremely clear facilitating observation of any object crossing the sky. No jet noise was heard, however, the observers were in a moving car. The iet may have been based at Amarillo, a nearby air base.
III. Conclusion

Possibly aircraft.

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## Albuquerque, New Mexico

28 Docember 1952

## I. Description of Incident

At 2309 CST a military pilot sighted an elongated cigar-like objeot about the size of a medium bomber with an exhaust about eight times the length of the object itself. It traveled from east to west over Albuquerque, New Mexico. All sightings were visual for a period of 10 to 20 seconds. There were broken high clouds at 30,000 feet with 40 miles visibility.
II. Discussion of Incident

All air traffic in the area was identified by Kirtland AFB. The object may have been a meteor since the time of gighting was brief. In addition the object had a tail, common. to some meteors. However, not enough concrete information is available to afford a possible solution. ATIC is in the process of ohecking past sightings against known meteor tracks and an answer might be found here.

## III. Conclusion

Insufficient information.

## I. Description of Incident

An object traveling in a slight curve and accompanied by a high pitched crackling noise which trailed the object by four seconds was observed by an employee of AEC Security Section. The time of sighting was 2002 MST in clear weather conditions of 40 miles visibility. The observers credibility is considered excellent.

## II. Discussion of Incident

This report can be categorized as a low meteor, some of which emit the sound described above. Length of observation was extremely brief at two seconds.
III. Conclusion

Probably meteor.

## SECRET

## UNCLASSIFIED

## I. Description of Incident

An airman sighted an unidentified flying object at $0815 \%$. The object was round and small and appeared to be whirling at its top. It moved NNE, changing color in sequences of red, blue and white. From time to time, it maneuvered erratically.

## II. Discussion of Incident

The report is lacking in background data. From the description, the object could possibly be a balloon.
III. Conclusion

Insufficient data to evaluate.

UNCLASSIFIED

## SECRET

## UNCLASSIFIED

I. Description of Incident

At 0400 g three sources observed an aerial object 25 to 40 feet long and If to 25 feet tnick with the appearance of two soup bowls put together. There were several lighted windows with what appeared to be a porthols on the side. The object moved sloifly at first, then began a rapid climb. The manner of disappearance was unspecified. The object first appeared at 200 to 300 yards distance from the observers at an altitude of 10 to 15 feet.
II. Discussion of Incident

An investigation of the sources revealed that they are mature, reliable and, at least in one case, relatively experienced persons.
III. Conclusion

Unknown

UNCLASSIFIED


# SECRET <br> UNCLASSIFIED 

## I. Description of Incident

At 2345 g a civilian employee of Patrick AFB observed an unidentified aerial objeot for three seconds. Source compared the object to a flying wing and said that it was at an altitude of less than five hundred feet, flying at about 500 mph in a SSW direction. Source 8 aw at least 4 blue lights on the lower surface of the object. The weather was cold and clear with little or no wind. No other person observed the object.

## II. Discussion of Incident

The source appears to be an unusually reliable and experienced observer.

## III. ConcIusion

Unknown

UNCLASSIFIED

## UNCLASSIFIED

 SEERET4 Jamuary 1953

## I. Description of Incident

At 0910 z a bluish spherical light with a tapering tail was observed moving soundlessly at a tremendous speed and at a great distance, parallel to the horizon, for 3 seconds.

## II. Discussion of Incident

The report indicates that the object was probably a meteor. The description given closely approximates a meteor's performance.
III. Conolusion:

Probably astronomical phenomenon.

## SECRET

## I. Description of Incident

At. 0200 g two civilian sources observed an orange glowing object traveling west at a slow rate of speed north of Warner-Robbins AFB. The object was visible for 6 to 7 minutes.
II. Discussion of Incident

There were no weather balloons released in the area, nor was there any teported aircraft traffic, but it is felt that an aircraft did cause the sighting because of the description.

## III. Conclusion

Possibly airoraft.
-

## UNCLASSIFIED

## SEERET

Larson Air Force Base, Washington
8 January 1953

## I. Description of Incident

At 1515 z over sixty varied military and civilian sources observed one green, disc-shaped object. The observations continued for fifteen minutes during which time the object moved in a southwesterly direction while bobbing vertically and going sideways. There was no sound. An F-94 aircraft was scrambled but a thirty minute search of the area produced negative intercept results.
II. Discussion of Incident

A check of adjacent radar sites revealed no unusual returns or activity in the area. The winds were generally from $240^{\circ}$ below an overcast at 12,000'. Thus the object would appear to move against the wind since it must have been below the clouds. There was no air traffic reported in the area.
III. Conclusion

Unknown

## SECRET

## I. Description of Incident

At 2315 z a civilian female source observed a small, round luninous, aluminum appearing flying object. It traveled at a high speed and disappeared after making a gradual climbing turn.
II. Discussion of Incident

The experience level of the source appears low.
III. Conolusion

Probably jot aircraft.

## UNCLASSIFIED

I. Description of Incident

At 2345 z two oivilian sources observed one small flying object moving at a great rate of speed and performing violent maneuvers. The object!s sound was similar to that of a jet aircraft. The object made three $360^{\circ}$ right turns in nine seconds then performed abrupt $90^{\circ}$ turns first to the right, then to the left. The object then stopped, accelerated to its former speed, rose vertically and disappeared.
II. Discussion of Incident

The only known aerial object capable of appearing to go through the described maneuvers would be a balloon; however, the time factors and velocity estimates do not support this conclusion.
III. Conclusion

Unknown

## I. Description of Incident

At 1555 z two investigators for the Kelley AFB Air Police Office observed two soundless elliptical objects in the SE sky, over Kelley AFB. The objects were estimated to be traveling in a SE direction.

## II. Discussion of Incident

One of the sources stated that the objects could have been balloons or inflated gas bags. There were two scheduled launches of large type weather balloons from the San Antonio area at 15008.
III. Conclusion

Probably balloons.

15 January 1953
I. Description of Incident

At 0145 z a civilian source observed a balloon shaped object slowly decending towards the west for $30-40$ minutes.
II. Discussion of Incident

During this period, there were many flights of upper air research balloons crossing this area.
III. Conclusion

Possibly a balloon.
I. Description of Incident

At 2400 g a civilian source observed a large object slowly drifting to the southwest for several mimutes at an estimated altitude of 600 feet.
II. Discussion of Incident

This report is very brief.

## III. Conclusion

Insufficient data for evaluation.

## UNCLASSIFIED

I. Description of Incident

At an unspecified time a civilian in Hiram, Georgia, observed a round object with a bright yellow tail travel soundlessly from south to north until it disappeared behind a cloud.

## II. Discussion of Incident

Since the time of sighting is not specified it is impossible to check local aircraft traffic or balloon releases.
III. Conclusion

Insufficient data for evaluation.


## UNCLASSIFIED

I. Description of Incident

At 1300 g an unidentified source sighted three oval shaped, white objects six feet in diameter traveling in an unspecified direction at an estimated altitude of thirty feet.
II. Discussion of Incident

The report is exceedingly brief.

## III. Conclusion

Insufficient data for analysis.

## UNCLASSIFIEB

## I. Description of Incident

An unidentified flying object described as red, white and blue and oval-shaped, was observed visually from the weather station, control tower, base operations office, and a nearby AC\&W site at Harmon AFB, Newfoundland, at 0040 \%. An attempt to contact the object by radar met with negative results.

## II. Discussion of Incident

Local investigation precluded the possibility of the object being a balloon.

## III. Conclusion

Insufficient data for analysis.

## UNCLASSIFIED

## SECRET

Patrick Air Force Base, Florida
22 January 1953
I. Description of Incident

At 2400 z four airmen at Patrick AFB, Florida, visually observed for three minutes a fiery red-orange ball traveling soundlessly from north to south at high speed.

## II. Discussion of Incident

The report is very brief. Therefore, ATIC has taken action to investigate the incident further.
III. Conolusion

Insufficient data for ovaluation.

# UNCLASSIFIED SECRET 

## I. Description of Incident

On 26 January 1953 at 2115 MST Air Force personnel stationed at an AC\&W station in this area observed an aerial phenomenon simultaneously by electronic and visual means. To the naked eye the object appeared as a very bright reddishwhite object estimated to be 10 miles west of the radar site. The object passed behind a hill and then reappeared apparently heading in a northerly direction at a slow speed. The airman making this visual observation reported it to personnel manning the radar equipment. They stated that they had an unidentified blip on the radar scope, appearing west of the station approximately 9 miles away. The scope showed the object to be on a $270^{\circ}$ azimuth at an altitude of 10-15,000' moving away from the site at $12-15 \mathrm{mph}$. It was eventually lost on radar at the 18 mile range. The object was under visual and radar observation intermittently for 45 minutes. The elevation of the station is 7,500' above sea level.

Weather at the time was characterized by a high thin overcast and low scattered clouds. Winds aloft were from $270^{\circ}$ at 30 knots at 10-30,000'. An atmospheric inversion layer existed at 18,000' with the top at 21,000'.

## II. Discussion of Incident

This is the most complete report ever received by ATIC on the sighting of an unidentified object. The intelligence officer of the 34th Air Division, ADC, is to be complimented on his initiative and complete covering of all the angles bearing on the observation. Moreover, the combination visual-electronic sighting is the best type of sighting to work with because it affords the most information.

The intelligence officer preparing the report checked on weather balloon releases in the area of observation as a possible answer to the sighting. It was found that a 9' radiosonde balloon released from Winslow, Arizona, would offer the only possibility. The unknown object was observed to move from east to west, against the prevailing winds aloft which rules out the balloon theory. Also the sighting time of 0415 Z is 1 hour and 15 minutes after the Winslow release and by that time it is probable that the radiosonde had burst at altitude long before.

The fact that the object was detected on radar and seen visually for so long a period of time eliminates the possibility of an astronomical solution, such as a star or fireball, and especially if both radar and eye were seeing the same object, it is unlikely that these objects would cause radar returns. Since the object was tracked at 12 to 15 mph , aircraft are also eliminated as a possibility.

ATIC electronics specialists advanced the theory that the slow speed and large visual radar size of the target make it appear that weather effects may be the cause of the electronic pick-up. However, the inversion layer at 18,000' appears to be too high to effect the radar which was tracking the object at 10 to 15,000'. The weather-effect explanation cannot, of course, account for the simultaneous visual sighting. There is a possibility which ATIC is now checking

## SECRET <br> UNCLASSIFIED

that the radar personnel may have been looking at the planet Venus, very low and bright on the western horizon at this time of year, and that the radar possibly encountered the aforementioned weather interference at the same time. This would require a high degree of coincidence, however, and the radar and visual sightings seem to coincide too exactly to give much weight to the theory that both were observing different objects.

Two other items added to the completeness of the report. ATIC supplied the reporting intelligence officer with a USAF Technical Information Sheet, or a visual questionnaire, and an Electronics Data Sheot covering the radar pick-up. Further analysis of this sighting awaits adiabatic weather charts for the date and area of sighting and until this information is received, this report is carried in Project Blue Book's files as an unknown.
III. Conolusion

Unknown

## I. Description of Incident

At 2320 I an airman at Sampson AFB, New York, Visually observed one large luminous rectangular shaped unidentified flying objeat. In one minute the object traveled through an arc of 70 or 80 degrees, while emitting a humming sound.
II. Discussion of Incident

The object above described appeared for only one minute, consequently analysis is very difficult. However, ATIC requested information concerning local aircraft and was told that a commercial flight was in the area around the sighting time.
III. Conclusion

Possibly aircraft.

## I. Description of Incident

At 0629 cSf an unknown object appeared on a radar scope on a heading of $155^{\circ}$ at the $140^{\circ}$ mile range. The object appeared on the scope as being twice the size of an ordinary aircraft.

## II. Discussion of Incident

The radar station involved sent ATIC an Electronics Data Sheet covering the sighting and from this, electronics specialists determined that interference from another radar station caused the presence of the unknown "blip". No visual observation was made at any time.

## III. Conclusion

Interference.

## UnCLASSIFIED SECRET

Saratoga Springs, New York
1 February 1953

I. Description of Incident

One large round, golden object was observed to be hovering down on the horizon at 2245 EST.
II. Discussion of Incident

No direction of object was given and furthermore the observers level of experience appeared to be low.

## III. Conclusion

Insufficient data for evaluation.

## SECRET

Terre Haute, Indiana
1 February 1953
2 yy
I. Description of Incident

A military aircraft on a $270^{\circ}$ heading 10 miles west of Terre Haute sighted a close group of moving lights changing color from red to blue, to green to yellow. The pilot estimated their altitude to range between $30,000 \mathrm{ft}$. to $15,000 \mathrm{ft}$. flying in a manner similar to conventional aircraft. Searchlights from the St. Louis area seemed to be following the unidentified lights. The time of sighting was about 2130 EST.

## II. Discussion of Incident

ATIC made a check on local aircraft and found that there were many commercial and military flights in and out of St. Louis at the approximate time of sighting. It is possible that searchlights from St. Louis picked up one of these aircraft. The observing aircraft was 100 miles away from St. Louis which probably accounts for the changing color of lights.
III. Conclusion

Possibly aircraft.

## UNCLASSIFIED

## SECRET

## I. Description of Incident

From 2100 to 2125 local time a low unidentified object resembling the landing light on an aircraft was observed by two airmen of this base until the object disappeared below the horizon. The observation was strictiy a visual one with no optical aids and no radar contact.

## II. Discussion of Incident

This is a very brief report with no information given on the experience level of the observers. From past experience, however, such sightings have been attributed to bright stars sinking below the horizon.
III. Conclusion

Possibly a star.

T53-3695

## UNCLASSIFIED SEERET

Yuma City, Arizona
4 February 1953
I. Description of Incident

At 1350 MST a meteorological aid for the U.S. Weather Bureau was searching for a lost weather balloon with the aid of a theodolite when he sighted a solid white, oblong object at a direction of $157.2^{\circ}$ and elevation of $53.3^{\circ}$. The size of the object consisted of one minute of arc.

The object appeared to be ascending straight up, then levelled off and at this point was joined by a second object of exactly the same description. The second object left the field of the theodolite twice but returned each time to join the original. They both disappeared simultaneously at an angle of 204. $1^{\circ}$ at an elevation of 29.1. At $204.1^{\circ}$ the sky was covered by cirrus clouds at approximately 25;000 ft.

The objects remained in vision for five minutes. The observer stated that the objects rose more rapidly than any balloon he has ever seen and furthermore moved against the prevailing westerly winds. There appeared to be no glimmer or reflection from the sun from the objects.

## II. Discussion of Incident

From the observers obvious experience in tracking balloons, it is concluded that these objects could not have been balloons especially since they were seen to move against the wind. There were aircraft in the area but the observer states he was aware of them and could not have confused them with the unknown objects. Because of the maneuvers and the time of day, astronomical activity must be ruled out. ATIC has not been able to find an answer to this sighting.
III. Conclusion

Unknown.
I. Description of Incident

At 1110 Iocal time an Air Force officer in charge of the Weather Bureau Station on Truk sighted an unidentified bullet-shaped shiny object traveling an estimated 150 mph at an approximate altitude of 400 to 500 ft . three to four miles away. The object appeared to be "slightly larger than a C-47 aircraft" with no noticeable wings or tail section and gave a shiny appearance as if. of highly polished metal.

## II. Discussion of Incident

A check with Guam flight service indicates that a C-47 was in the area at the time of sighting. The day was clear with a bright sun capable of distorting the normal features of a C-47.
III. Conclusion

Probably aircraft.

# SECRET <br> UNCLASSIFIED 

A B-36 aircraft was in flight in the vicinity of Spokane, Washington, when one round white omnidirectional light was sighted at 09132 time. The light was at an altitude of approximately $7,000 \mathrm{ft}$. on a southeast course circling and rising as it proceeded. It was visually observed for a period of three to five minutes. The $\mathrm{B}-36$ made $180^{\circ}$ descending turn toward the light which was estimated to be noving at a speed of 150 to 200 knots. The aircraft was inbound to Spokane 15 miles out and located over Rosalia, Washington.

## II. Discussion of Incident

ATIC determined that a scheduled piball balloon released at 09002 from the U.S. Weather Bureau Station at Fairchild AFB was in the immediate area of sighting. The sighting was from Rosalia which is 12.5 nautical miles S.E. of Fairchild AFB and to place a balloon in the area of the sighting winds would have to be out of the N. E. Winds aloft at 7,000 to $10,000 \mathrm{ft}$. were from $270^{\circ}$ to $280^{\circ}$ at 50 knots per hour. Therefore, by computation, it would take approximately 15 minutes for the balloon to be carried to Rosalia by the existing winds. Since the unidentified object was sighted 13 minutes after the balloon launch time, and the description (climbing, orbitting, balloons carry white running lights) closely parallels the maneuvers of a balloon, ATIC concludes that the object probably was the piball weather balloon. All local air fields were checked by McChord AFB and no aircraft were in the area at the time of observation other than the B-36.
III. Conclusion

Probably balloon.

## UNCLASSIFIED <br> SECRET

## I. Description of Incident

At 2122 lacal time radar tracked an unidentified object for 15 minutes and alerted a local interceptor squadron. An F-94 scrambled at 2123 hours, climbed to $15,000 \mathrm{ft.g}$ picked up nothing on airborne radar but at 2145 did make visual contact with a bright orange colored object which seemed to change to red and green at a special interval. Object was seen by the pilot and the R.O. for approximately 15 minutes after which it disappeared behind a cloud at an azimuth of $290^{\circ}$, low on the horizon.
II. Discussion of Incident

The weather consisted of scattered stratus clouds. No information is available on atmospheric phenomena such as temperature inversions or moisture-laden clouds which could have given a spurious radar return. It was determined at the base making the report that the F-94 had sightęd the planet Venus which is extremely bright at this time of year and which also is located at a $275^{\circ}$ azimuth from Okinawa $10^{\circ}$ above the horizon. It is probable that merely by chance ground radar received a spurious plot on its scope and accordingly vectored the F-94 to a position where Venus was very apparent. No strict correlation between the electronics sighting and visual contact can be made.
III.

Conclusion
Probably Venus.

## SECRET <br> UNCLASSIFIED

Barter Island, Alaska
8 February 1953

## I. Description of Incident

Two pilots from this station made a ground-visual observation of an unidentified aerial object coming in over their base in a falling leaf pattern from the west. Time of the observation was 0450 local. It hovered, consisted of brilliant orange white lights seen for a period of eight minutes after which the object climbed eastward and disappeared. Throughout it gave off a noise similar to a helicopter's and was estimated by the viewers to be the approximate size of a c-47 aircraft.

## II. Discussion of Incident

This report is on the brief side and gives no information on air traffic at the time of sighting. It is possible, however, that the above-average sources may have observed a helicopter, and became confused. Any evaluation will have to be besed on additional information on helicopter traffic which ATIC has requested.
III. Conclusion

Insufficient data.

## UNCLASSIFIED SECRET

Dobbins Air Force Base, Georgia

8 February 1953
I. Description of Incident

Military personnel observed a red-yellow-white stationary object from this base as well as Knoxville, Tennessee, at 2145 EST which was observed for 15 min utes before slowly disappearing below the horizon. It appeared in the west and was brighter than red obstruction lights on the control tower at Dobbins.

## II. Discussion of Incident

No triangulation from the two observing points was made which would have been extremely helpful and should be attempted in sightings such as this. The description and manner of disappearance strongly suggests astronomical sightings at Presque Isle AFB and Mitchel AFB in October and December of 1952.
III. Conclusion

Probably astronomical (bright evening star).

## UNCLASSIFIED

## SECRET

## UNCLASSIFIED

Tunis, Libya
11 February 1953
-
I. Description of Incident

An unidentified objgct was observed by the crew of a C-ll9 aircraft while enroute to Tripoli from Tunis. The object appeared very bright with a halo of diffused light surrounding it and was observed off the right wing of the aircraft flying at $7,000^{\prime}$ on a $170^{\circ}$ heading making I.A.S. of 170 knots. Length of observation varied from 5 to 55 minutes by assorted members of the crew some of whom stated that it appeared to ascend and then descend slowly.

## II. Discussion of Incident

Four out of six of the crew stated that, in their opinion, the object was not a star, whereas the remaining observers would not commit themselves on a conclusion. Since the sighting seemed to be astronomical in nature, Project Blue Book submitted it to its contract astronomer, standard operating procedure in such cases. It was determined that Venus was probably responsible for the observation in that it appears at an approximate $200^{\circ}$ azimuth in Libya on this date, and under fair weather condittions would appear very bright. The fact that it $r$ emained almost stationary and was observed for a long period of time would support this conclusion.

## III. Conclusion

Probably Venus.

## UNCLASSIFIED

## Lake Charles AF'B

12 February 1953
2
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## I. Description of Incident

A bluish-white object with a tail was observed by six Air Force personnel in a combined air-visual and ground-visual sighting. Time of sighting was for a very short period, a matter of seconds. The air crew involved estimated that the streaking object was on a level with them and 20 miles distant. The object was compared tona flaming rag thrown in the air". There was no sound whatsoever.
II. Discussion of Incident

Weather conditions at the time of sighting ( 0600 CST) were CAVU and faciIitated easy spotting of meteors. This sighting was undoubtedly caused by the passage of a meteor or "fireball" through the earth's atmosphere which had unusual coloring.

## III. Conclusion

Probably astronomical.

## UNCLASSIEIED.

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SECRET

## UNCLASSIFIED <br> SEGRET

Ramier, Alabama
16 February 1953

## I. Description of Incident

Two civilian men at this location sighted an unidentified object as 1630 EST while watching the flight of a B-47 aircraft cross their field of vision. A metallic looking object appearing round at one instant and flat the next was seen at an altitude of about two-thirds that of the B-47 which ATIC learned was at $35,000 \mathrm{ft}$. Its maneuvers consisted of climbing, diving, and sharp angle turns to the left and right in and around a few scattered clouds and it appeared to be faster than the B-47. Total time of sighting was for 20 minutes.

## II. Discussion of Incident

Although the Maxwell Radio Range Station reported no known aircraft other than the $\mathrm{B}-47$ in the area ATIC feels that, on the basis of the description submitted by the two relatively inexperienced observers, they probably sighted a fighter type aircraft, possibly an F-86, maneuvering in the air space below the B-47. To support this conclusion is the fact that the clouds mentioned in the original report around which the object was sighted, were determined to be at $20,000 \mathrm{ft}$. At this altitude a fighter aircraft would be hard to distinguish. The observers did state, however, that the object appeared to have swept-back wings.

## III. Conclusion

Possibly aircraft.

66
SECRET
I. Description of Incident

At 2204 EST an unidentified aerial object was sighted visually by members of an AC\&W Squadron at Port Austin. The object was elght to ten miles northwest of their station at an estimated 100' above the horizon. It appeared to be larger and brighter than a star and other than changing color, there were no unusual features visible. The object was moving south at a low rate of speed and eventually faded out completely after becoming much less bright in intensity. . This object was viewed visually from 2204 EST for five minutes until 2209 EST.

At 2208 EST ; the observers tracked the object on a search radar set. Position of the object on the radar set was $300^{\circ}$ moving in a $180^{\circ}$ course at 55 knots . The object was observed at 2208 EST for 17 minutes until 2225 EST. No height finding equipment was available at point of observation, but the observers estimated the altitude at 1000' from the rader returns. Weather conditions at time of sighting weres visibility and ceiling - unlimited, with moderate winds from the west.

## II. Discussion of Incident

The possibility of the reported object being a balloon was checked by the reporting officer. The nearest balloon launch station is at Waukegan, Michigan, which is 140 miles from Port Austin. A piball type balloon was released from Waukegan at 03002. It is not likely that this balloon caused the sighting because the object in question was sighted at 0304Z.

Both the visual and electronic sightings wera made by the same personnel, consisting of two officers and three airmen. All of these men have three or more years experience in radar. A radar scope camera was installed, but was not in operation at the time of sighting.

No known meteorological disturbances or activity existed at the time of sighting, or a't any time that day.

After checking with surrounding bases and flight plan sources, it was found that there were no known aircraft in the general aroa.

The planet Venus is very low on the northwest horizon at this time of year and is easily seen. This fact might explain the visual sighting, but Venus will not show on a radar scope.

Further analysis of this sighting awaits adiabatic weather charts for the date and area of sighting. Until this information is received, this report is carried as unknown.
III. Conclusions

Unknown

## UNCLASSIFIED

## SEERET

## UNCLASSIFIED

Fortville, Indiana
23 February 1953

## I. Description of Incident

At 21162 time a civilian woman located 16 miles northeast of Indianapolis sighted an unknown flying object appearing as a circular shaped, white object traveling at a high altitude in a northeasterly direction and reported this occurrence to the 782nd AC\&W Squadron, the nearest Air Force installation. Clear weather prevailed.

## II. Discussion of Incident

Project Blue Book ascertained that a piball weather balloon was scheduled for release at $2100 Z$ by the Indianapolis U.S. Department of Agriculture Weather Station and probably caused the submission of this report. The object was seen approximately 15 minutes after the balloon's release from Indianapolis and was carried in a northeasterly direction by the winds aloft which, for that time of day were from $240^{\circ}$ to $260^{\circ}$. This would place the free-floating $30^{\prime \prime}$ rubber balloon almost over Fortville, the location of sighting.
III.

Conclusion
Was balloon.

## SNCLASSIFERT

Dayton, Ohio

24 February 1953
I. Description of Incident

A civilian woman contacted ATIC concerning a yellowish-white object which she had observed at 0430 EST for two successive days for periods ranging from 3 to 30 minutes. The object was described as oblong shaped and very low on the horizon with the manner of disappearance in both sightings being caused by its sinking below the horizon. The object was seen at a due west position each time.

## II. Discussion of Incident

The source, although of average intelligence, is not an experienced observer and it is quite certain that she witnessed the setting of an astronomical body such as Venus.

## III. Conclusion

Probably astronomical.

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T53-3695

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## UNCLASSIFIED SECRET

## I. Description of Incident


A civilian man from this looation sighted an unidentified aerial object on three separate occasions - 25 Feb 53 at 0025Z, 5 Mar 53 at 21152, and 6 Mar 53 at 1932Z.

## II. Discussion of Incident

Very little information has been gathered on this sighting, even a basic description of the object's appearance has not been submitted to Project Blue Book. Furthermore, nothing is known of the observer's experience level, corroborative witnesses, etc. In the light of the scant information received, the report has to be carried as insufficient data for evaluation until an AF Form 112 arrives.
III. Conclusion

Insufficient data.

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SECRET

## 1. W88cat

An Air Force major and enlisted personnel from this base observed a green object with a trail of sparks traveling downard at a high rate of speed and disappearing behind mountains to the east. The size of the object was compared to that of the moon. Time of sighting was 1910 local time and the existing weather conditions were generally good.
II. Discussion of Incident

Project Blue Book's contract astronomer is of the opinion that the object seen was an exceptionally bright meteor. The size of the object has probably been overestimated. Tro factors substantiate the meteor conclusion in this case: 1) the fact that it followed a downward course and 2) that it gave off sparks, two characteristics of a common meteor: No length of observation was given but it probably was a matter of seconds.
III. ConcIusion

Probably a meteor.

UNCLASSIFIED

## UNCLASSIFIED

## I. Description of Incident

At 2159 PST a round red stationary object was sighted by a CAA cperator for 10 minutes time. The object seemed to fade in and fade out intermittently and eventually faded out completely. The observer estimated the unknown to be at a $270^{\circ}$ azimuth from his position and at an altitude of 10,000 '. Weather at the time of sighting consisted of scattered clouds at 2,000 with 10 miles visibility.
II. Discussion of Incident

Project Blue Book and its contract astronomer evaluate this report as definitely caused by the astronomical body Venus. Many similar reports have been received by ATIC during February of an object in the western sky appearing to change color and fading intermittently, and almost all such $r$ eports have been found to be Venus.

It is interesting to note in this and other similar observations that experienced CAA and Air Force personnel have been understandably confused by this bright planet, comparatively isolated, low on the horizon and sometimes seen through a high haze layer causing a rapid change in color. Red is the color given most often.
III. Conclusion

Was Venus.

## UNCLASSIFIED SECRET

## I. Description of Incident

At 2130 HST a duil red colored light was observed zow on the wegtern horizon by several military personnel. The light was slowly moving from west to northwest alternating color from yellow, green, red, and back to white. After being observed for approximately five minutes, object disappeared below the horizon.
II. Discussion of Incident

Observers were, in the opinion of the preparing officer, reliable. At the time of sighting, weather was clear, visibility eight miles. F-94's in area on other missions noticed nothing unusual. Due to the fact that the light was seen moving from west to northwest low on the horizon and then to disappear over the horizon and that the planet Venus can be seen in that direction very plainly during this part of the year, it is quite certain that the light observed was Vemus. ATIC's contract astronomer was consulted and he concluded that the object observed was definitely Vemus.
III. Conclusion

Astronomical - Vonus.

UNCLASSIFIED

## I. Description of Incident

At 2121 EST four AF personnel observed a single light of alternating colors with red predominant. The light was due west of Dover Air Force Base and about $20^{\circ}$ above the horizon pursuing a very gradual course from west to northwest. No sound, smoke or vapor was observed, It appeared to fade away or disappear over the horizon. There was no air traffic in the area.

## II. Discussion of Incident

As in the case of the Dover sighting of 26 Feb 53, it was the opinion of ATIAE-5 that Venus caused this sighting. ATIC's contract astronomer was contacted and definitely concluded that it was Venus.
III. Conclusion

Was Venus.
I. Description of Incident

At 1800 EST an Air Force colonel while traveling at 60 mph in his auto near Richmond observed a flash of metal with a long narrow rectangular contrail traveling from south to north. The object crossed the path of the auto from left to right traveling at less than jet speed. The object was observed approxdmately 15 minutes.

## II. Discussion of Incident

Observer visited a friend of his about 1 hour later. The friend initiated the conversation by stating that he had seen a bright contrail in the sky about 1800 at a considerable distance. At 1800 EST on this date the sun was setting. The sun, reflecting from contrail, made it easily visible.
III. Conclusion

Probably contrail of jet aircraft.

## DISTRIEUTION LIST

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No. Cys
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# STATUS REPORT 

## PROJECT BLUE BOOK - REPORT NO. 11

FORMERLY PROJECT GRUDGE

PROJECT NO. 10073
31 MAY 1953

AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATTERSON AIR FORCE BASE OHIO

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PROJECT NO. 10073

31 May 1953

AIR TECHNICAL INTELLIGENCE CENTYER WRIGHT-PATTERSON AIR FORCE BASE OHIO



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## GTATUS REPORT

PROJECT BLUE BOOK - REPORT NO. 11
Formerly Project Grudge

PROJECT NO. 10073

31 May 1953

AIR TECHNICAL INTELLIGENCE CENTER WRIGHT-PATIERSON AIR FORCE BASE OHIO

## OSECURITY INFO:NMATION unclassified SECRET

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AUTH: COMR ANIC
BY: $\frac{\text { H.Cltent }}{\text { Lt COI, SBAF }}$
DATE: 7 JUI 53

This report is the eleventh of a series of tri-monthly atetus reports on Project Blue Book covering the months of March, April and May.

Any additional information may be obtained on any incident by directing requeste to the Commander, Air Technical Intelifgence Center, AIIN: AFOIF-AIIAR-5, Wright-Patterson Air Force Base, Oh10.

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STATUS OF PROJECT BIUE BOOK

## I. OVERALL STATUS

A total of 89 reports of unidentified aerial objects were received by Project Blut Book during the period covered by Status Report No. 11 (March,
 January, and February; the general influx has therefore dropped noticeably with the exception of the month of March 1953.

In March, 59 FLYOBRPTS were received, 53 percent from military observers, the remaining from civilians in various walks of life. Known astronomical. phenomena accounted for 21 of the sightings or approximately 35 percent, with the planet Venus the established cause of 16 flying object reports. Venus appears low on the horizon at this time of year and is unusually bright; it is possible for it to appear to change color and perform erratic maneuvers when seen through thin clouds or ground haze. In this connection it is interesting to note that experienced military pilots reported this phenomena In four instances as an unidentified aerial object. However, the majority of proven Venus sightings were turned in by members of the Ground Observer Corps. One was reported by an airlines pilot.

During the last three months of operation, Project Blue Book has received an average of 10 reports per week which is considerably under the five FLYOBRPTB per day submitted during the fall of 1952. The volume of reports during the spring of 1953 has been the lowest in the last two years and it is belleved the generally inclement weather throughout the United States has had much to do with this.

It is also the opinion of Project Blue Book, however, that one highly publicized sighting could again trigger off another "saucer" scare with resulting pressure on the Alr Force and ATIC. The direct relation between newspaper publicity and the number of reports submitted has been firmly established by Project Blue Book. In this connection and because of latent public interest and possible hysteria which are believed to exist, ATIC is currently preparing a statement on unidentified objects which will be issued by P.I.O., Washington, D.C., at the first indication of publicity. It will give a full account of ATIC's findings, including percentage of unexplainable reports, percentage of known objects or phenomena such as aircraft, balloons, radar interference, etc. Thus the Air Force cannot be accused of withholding information. It is ATIC's policy to keep the public fully informed.

A complete statistical study of all reports from 1947 to 1952 is now In the final stages of I.B.M. preparation. A final report is expected on 15 August 1953. It will include statistical probabilities and indexes of comparisons on unidentified objects and a general commentary of the conclusions reached by the study, the first effort ever made to treat sightings mathematically. A total of over 3,000 reports will be processed in this study.

Another item of importance occurring during the period of this Status Report was the completion of a briefing tour of Air Defense Command units by Project Blue Book. This will be examined in further detail on following pages.

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An average of 45 reports received monthly since the first of 1953. $10 \%$ of all reports in 1953 are classified as unknown.
II. CANADIAN FLYING SAUCER

In the 11 February 1953 edition of the "Toronto Star" there appeared an article entitled "Canadian Flying Saucer". This article stated that a revolutionary type aircraft had been produced at the Avro Canada's Malton, Ontario, factory. This aircraft was reported to have a speed of 1500 mph ; and that vertical takeoff and hovering would be possible.

Project Blue Book attempted to obtain more information through the Air Attache in Ottawa. The reply stated that there is no reason to believe that a "flying saucer" is under development in Canada at the present time.
A. V. Roe, Limited, of Toronto, Canada, have indicated that they are interested in developing a supersonic type of aircraft. This has not progressed to more than a sketch stage of development, and would probably not be ready for the drawing board until two or three years from this time.

Numerous articles have appeared in the canadancess regarding the subject that have given little new information. However, the most puzziling information came through USAF channels. The USAF has been informed by a confidential source that a Canadian engineer, the designer of a Canadian allweather interceptor, is the designer of this "saucer". The source states that RCAF officers have visited the A. V. Roe factory where he works and have seen a demonstration of a model. The subject engineer claimed that he has flown this model which is 12 inches to 18 inches in diameter from Malton Airfield.

Considering the report from the Air Attache and the conflicting report by the confidential source concerning the unconventional aircraft, the veracity of the designer and/or the "confidential source" are open to some question in the opinion of Project Blue Book. The Canadian press has given the subject wide publicity and many of the resulting "facts" may be the result of wishful speculation on the part of the newspapers.

However, Project Blue Book is continuing an active interest in this matter and is making every effort to get the true facts.
III. THE AIR DEFENSE COMMAND BR IKFING TOUR

In the fall of 1952 ATIC and Hq ADC agreed upon a plan whereby ATIC's Project Blue Book would brief all interested units in ADC on its operations. On 9 March 1953 the Western Air Defense Force was briefed; on 18 April 1953 the Central Air Defense Force was briefed; and on 8 May 1953 a Project Blue Book briefing was given to the Eastern Air Defense Force.

A survey of all FLYOBRPTS recelved by ATIC in 1952 revealed that the Air Defense Command was responsible for 40 percent of all reports received. In the light of this, it was felt highly desirable to acquaint the units of the Air Defense Command with the following two points:

1. Project Blue Book's general background, objectives, and progress.
2. How the ADC intelligence officer could assist Blue Book by submitting more detailed and accurate reports, stressing the points needed for analyzing a sighting.

In a general evaluation of the effect of the ADC briefing tour, it is belleved that it was extremely successful in accomplishing, the above objectives. Project Blue Book feels that intelligence officers in ADC are now better equipped to handle problems concerning aerial phenomena. Interrogation forms covering ground observations, as well as electronic detections, were distributed to each division visited.

It was found that many of the reports submitted to each of the Forces were from GOC personnel and although a certain percentage of these reports would be classified by ATIC as "good", the majority of them involved reporting known phenomena by an inexperienced source. GOC officers were told to institute T53-7362

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an educational program on unidentified aerial objects in order to decrease the volume of reports of known objects. They were given copies of the briefing itself which outlined the outstanding known causes of "flying saucer" reports and were asked to circulate this information to the filter center and observers.

Another point stressed by the briefing was the fact that analysis and conclusions on a sighting could be accomplished by ADC personnel themselves. ATIC encourages the preparing officer of a FLYOBRPT to attempt to arrive at a conclusion as to what caused the report of an unidentified object. They were advised of the main categories of conventional objects which cause reports, such as balloons, aircraft, and astronomical bodies. A general opinion held by all officers in $A D C$ was that the required $A F$ Form 112 as per AF Letter 200-5 causes a great deal of excessive clerical work. They suggested that the subject Form 112 should be eliminated entirely. They stated that in many instances that Hq ADC required many file copies of both the TWX and the AF Form ll2, and that this substantially reduced the number of reports submitted to ATIC. In many installations there are simply not enough clerical personnel to do the work. The results of this suggestion and ATIC's opinion will be examined in the following item.
IV. REVISION OF AIR FORCE LETTTER 200-5

Air Force Letter 200-5 as it reads at the present time requires that all TWX's to ATIC on an unidentified fiying object will be followed within 72 hours by a written Form 112 which elaborates on the sighting. It is felt that the Form 112 is superfluous when the sighting can be explained from the TWX alone which, If the TWX has relatively complete information, is usually the case 70 percent of the time. In view of this, ATIC is currently amending Air Force Letter 200-5 to state that just a TWX will be sent in on an original FLYOBRPT and if ATIC feels that more information is needed it will in turn contact the reporting unit and ask them for the Form 112. The new requirements for a TWX will request more complete information than was previously asked.

## V. CONTRACTOR STATUS

Project Blue Book has a contract with a civilian research organization which serves the project with an IBM analysis of all unidentified aerial object reports and technical analysis of any specific problems submitted. Coding and evaluation of all reports from 1947 to 1952 has been completed and the formal IBM study is now being run. Up to and including 1952, 2,500 reports were received through military channels. This number does not include many letters reporting sightings sent in by the public at large. Trial questionnaires were sent out to the most reasonable of these letters during the summer of 1952 , When reporting was extremely high. Approximately 1,000 of these questionnaires were completed and returned to Project Blue Book and are now being incorporated into the IBM analysis. Thus 3,500 sightings of unidentified aerial objects will be studied.

One two-day evaluation conference was held during 4 March and 5 March 1953. Two representatives from the Air Technical Intelligence Center and three representatives from the contract organization participated in this conference and processed 265 reports. These reports were given final evaluations before

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being submitted to the IBM study. On 24 and 25 Apri1 1953 another two-day evaluation conference was held; 350 reports were examined jointly and given final evaluation.

The IBM contractor has estimated that a final report will be submitted to Project Blue Book on 15 August 1953 in which statistical curves of probability, indexes of comparison on unidentified objects, and a ceneral commentary on the results of the IBM study will be included. It is believed that this study will be extremely significant in the future evaluation of reports of unidentified objects and perhaps to the operation of Project Blue Book itself.

## VI. VIDEON CAMERA STATUS

On 1. June 1953, 73 Videon cameras were distributed to AACS tower sitea and $A D C$ radar sites strategically located throughout the United States with relation to frequency of FLYOBRPTS. The original plan for these cameras was to take a photograph of an obfect through both an open lens and a lens equipped with a diffraction grating. The diffraction grating would enable a spectroscopist to attempt to identify the object in question by means of a spectrum bar recorded on the film. It. was found, however, that the diffraction gratings began to deteriorate soon after being received by ATIC. It was concluded that the cameras would be sent out without aratings immediately as an instrument for obtaining photographic intelligence on unidentified objects. When a suitable grating is obtained, the cameras will be recalled from the field and the subject prids mounted.

## VII. INSUFFICIENT DATA REPORTS

For the year $195222.7 \%$ of all reports were classified as insufficient data for evaluation, or not containing enough information to even attempt an analysis. Thus far in 1953 this category has reduced itself to 15.4\%. This is a noticeable improvement, but still is believed to be too high.

Upon receiving such a report, ATIC usually TWX's the originating base, but in the past has received little additional information. The problem is significant enough to mention in this Status Report in an attempt to decrease the number of reports with nebulous information. Quoted below is a FLYOBRPT received by ATIC which had to be classified as insufficient data to evaluate: "FLYOBRPT round with tail, yellow, similar in size and shape to hub cap, leaving trail of bright yellow fire with no observed propulsion system nor any sound being heard. In straight flight bearing slightly downward, speed very slow. Object disappeared behind cloud. Visual. sighting by individual in Hiram, Georgia. Object was sighting north of observer and was traveling from south to north to the left of Marietta, Georgia. Report submitted by a civilian source, Hiram, Georgia, Winds aloft 10000-250/45K: 20000-260/55K; 30000-260/ 70K; 40000-260/80K."

The reported object could be astronomical in nature, possibly a meteor. Its slow movement seems to conflict with this solution, however. The information essential to analyzing this sighting follows: 1) What time was the object seen? 2) How long was it seen? 3) What was its azimuth and elevation at appearance and disappearance? 4) Angular velocity across the sky. 5) The name T53-7362

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and address of the individual making the aighting so that a questionnaire could be sent. 6) The reliability of the source; were there other observers? 7) Local air traffic. 8) A check with base weather service to determine if weather balloons or eny other phenomenon known to them could solve the sighting. 9) Weather conditions, including cloud covera, light conditions, temperature or dew point inversions.

Most of the above points are contained in the requirements for a TWX as per AFL $200-5$ which was not followed in this instance.

A good feature of the report is the fact that winds aloft are given. The most essential item is left out, however, and that is the length of observation. If this was a matter of seconds, the sighting was probably a bright meteor.
VIII. SYNOPSIS OF REPORTS

An individual surmary of ten characteristic FLYOBRPTS for March, April, and May follows.

## I. DESCRIPTION

Between 0320 CST and 1130 CST on 31 May 1953, eleven persons in the Darling-ton-Monroe area in Wisconsin sighted an unidentified gerial object. The object appeared as a steady white light coming generally out of the East and disappearing high overhead after 8 hours of continuous observation. It appeared low on the Eastern horizon, much brighter than the surrounding stars. It was reported to hover and then move at terrific speeds by several local inhabitants, inciuding several county sheriffs and Ground Observer Corps members. Two of the police men pursued the object in their squad car without gaining any noticeable ground. A tejescope was employed to view the phenomenon by the GOC members. The weather during the time of sighting was unusually clear with a few scattered clouds carried on a north heading by the wind.

## II. DISCUSSION

A newspaper account of the sighting came to the attention of ATIC and as a result an officer and an astronomer were sent to the area of the sighting. They interrogated eight of the eleven observers in attempting to piece together the variety of reports. Estimates of azimuth and elevation readings were obtained from different observers at varied locations in Monroe and Darlington for evenly spaced time intervals during the 8 hour period. The description of the object turned out to be the same with'all observers - bright white. The description of the maneuvers varied, however, some stating the object rose slowly, others saying it moved at great speeds, and then hovered. The latter description usually came from observers while riding in a car. All agreed that the object was too bright to be a star and moreover it was seen in the daytime.

It was determined that the path of the object in question across the sky, its position at appearance and disappearance, very closely paralleled the path of the planet Venus on 31 May 1953. Venus on this day rose at 0310 CST and was at its approximate maximum brilliancy. Under ideal weather conditions it can be seen in the daytime, although this is rare. The fact that GOC personnel first sighted it at night and had the object pin-pointed for daylight observation allowed them to keep it under constant surveillance. Reports that the object maneuvered radically usually came from persons driving in cars while observing the object. If Venus is stared at for any length of time without any balancing reference point, it can appear to perform erratic maneuvers.

GOC personnel alerted the Chicago Pilter center and jets were scrambled to investigate. This was during daylight observation and the jets, although vectored toward the object by visual directions from Darilngton, were unable to locate the unknown.

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## I. DESCRIPTION

The Inyokern Naval Air Facility at the Naval Ordnance Test Station received a report from one of their civilian employees that three cream colored objects were overhead at 1810 PST, and disappeared to the northeast cilmbing rapidly. Altitude was estimated to be approximately 20,000 feet while over Inyokern. Objects appeared to be round and balloon-like with strings hanging down. No photographs were taken, exhaust or method of propulsion was undetermined, and no interception was attempted. Several other civilians at that station also observed these objects.

## II. DISCUSSION

This information was taken from a TWX received from the Flight Service Center at March AFB. Many details are lacking. The description as given by this one civilian fits that of three upper air research balloons (Moby Dick) tied together. More information will be available when the USAF Form 112 is received. Also, Project Blue Book receives the plots for all Moby Dick type balloons released in that area. The Project Blue Book evaluation of possibly upper air research balloon can be substantiated or cannot be substantiated upon receipt of the balloon plots.
III. CONCLUSION

Possibly balloon (Moby Dick).

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## I. DESCRIPTITON

On CO April 1953 between $0118 Z$ and 02152 a aeries of targets were sighted by the 665 th AC\&W Squadron, Calumet, Michigan. The plots originated approximately 50 miles from their station, from $050^{\circ}$ clockwise to $251^{\circ}$. Speed was from 1800 mph to 8400 mph . This sighting was a radar sighting only and appeared as a normal target except for speed. No abrupt maneuvers were noted. Several individual targets were noted. This squadron was using an AN/FPS-3 type search radar unit, with a Thyratron modulator. There had been no maintenance difficulties. The general weather conditions at the time of sighting were three miles visibility, snow and overcast. Northern Lights were clearly visible. during this period.
II. DISCUSSION

This is another of the better type of FLYOBRPT. The intelilgence officer is to be commended for the inftiative shown in making as complete a report as was possible under the circumstances. He made the preliminary evaluation at the time he prepared the report, saving Project Blue Book the time and effort it takes to investigate a sighting of this type. His evaluation was.... ${ }^{\text {rTargets are belleved to be interference from shipborne radar, originating on }}$ Lake Superior".
III. CONCLUSION

Other (radar interference).

Sweetwater, Nevada
UNCLASSIFIED 12 Apr 111953

## I. DESCRIPTION

At 1510 hours PST, ten round flat metallic colored objects changing formation traveled at an estimated high rate of speed on a heading of $110^{\circ}$ at an estimated altitude of $7,500 \mathrm{ft}$. No trail, sound, or exhauat were noted. Objects passed under the right nacelle of the observers' C-47 type aircraft, and were observed by the co-pilot. He took control of the C-47, and turned to the right in a tight $300^{\circ}$ turn for a better view of the objects. Objects were then picked up unassisted by two more members of the crew. The objects were observed in a right turn of greater radius than that of the C-47, and at a lower altitude. The objects were observed for approximately 1200 of their turn, and disappeared on a heading of $300^{\circ}$. Observers were unable to estimate the speed of the objects because of the distance and the objects' large radius of turn.

## II. DISCUSSION

No aircraft were observed in the area and the pilot reported no radio Pacilities at Sweetwater Airport. No report was made until landing at stead AFB, Nevada. Weather at the time of sighting was slightly hazy, visibility 30 miles. Although the observers reported seeing no aircraft in the area, it is believed that the objects were aircraft (probably trainers) because of the color, maneuvers, and distance at which they were observed.
III. CONCLUSION

Possibly aircraft.

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## I. DESCRIPTION

At 2300 Z two observers flying a MATS aircraft reported sighting an unidentified white light 110 miles SW of Sondrestrom Air Base, Greenland. The estimated speed of this light was 1000 mph , altitude estimated to be $15,000 \mathrm{ft}$. and direction of travel $0^{\circ}$. The object maintained a steady course, but seemed to be in a shallow descending turn. The observing aircraft was at 9000 ft . with an airspeed of 165 knots and a true heading of $30^{\circ}$. The white light was observed on the starboard side at $50^{\circ}$, fading out at approximately $20^{\circ}$ to the right. Total time of the observation was approximately three seconds at a distance of 50 to 100 miles.

## II. DISCUSSION

Flight plans were checked with Sondrestrom AFB, Narsarssuak AFB and the Iceland Defense Force with negative results. It was the opinion of the Director of Intelligence, NFAC, that this sighting was caused by a celestial phenomenon. The description of this light fits that of a meteor, except that a meteor very seldom appears white. However, Project Blue Book concurred with the NEAC evaluation when its contract astronomer also was of the opinion that the phenomenon was astronomical in nature.
III. CONCLUSION

Probably astronomical (Meteor).


## I. DESCRIPTION

At 08302 , 19 March 1953, a diamond-shaped, bright white object with amall extensions at each point of the diamond was observed for $60-90$ seconds approximately $25^{\circ}$ above the eastern horizon. It appeared to be traveling at 300 mph at an estimated altitude of 2500 ft . heading on a westerly course. Unusual maneuvers. consisted of a short pause, disappearing three times, one or two aeconds each time, and finally disappearing instantly overhead. The observer was a USAF captain with considerable experience in navigation.

## II.. DISCUSSION

Since there were no known aircraft in the area, and there was no unusual astronomical behavior, the object was given a preliminary evaluation of posaibly balloon, until weather balloon information could be obtained from Asheville Weather Central. The following day, a TWX was received by Project Blue Book from the base intelligence officer at Harmon AFB. "Indications are that sighted object was a weather Rawinsonde Balloon with attached light which was released at the time of the sighting." Such action on the part of the base intelligence officer is greatly appreciated by Project Blue Book, for it saves ATIC considerable cost and effort in determining the nature of the phenomena.
III. CONCLUSION

Was balloon.

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## I. DESCRIPTION

From 1745 CST, until 2015 CST, one round, silver blue object that emitted light from two points on its surface was observed over Greenville, Miss., by both civilian and military personnel. Said object changed direction from west to south to north and back to west. No interception was attempted. The size, speed, sound, and altitude were not reported.

If. DISCUSSION
Maxwell AFB and Memphis NAS Direction Finding Units fixed the position of a Moby Dick (upper air research) balloon in the area at the time of aighting.
III. CONCLUSION

Probably upper air research balloon.

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Kent Hill, Maine
7 March 1953

## I. DESCRIPTION

At 2202 EST, 7 March 1953, ten students and three instructors located at Kent Hill, Maine, observed an unidentified object on a bearing of 290 from them. It appeared as a large ball of fire, red in color, round in shape, large, no sound, no maneuvers, and had no aerodynamic features. The object was observed for 12 minutes and had the appearance of traveling away from the observers. It disappeared below the horizon.

## II. DISCUSSION

This report is similar to several other reports received by Project Blue Book during the month of March. Thls is one of the few reports received that has a definite conclusion by the preparing officer. The report states that the Dow AFB, Maine, intelligence office had approximately eight different unidentified objects reported to them prior to this one. Upon investigating for a cause of the sighting, it was found by the intelligence officer that the planet Venus is located in the western aky at that time of the year. Venus seems to become very large and appears to change color from red to white to orange. Due to the cloud formations, haze, etc., the planet can seem to perform various maneuvers as it nears the horizon. It will sometimes seem to drop from sight over the horizon, or go out like a light. Since the description of the object fits that of Venus and the intelligence officer's evaluation is the same, Project Blue Book is carrying the incident as "Was Venus".
III. CONCLUSION

Was astronomical (Venus).

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## I. DESCRIPTION

At 1545 EST, the Assistant Director of Security at the Savannah River Project observed a silver crescent-shaped object visually from the ground for a period of one hour. This object was at a very high altitude, and very little information was obtained through interrogation of the observer.

A Detachment of the 727 th AC\&W Squadron at Congaree, South Carolina, was notified as a result of the above visual sighting. They picked up an unidenti. fled plot on their AN/APS-5 type radar at 1707 EST that was approximately 65 miles southwest of Congaree over the Savannah River Project. The Air National Guard was notified with the result that an $F-51$ type aircraft was airborne within five minutes. The aircraft attempted interception until 1725 EST when the blip faded northwest of Congaree. The F-51 returned to its base.

At 1752 EST another detachment of the 727 th AC\&W Squadron at Camden, South Carolina picked up a blip on their AN/TPS-lb type radar. At that time an RF-80 type aircraft was scrambled to attempt interception. This unidentified blip was due west of Congaree, and to be sure he had the unidentified on his scope, the operator had the F-80 do an identification turn. This proved that he did not have the $F-80$ on the scope. When the object was first observed, it was approximately 100 miles west of Congaree. It then reversed its direction, and was 85 miles out heading in a northwest direction, then headed east, then west, and again to the east, fading at 115 miles and 8 degrees from Camden. For a total of 68 minutes, during both radar sightings, aircraft attempted to intercept the unidentified with negative results. At all times, the object stayed at an estimated 20,000 feet altitude, and was doing 200-220 mph.

## II. DISCUSSION

A check was made to determine if there were any aircraft in the vicinity with negative results. There is a time lapse between all three sightings (ground visually at the Savannah River Project to the Congaree sighting was 22 minutes, and from the Congaree sighting to the Camden sighting was 27 minutes), causing some doubt as to whether the three sightings were connected with the same object. There was really not enough information contained in the report concerning the sighting at the Savannah River Project. For the observer to see an object for that long a period, it would have to be traveling at a very alow rate of speed and at a very high altitude for the object stayed overhead for the entire period. The radar observers were very well qualified in their fields; and their equipment was in operating condition. The radar returns were similar to those made by conventional aircraft.

This sighting was sent to the Electronics. Branch of ATIC for analysis. This branch, after carefuliy reviewing the report, evaluated it as possibly a flying aircraft.
III. CONCLUSION

Possibly aircraft.

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## I. DESCRIPTION

In this instance, the object was never observed, but a high altitude condensation pattern was observed. When first sighted, the contrail was approximately 300-500 feet in diameter. The pattern began with a smooth knife-like leading edge, very thin in depth and with an irregular trailing edge. As the source gave chase, the contrail made a slight dip to the NW and began climbing at 20 degrees. During this maneuver, source and object were at right angles and he observed the pattern to appear as a sharp nosed, very thin object about 300-500 feet long with an irregular, whispy trailing edge. Immediately, a heavy condensation trail began to form and extended for approximately 1000 ft . back, at which point it separated into a double trail which again was approximately 1000 ft . long, ending abruptly. At this time, the object was traveling at an estimated 400 mph true air speed. The most unusual feature was that the contrail stayed with the unsighted object, and did not extend across the sky as in the case of conventional aircraft contrails.

## II. DISCUSSION

The contrail was observed by the pilots of three F-84 type aircraft with only one giving chase. This pilot chased the contrail for $50-60$ miles before breaking off. A full armament and fuel load was being carried, however, source stated he was closing with the object fairly well. During the chase, this pilot took approximately 30 feet of gun camera film. This film was received in very good condition, and has been analyzed by the photographic laboratory at WADC. Their conclusions are:
a. The white streak photographed is probably a vapor trail from a rapidiy moving object of unknown velocity. The object itself is invisible in the photographs.
b. The exhaust vapor trail, apparently from a twin propulsion unit, is more pronounced at the end of the film than at the start, as though the object were accelerating in response to pursuit. The configurations in the trail appear to be due to maneuvers performed by the object.
c. An additional vapor trail, thought to be due to lifting surfaces, is also in evidence, but it dissipates raplaly. This additional vapor trail appears to be centered about the exhaust trail.
d. Within the period of time represented by the film, the photographic plane may have reduced the distance between the object and itself. However, the flight paths are not parallel by a considerable angle, so that the objects distance and velocity with respect to the plane cannot be determined with useful precision.

Since there was nothing gained by photo-analysis that would actually aid in 1dentifying the object involved, this report is being sent to the Aircraft Laboratory of WADC for further analysis. Until the report is returned from WADC; this incident will be carried by Project Blue Book as unknown.
III. CONCLUSION

Unknown.

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IX. LISTING OF SIGHTIMGS

The following is a list of all sightings received by Project Blue Book during this three month period giving the date, place reporting, and ATIC's evaluations. A majority of these are by no means fixed conclusions. If the reporting agency has any question regarding ATIC's method of evaluating their report or does not agree with the evaluation, their comments and suggestions are welcomed. For any additional information on an incident, contact the Commander, Air Technical Intelligence Center, ATTN: AFOIN-ATIAE--5, WFightPatterson Alr Force Base, Ohio.

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## SIGHTINGS FOR MAY 1953

PLACE
Goose AFB, Labrador
Goose AFB, Labrador
San Antonio, Texas
Seattle, Washington
Tehran, Iran
Dayton, Ohio
Ojibway, Wisconsin
Inyokern, California
E. St. Louis, Illinois

Abadan, Iran
Elilington AF', Texas
Lackland AFB, Texas
Ramore, Ontario, Canada
San Antonio, Texas
Dayton, Ohio
Florissent, Missouri
Darlington, Wisconsin

EVALUATION
Unknown
Insufficient Data
Probably Balloon
Probably Balloon - Moby Dick
Was Aircraft
Was Balloon
Other -- Possibly Cloud
Possibly Balloon - Moby Dick
Other - Unreliable Report
Insufficient Data
Possibly Aircraft
Probably Alrcraft
Possibly Balloon
Was Aircraft
Was Astronomical
Possibly Balloon
Was Astronomical - Venus

SIGHTINGS FOR APRIL 1953

| DATE | PLACE | EVALUATION |
| :--- | :--- | :--- |
| 3 | N/W Korea | Probably Meteor |
| 4 | Webster Village, Maryland | Probably Astronomical |
| 5 | Detroit Lakes, Minnesota | Insufficient Data |
| 8 | Fukuoka, Japan | Unknown |
| 8 | Sondrestrom AFB, Greenland | Was Astronomical |
| 8 | San Juan, Puerto Rico | Probably Balloon |
| 12 | Sweetwater, Nevada | Possibly Aircraft |
| 15 | Tucson, Arizona | Unknown |
| 16 | East Prairie, Missouri | Possibly, Aircraft |
| 19 | Calumet, Michigan | Other - Radar Interference |
| 20 | Brooklyn, New York | Was Astronomical - Meteor |
| 23 | Addison, New York | Possibly Aircraft |
| 28 | Klamath Falls, Oregon | Probably Astronomical |
| 28 | Fontana, California | Posaibly Aircraft |
| 29 | Syracuse, New York | Probably Aircraft |

DATE
1
1

PLACE
Misawa, Japan
Olean, New York
Dover AFB, Delaware
Princeton, New Jersey
Cambria, California
Luke AFB, Arizona
Syracuse, New York
Baltimore, Maryland
Erie, Pennsylvania
Leeds Center, Maine
Congaree, S. C.
Shaw AFB, Carolina Greene, Maine

Tokyo, Japan
Hamilton, Montana
Kents Hill, Maine
Ashyia AFB, Japan
Ashyia AFB, Japan
Warwick, Massachusetts
Hamilton, Montana
West Carrolton, Ohio
Miamisburg, Ohio
Kents Hill, Maine Great Falls, Montana

Leeds Center, Maine

EVALUATION
Was Astronomical - Venus
Probably Astronomical - Venus
Was Astronomical - Venus
Was Astronomical - Venus
Probably Astronomical - Venus
Unknown
Insufficient Data
Probably Astronomical
Probably Astronomical
Insufficient Data
Probably Alrcraft
Probably Alrcraft
Possibly Balloon
Insufficient Data
Possibly Aircraft
Was Astronomical - Venus
Insufficient Data
Other - Lighted Ship
Wes Astronomical - Venus
Insufficient Data
Insufficient Data
Insufficient Data
Probably Astronomical - Venus
Other - Possibly Searchlight
Was Astronomicsl - Venus

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Month of March (Contd)

| 27 | Mt. Taylor, New Mexico | Possibly Balloon |
| :--- | :--- | :--- |
| 28 | Scott AFB, Illinois | Possibly Balloon |
| 29 | Cochransville, Penn. | Insufficient Data |
| 29 | Spooner, Wisconsin | Insufficient Data |
| 30 | Lyle, Washington | Probably Balloon |
| 31 | Conrad, Montans | Was Astronomical - Venus |
| 31 | Williams AFB, Arizons | Possibly Balloon |
| 31 | Honshu, Japan | Unknown |

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Hamilton, California
Commander
28th Air Division (Defense) ATMN: Intelligence Officer Hamilton AFB
Hamilton, California
Commander
25th Air Division (Defense) ATHN: Intelligence Officer McChord AFB, Washington

Cormander
27th Air Division (Defense)
ATIN: Intelilgence Officer
Norton AFB, California
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Commander
34th Air Division (Defense)
ATMN: Intelligence Officer Kirtland AFB, New Mexics
Commander ..... 1Central Air Defense ForceAITIN: Intelligence Officer
Kansas City, Missouri
Commander33rd Air Division (Defense)
ATIN: Intelligence Officer
Tinker AFB, OklahomaCommander131st Air Division (Defense)ATIN: Intelli'gence Officer
Ft. Snelling
St. Paul 11, Minnesota
Commander
29th Air Division (Defense) ATIN: Intelligence Officer

Great Falls AFB

Great Falls, Montana
Commander
35th Air Division (Defense)
35 th Air Division (Defense)
ATIN: Intelligence Officer
ATTN: Intelligence Of

## Commander

Eastern Alr Defense Force ATIN: Intelligence Officer Stewart AFB, New York

Commander
30th Air Division (Defense)
ATTN: Intelligence Officer Willow Run Airport, Michigan

Commander
32nd Air Division (Defense)
ATITN: Intelligence Officer
Hencock Field, Eastwood Station 6
Syracuse; New York

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Commander
4602nd Air Intelligence Service Squadron ATIN: Intelligence officer
Ent AFB, Colorado
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ATIAE-5 1

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This report is the twelpth of a series of tri-monthly status reports on Project Blue Book covering the months of June, July and August 1953.

Any additional information may be obtained on any incident by directing requests to the Conmander, Air Technical Intelligence Center, AIIN: AFOIN-AIIAE-5, Wright-Patterson Air Force Base, Ohio.

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STATUS OF PROJECT BLUE BOOK

## I. OVERALL STATUS

A total of 91 reports of unidentified flying objects were received by Project Blue Book during the period covered by this status report (June, July, August 1953). This is an increase of 2 reports over those received during the period covered by Status Report No. 11 (March, April, May 1953). An average of 6.9 reports per week has been received by the Air Technical Intelligence Center for the past six months.

Because of the decrease in newspaper publicity, fewer reports have been received from civilians with the result that military sightings now account for approximately 60 per cent of unidentified flying object (UFOB) reports. In spite of the dropping of the subject by the national press, it is significant to note that a steady influx of 6.9 reports per week are received by Project Blue Book from persons who sincerely belleve they observed unusual airborne objects. This is one of the reasons why this project is being continued.

Every effort to improve the quality of reports has been made by Project Blue Book. Briefings to the Air Defense Command were conducted stressing the need for more complete and scientific data in order to properly evaluate the observations. A manual has been prepared recently for the purpose of instructing reporting officers on what information is desired on an unidentified flying object observation. Reporting officers have been requested to hold preliminary investigations before forwarding the report to this Center. Air Force Regulation 200-2 sets up new reporting procedures on unidentified flying objects so that reports will be more complete. The quality of the reports has increased considerably and the result has been that approximately 90 per cent of the observations are being explained. This leaves 10 per cent unexplained as compared with 20 per cent unexplained in 1952.

A complete statistical study of all reports from 1947 to 1952 is expected not later than 15 October 1953. This study will include statistical probabilities on indexes of comparisons on unidentified flying objects and a general commentary of the conclusions reached by the study. This is the first effort ever made to treat sightings mathematically.

The Air Technical Intelligence Center has set up a policy to keep the American public informed on the operations of this project. All releases of public information are handled by the Office of Public Information, Department of Defense, Washington 25, D. C.

Project Blue Book continued to screen and evaluate all reports as soon as possible after being received. The following represents a breakdown of the number of reports by month asdFineDercentage breakdown of evaluations.

SECURITY
HAFORMATION

## STATUS REPORT

# PROJECT BLUE BOOK ~ REPORT NO. 12 

FORMERLY PROJECT GRUDGE

PROJECT NO. 10073

30 SEPTEMBER 1953

## AIR TECHNICAL INTELLIGENCE CENTER WRIGHT.PATTERSON AIR FORCE BASE OHIO

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Wright-Patterson Air Force Base, Ohio

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| - | CONCLUSION | NO. | PERCENTAGE |
| :---: | :---: | :---: | :---: |
| June:- | Astronomical | 7 | 25.9 |
|  | Balloon | 4 | 15.1 |
|  | Aircraft | 3 | 11.1 |
| Sources | Insufficient Data | 5 | 18.4 |
| Mil 62.5 | Other | 5 | 18.4 |
| Civ 37.5 | Unsolved | 3 | 11.1 |
|  | Total | 27 | 100.0 |
|  | Astronomical | 9 | 24.4 |
| July:- | Balloon | 13 | 35.1 |
|  | Aircraft | 5 | 13.5 |
| Sources | Insufficient Data | 4 | 10.8 |
| M11 50 | Other | 3 | 8.1 |
| Civ 50 | Unsolved | 3 | 8.1 |
|  | Total | 37 | $\overline{100.0}$ |
|  | Astronomical | 5 | 18.5 |
| August:- | Balloon | 6 | 22.3 |
|  | Aircraft | 4 | 14.8 |
| Sources | Insufficient Data | 7 | 25.9 |
| Mil 46.1 | Other | 2 | 7.4 |
| Civ 53.9 | Unsolved | 3 | 11.1 |
|  | Total | 27 | $\overline{100.0}$ |

## II. CANADIAN "FLYING SAUCER"

Project Blue Book has received several reports from the Air Attache in Ottawa, Ontario, Canada, substantiating the fact that experiments on a "flying saucer" are actually being conducted at A. V. Roe, Limited, Toronto, Canada.

Mr. Jack Frost, the designer-engineer, has been working on this particular project for the past three years at A. V. Roe, Toronto, Canada. During this period he has made several attempts to gain the interest of various agencies in his project, but without apparent success; he visited the United Kingdom and was unable to arouse any interest in his project. Approximately two or three years ago, he also visited Wright-Patterson AF Base, Ohio (supposedly on other business), and outlined his ideas to as yet anonymous personnel. Recently, and presumably as a result of Viscount Montgomery's briefing on this project, Mr. Frost was again sent to the British Isles by A. V. Roe, Limited, supposedly to wind tunnel test his model, but in fact to present his ideas and design to prominent British authorities.

Mr. Frost is presumed to be in the United Kingdom at the present time. A recent letter received by the Defense Board of Canada from their liaison officer in the United Kingdom indicated that Mr. Frost received a cordial reception from British scientific personnel and has convinced several of his major critics that his ideas are sound. It has also been reported from another source that the United Kingdom (firm or individual

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unknown) has been working on a similar design, but that Mr. Frost is much further along and the United Kingdom is considering his proposal with a view toward adopting his propasals at the expense of their own.

The Defense Research Board of Canada and the Royal Canadian Air Force have been aware of Mr. Frost's work for sometime. Several months ago they took an interest in the project and a proposal was made to the Miniater of Defense recommending that a developmental contract be let to A.V. Roe, Limited, to develop this concept. The Minister, at Cabinet hearings, recommended approval which was rejected because of the fact that the CF-100 program had been such an expensive venture that it was not practical to consider contracting for any new design at the time.

It was stated that the Defense Research Board and the RCAF have been unable to push this project regardless of the personal enthusiasm of the members of both organizations.

In the light of Mr. Frost's reception in England, it can be anticipated that the entire project will be reconsidered at the highest government levels.

It must be remembered that this project at the present time is entirely supported by A. V. Roe, Limited, and that the company has patented certain design features. It must also be remembered that Mr. Frost was the project engineer of the $\mathrm{CF}-100$, an all-weather intercepter. A key member of the Defense Research Board has indicated that he belfeves the project will receive favorable reconsideration. If approval is obtained and a definite Department of Defense project is established, the U.S. Air Attache in Ottawa has been assured that USAF authorities will be given every opportunity to cooperate in the furtherance of this development. Until this approval is granted, the Department of Defense has no official position in relation to the entre project.

It has been determined that Mr. Frost has not actually flown a small model. He has arranged a model on a test stand and has used compressed air as a motive power rather than a combustion engine. Mr. Frost claimed that he had flown the model from Malten Airfield and it is actually a "flying saucer" type.

On two known occasions, Mr. Frost briefed RCAF and United Kingdom officers on his project. On 13 May 1953 RCAF officers went down to the A. V. Roe aircraft factory for the purpose of viewing a "flying saucer" demonstration by Mr. Jack Frost. Mr. Frost was delighted by their interest and went into great detail in explaining his pet project. Following this interview, the officers returned to Ottawa with glowing account of Mr. Frost's remarkable "flying saucer". On the other occasion, a United Kingdom Army officer visited the factory and recelved a comprehensive briefing by Mr. Frost. The officer was reportedly enthusiastically impressed and appeared to understand fully the air-flow concepts involved. He claimed that it was the greatest thing he had ever seen.

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Mr. Frost is reportedly a very serious, unpretentious man who wants only to build his "saucer". If the British or the Canadians refuse to back him, it is believed that he would go somewhere else. He has read many stories of "flying saucers" and they all seem to fit in with his own concepts, such as the housing, extreme speeds, etc. He claims it is basically simple and is amazed that it hasn't been produced before. For this reas on he claims emphatically that he is not the first to build a "saucer"; he feels confident that the Russians have a similar model and have been operating it from submerines. He has checked with medical authorities who have confirmed his positioning of the pilot as in a seated position, legs slightly apart, upper-trunk of body leaning forward for vertical vision, up and down.

Mr. Frost is extremely confident that his radical design will work and will attain fantastic speeds. His first prototype he claims will be 24 feet across, travel at speeds up to 3000 MPH , be capable of being operated from a submarine or other small space, be housed in an ordinary garage, and have tremendous payload capacity. He claims that it will have a range of 1000 mlles at extreme speeds and be able to hover over one spot and then dart off again in any desired direction. Frost claims that he can produce four "saucers" for the price of one F-86.

Project Blue Book is continuing an active interest in this matter and making every effort to obtain the latest true facts on the "saucer". More pertinent information is expected from the U.S. Air Attache in London, England.

## III. ATR FORCE REGULATION 200-2

Air Force Regulation 200-2 dated 26 August 1953 supersedes Air Force Letter 200-5 dated 29 April 1952. This regulation requires more complete information which wili simplify the evaluation of unidentified flying object (UFOB) reports. Instead of a TWX being followed by a written report within 72 hours, as was prescribed in AFL 200-5, AFR 200-2 requires that only a detailed TWX be forwarded to ATIC except when requested. By setting up more appropriate methods, it is believed that this new directive will aid Project Blue Book in the analysis of unidentified flying object reports.

## IV. CONTRACTOR STATUS

A representative from the civilian research organization, Project Stork, which is preparing the IBM study on reports of unidentified flying objects from 1947 to 1952 visited Project Blue Book on 20 August 1953 for the purpose of explaining the status of the study. These reports do not include the many letters that were received directly from the public, but they do include all sightings reported through military channels and questionnaires filled out by observers and forwarded directly to the Air Technical Intelligence Center. The representative stated that the statistics on all these sightings would be completed not later

## UACLASSIFIED SEERET

than 1 september 1953. It was agiceed that all unsolved reports should be reviewed by Project Stork before the final study is completed. The final study is expected not later than 15 0ctober 1953. It is believed that this study will be extremely significant in future evaluations and operations of Project Blue Book.

Project Stork is also securing new diffraction gratings for the Videon camera which is currently out in the field. The suitable gratings are expected the latter part of October 1953.

## V. VIDEON CAMERA STATUS

The distribution of 73 Videon cameras without suitable diffraction gratings was completed 1 June 1953. This distribution was made to selected AACS towers and ADC radar sites throughout the United States. Although the cameras could not be used in obtaining a light spectrum, it was agreed that cameras be sent for the purposes of familiarization and physical evidence of unidentified flying objects. A few of the camera sites have utilized the cameras in photographing unidentified objects, but in each case the image was too small to properly analyze. Project Blue Book has encouraged all the above mentioned sites to utilize this camera under varied light conditions so that personnel operating the cameras will have a sufficient knowledge of its operations to properly photograph an unidentified flying object under any light condition.

When the suitable gratings are received, the cameras will be recalled, the gratings mounted and redistributed to the sites. This operation is expected to take place in November 1953.

## VI. FLYOBRPTT MANUAL

The Flyobrpt Manual is intended for use by intelligence officers, operations officers, or anyone who may at some future date be required to submit a report of an unidentified flying object. This manual serves as a guide to reporting officers on the investigations, reporting procedures, and operations of Project Blue Book.

Although the quality of reports has continued to improve during the past year, in many cases the data that is forwarded has been too nebulous to be of much value for analysis. It is realized that in many cases only a limited amount of specific data can be obtained from the source. One of the most important goals of this project is that every possible effort be made to collect supporting information on an observation.

It is believed that this manual will aid in pointing out what information is wanted and make the collection of information as easy and fast as possible. The entire manual has been slanted toward obtaining the greatest amount of data without increasing the workload of the reporting officer.

This manual is being forwarded to Air Force installation comanders throughout the Zone of Interior.

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## UNCLASSIEIED SEGRET

## VII. SYNOPSIS OF REPORTS

An individual summary of twelve characteristic unidentified flying object reports for June, July, and August follows.

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## SEGRET

UNCLASSIFIED
Ramore, Ontario, Canada

Description
At approximately 2345 EDST on 30. June 1953 an unidentified flytng
lobject was observed for a period of twenty minutes in the northern aky moving to the southeast by at least 10 personnel of the 912 th AC\&W Squadron, Ramore, Ontario, Canada. The first person to observe this object was an airman who came out of the maintenance room to inspect the power unit which caused a minor breakdown of the search radar set. He called two other airmen to witness the object. One of the two thought the object was the moon. The airman who originally observed the object got hysterical and called the Charge of. Quarters at the Domestic Area three miles to the southwest. At least seven witnesses at the Domestic Area saw the object and two of them reported that the moon was visible at the time and that the object was distinct and separate from the moon. The object was described as orange colored and oval shaped. It was described as moving from the north to southeast and then fading back to the north. No great speed was attributed to the object by any of the witnesses who said they saw movement. It was reported that the object had no visible means of propulsion and that there was no similarity to any known flying object.

## Discussion

The sighting was made a few minutes after the scheduled time for the moon rise. The shape of the moon that night was similar to the description of the object, however, any explanation as that of the moon is in conflict with the reported observation of the two witnesses seeing both the moon and the object at the sametime. There was a heavy broken overcast at the time of the sighting. There is a probability that the object was the moon reflecting off the clouds.

Conclusion
Possibly astronomical.

UNCLASSIFIED

New London, Connecticut
24 June 1953

Description

- Description

On 24 June 1953 one unidentified flyng obeett wracsighted by tro Eastern Airlines' flights and one American Airlines' flight approximately 10-20 miles south-southeast of New London, Connecticut. This objerwards peared to burst into flames as it broke into ocean.
extinguishing itself and dropping into the

## Discussion

This incident was solved very easily. Supplementary information received by Project Blue Book on 26 June 1953 stated "Objects sighted by pilots at approximately 2130E 24 June 1953. Two jet aircraft out of Quonset Point NAS had a mid-air collision at 2130E 24 June 1953. Aircraft fell in flames 15 miles west of Quonset Point. tion of pilots, it was concluded that the flights did observe the above collision.

Conclusion
Was aircraft.

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Description

 minutes. This object was elliptical shaped and appeared to be equal to the size of a $4 \frac{1}{4}$ by $9 \frac{1}{2}$ inch envelope held at arm's length. No aerodynamic features, trail, exhaust, or propulsion system were noted. Object disappeared quickly in much the same manner as would a light being extinguished. Observers stated that object. was quite similar to a cloud or smoke through which a light was shining.

## Discussion

A check with airfields in the vicinity determined that there were no aircraft in the area at the time of sighting. The local AC\&W squadron was contacted with no results. The observer's statement -- "Due to the physical makeup of the object, this sighting could be explained as the reflection of the sun on a high cirrus cloud.

Conclusion
Other - Probably light reflection on cloud.

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T53-11156 round in shape and larger than a star. This object moved from a high westerly position in a falling arc toward the north and then leveled off and proceeded at a high rate of speed to the north in a straight line. This object made these maneuvers in a period of 60 seconds and disappeared over the northern horizon. The object, though bright, cast no beam nor left any trail or exhaust. No sound was noticed.

## Discussion

Movements of this object and length of observation eliminate the possibility that it was of astronomical origin. Checks with airports in the vicinity revealed that there was one aircraft in the area. This was a DC-4 enroute to Chicago on a heading of 270 deg and was probably not in the area. A check was made with the weather bureau to determine whether or not they had a balloon in the area. A balloon was released at 0300 Z , but it could not have caused the sighting since it burst before $0410 Z$ (time of sighting).

Conclusion
Unsolved

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T53-11156 SEERET

## SEERET

## Description

One unidentified object wees reported by two USAF officers stationed; with the Moby Dick balloon launching detachment, Tillamook, Oregon. This object was seen at 1010 PST 9 June 1953. The object was viewed through a theodolite and appeared half-moon in shape and white in color. It appeared to hover and no manner of propulsion was observed. No manner of disappearance was reported.

## Discussion

During such a long period of observation, any conventional object known to be on this earth would, under existing conditions, have moved more than this particular object did. The winds at 30,000 feet were from 120 deg at 25 knots. Project Blue Book's astronomer was contacted and they stated that this sighting was undoubtedly the planet Venus which, under ideal conditions, can be seen during the daylight hours.

Conclusion
Was astronomical (Venus).

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12


## SEGRET

Newton, Mississippi Description - On the night of 2 June 19 from Ellington T-29 type aircraft No. 1931 was on a rircraft was on a course approxiAF Base to Tuscaloosa, Alabama. In in a northeast direction at an altimately 58 degrees magnetic moving in a $7 \frac{1}{2}$ miles south-southeast of Newton, tude of 9000 feet. The aircraft wight attracted the pilot's attention. Mississippi, when a whitish-green light attractavational light and was The light had the appearance of an aircrict aircraft. The object was estimated to be from 5 to 7 miles foconds. The pilot thought the light was visible an estimated 12 to 15 seconds that it seemed to be on a parallel an aircraft's navigational The light seemed to brighten and the pilot, course with the aircraft. The light seemed , started to change course thinking it was an aircraft turning object appeared to climb, as at to avoid collision. At the time the at the sametime the light was intenthe beginning of a chandell, and and leaving a trail of fire and sparks sifying in a greenish-white color $f$ inght. After approximately 2 seconds similar to a 4th-of-July rocket in frated into a ball of fire.

## Discussion

The ATIC contract astronomer states that the object observed was a meteor. The fact that the object appeared to climb was probably caused by the motion of the aircraft as it turned to avoid collision.

Conclusion
Was astronomical (meteor).

Descriptión
AF Base were on a picnic at Deer Creek Springs, Nevada, when they saw an unidentified flying object that was estimated to be 100 feet in diameter and at an altitude of 70,000 feet. The object was silvery metalif in color and reflected the rays of the sun brilliantly at times. The object was observed for a period of one hour with both ten power and seven power binoculars.

## Discussion

Reporting officer stated in his report that there were no weather balloons or aircraft in the area at the time of the sighting. A check was made with the upper air research balloon tracks received from Lowry AF Base revealing that there was very probably a balloon over that area at the time of this sighting.

Conclusion
Probably balloon (upper air research).

## SEERET

24 July 1953

Description
UNCLASSIFIED
Key West, Florida
( Between the hours of 2200 and 2830 EST, ar Btudent at the Fleet Sonar School, United States Naval Base, Key West, Florida, observed an unidentified flying object in the sky over the town of Key West. The object appeared to be approximately the size of a pin point or a star, very bright white in color, proceeded rapidly from low on the western skyline to a point directly forward and overhead. The object then blinked out momentarily before descending below the eastern skyline. No aerodynamic features, trail, exhaust, propulsion system, or sound were noted. Speed was reported as unknown, since the observer did not know the object's true size or its distance from him. The observer stated that the object appeared to move in regular smooth circles.

## Discussion

Inquiry was made as to the observer's general reputation and character. His supervisor in Sonar Operations stated that he had no knowledge of the observer except during duty hours. The supervisor gave him a character rating of "very good", "above reproach", and described him as a quiet, conscientious, good student - not outstanding but above average. The interviewer stated that the observer appeared to be stable, well-adjusted, and very consistent with his answers after considerable questioning.

The weather at the time of the observation was reported as a broken overcast. Clouds were reported to be solid to the west where the object disappeared. A check with CAA office of U.S. Weather Bureau at Boca Chica Key revealed a ceiling of 22,300 feet.

There were several aircraft in the area and one of them was equipped with a searchlight. There is a probability that the observer saw the searchlight scanning the area.

Conclusion
Other - Probably searchlight on aircraft.

UNCLASSIFIED
SECRET
153-11156

## SEGRET <br> UNCLASSIFIED

On the night of 7 July 1953, three observers from Atlanta were drix ing on Highway 78 near Mapleton, Georgia, when they encountered a "flying saucer" in the middle of the road. There were three small animals near this red colored "saucer". As the observers bore down on this object, two of the animals entered the "saucer" and escaped. As the "saucer" rose and disappeared at a 45 degree angle, it turned a light blue in color. Observers' car struck the third animal and knocked him unconscious.; After getting out of the car and finding this animal which was approximately 21 inches in length, had long ears, no hair, and no tail, observers stayed at the scene and several other automobiles stopped. The animal died in about 30 minutes and was taken to one of the Atlanta newspapers. A reporter for the newspaper called the FBI, who in turn called the OSI to investigate the incident.

Discussion
This animal was first examined by a local veterinarian who stated that he had never seen such an animal before. Later the animal was taken to Emory University where an Emory authority identified it as a member of the monkey family and not an "animal from space". A member of the State Crime Labratory and another member of the Emory University staff identified the animal as a monkey which had been shaved and from which the tail had been removed. Observers confirmed that the whole story was a hoax resulting from a $\$ 10.00$ bet with a friend that he (observer) could not get his picture in the paper. Observer was fined $\$ 40.00$ for obstructing the highway and was released at that time.

Conclusion
Other - Hoax.
Note: This is one of many similar reports received by Project Blue Book.

T53-11156
UNCLASSIFIED

UNCLASSIFIED
3 July 1953

Description
 at East 9 th and Lake Streets, Reno, Nevada. One observer was looking up through some tree branches when she saw a pin-point of light at a very high altitude. She called her husband's attention to the object and he watched this object for 8 minutes, thinking it was a weather balloon. He thought that it was not likely to be a star, because the day was bright (hot) and cloudless. However, it neither moved nor changed its apparent size. The observer left his wife to watch the object while he reported it to the authorities. First he reported it to a policeman who referred him to the Police station. They were not interested and told him to report it to the sheriff's office. The sheriff's office stated that this sighting was out of their jurisdiction and for him to call the FBI. The FBI took his name and address. The observer told the FBI that he couldn't locate the object unless he had this particular tree as a reference point. He then returned to the point of observation where his wife still had the object in view. After 20 minutes, being somewhat surprised that no one had appeared to verify the sighting and considering the possibility that a mistake had been made as to the reported location of the sighting, he again telephoned the FBI. He was told that the matter had been referred to Stead AF Base. The observer becoming aware that it was going to be difficult to get any official verification while the object was still in view obtained the name of the USAF colonel to which the report had been made. After some difficulty, the observer reached this colonel by telephone. This colonel referred the incident to another colonel who in turn referred him to a third colonel. From the last colonel that he talked to, he got the impression that someone would come to verify the sighting and returned to the scene where the object was still visible. While not appearing to move, it had shifted position slightly because it was necessary for him to move occasionally to prevent its being obscured by the tree branches. After vaiting 30 minutes, the observer again called the Air Force colonel to ask him if he couldn't send someone to verify the sighting. The colonel requested that the observer stand by the telephone and he would call him back. This the colonel did 15 minutes later, requesting that the observer obtain a disinterested person to verify the sighting. Observer returned to site of observation and the object was still visible. He stopped a car and requested the driver to observe the object. The driver of the car was a professor at the University of Nevada and a very good observer. Observer again called the Air Force colonel and reported the verification. The colonel then stated that he would send 2 enlisted men to the observers' motel for a debriefing. Two sergeants visited the observers at their motel expressing appreciation for the observers' efforts and stating that the Air Force.was very interested in such reports. Observer pointed out to the sergeants that the Air Force had been aware of the sighting for over an hour during which time the object could be seen but hadn't been interested enough to look at it.

3 July 1953 - Reno, Nevada (contd)

## Discussion

This gighting is one of the best in Project Blue Book's files as
 diligent in their efforts to report the sighting andit is untortunate that the officials in that area were not aware of the procedure for reporting unidentified flying objects. The description of this object, and the length of time observed rules out any conventional objects in our atmosphere. Project Blue Book's contract astronomers were contacted. They stated that this sighting was undoubtedly caused by the planet Venus.

## Conclusion

Was astronomical (Venus).

UNCLASSIFIED
T53-11156

## SECRET

## UNCLASSIFIED

17 August 1953

## Description

(1) Two civilian observers at aifferent locations. In Peorta dentified flying object at 1445 CST 17 August 1953. The object appeared the size of a baseball with a very brilliant white color. No trail or exhaust was observed and the object seemed to be suspended in the air and then slowly moved away. The speed of the object was unknown. The object was observed south of Peoris and moved off south-southeast. At the time of this sighting, personnel of the 791st AC\&W Squadron, Hanna City, Illinois, observed a half-moon shaped object in the same vicinity. Total time of observation was 30 minutes.

Discussion
The AC\&W Squadron at Hanna City did not pick up any unusual tracks on radar in the area mentioned. Checks with local weather station for possible release determined that there were no weather balloons in the area. Checks made with airfields in the vicinity precluded that there were no aircraft in the area. Check with upper air balloon tracks reveal that there was an upper air research balloon over Peoria at the time of aighting.

Conclusion
Was balloon.

UNCLASSIFIED
Rapid City, South Dakota

Description
Since this sighting was a combined air-visual, ground-visual, airradar, and ground-radar report, it was decided that Project Blue Book would send an investigator, to the scene. The controller on duty at the time of the incident was interviewed. His account of the incident was almost identical to that given in the initial IWX. He was on duty at 2005 MST when a GOC post observer called in an unidentified flying object sighted northeast of her post at Blackhavk, South Dakota. (Note: Sunset 1920 MST - Twilight 33 minutes.) She reported through the Rapid City Filter Center. She reported that the object was stationary, then moved south toward Rapid City. When the controller got the report that the object or light was headed toward Rapid City, he sent 3 airmen from the radar site to look for it visually. They reported a light moving from generally north to south at a high rate of speed. At this time the controller observed 2 blips going south on the scope. He could not get a distinct track because of ground clutter in the area. In a few minutes the GOC post in Blackhawk called in that the light was back in nearly its original position. An airborne F-84 was vectored into the area and after a search made visual contact. The F-84 was vectored. into the blip that was remaining stationary at about 15 miles northeast of Blackhawk. The controller said that he believed the F-84 pilot saw the target that was on the scope. Shortly after the visual sighting by the pilot, the target started to move on a heading of about 320 degrees magnetic. Four good blips were obtained. Photos of this track were taken but the camera malfunctioned and the photos were no good. The last blip occurred at 70 miles and at that point the aircraft was returned to the base. The GOC observer reported seeing the aircraft and the object, and both were moving. The object seemed to be out-distancing the F-84. As soon as the F-84 landed, another F-84 took off for CAP. Just about that time, the Blackhawk GOC post called the third time stating that the object was back again. Nothing was on the scope (there was possibly a target in the ground clutter), so the F-84 was vectored in on the visual report. The pilot soon got a visual and started an intercept. About that time, the controller picked up both an unknown target and the F-84. Both were on a heading of about 360 degrees magnetic. The blip seemed to stay about 5-10 miles ahead of the F-84. The chase continued until the aircraft was about 80 miles out, then the intercept was broken off. The target continued off the scope. At this time the Bismarck Filter Center was alerted to look for unidentified flying objects. When the pilot got back over the base, he saw another light. This was not picked up on the scope, but the controller did get a return on the height finder equipment in the general direction of the light, it was 8000 feet. At 0023 MST , Bismarck hegan to call in reports.

The pilot who was on the first CAP was interviewed next. He stated that he had been making passes at a B-36 north of Rapid City when GCI called and said they had a target west of Rapid City. He searched for

UNCLASSIFIED
about 20 minutes west and south of Rapid City but saw nothing. He returned to base and was about to land when he observed a light northwest of the base. He started out on a heading of 350 degrees magnetic, the object was high ( $30 \mathrm{deg}-45 \mathrm{deg}$ ) at 11 o'clock from him. He checked the possiblaty firialyelaction and determined that this wes not the
 Better view. After about 30 seconds, it disappeared then reappeared for another 30 seconds at the end of which it abruptly faded and was not seen again. The object was silver in color and varied in intensity. It appeared to "pull away" because it got smaller. The comment as to size was that it was "brighter than the brightest star I've ever seen".

The pilot who flew the second CAP was interviewed next. He stated that he took off and started to climb when GCI told him that GOC had a light. He was north of Ellsworth AFB on a heading of 360 degrees magnetic when he saw a light $30-40$ degrees to his right and level. He thought it was a star or planet but as he looked away it appeared to "jump" 15-20 degrees in elevation. (Note: Due to the speed of the aircraft and the fact that the pilot was intent on identifying the object, he was not exactly sure of his positions. All positions are subject to some error.) The light seemed to be parallelling his course. The first thing the pilot did was to check for reflections in the cockpit (i.e., canopy, gunsight head, etc.). He was sure the light was no reflection in the aircraft. The light, which the pilot estimated to be considerably brighter than a star, changed intensity and changed in color from white to green. When the object was first sighted, the aircraft was at 15,000 feet. The pilot started to climb and the light appeared to climb faster. This was because the angle of elevation increased. He climbed to 26,000 feet. All this time both the radar blip of both the object and the aircraft were being carried and the pilot was talking to the controller on UHF. As the pilot turned into the light on his initial sighting, he turned on his radar gunsight. As he swung onto the target, the warning light came on. No range was obtained since the sight starts to measure at about 4,000 yards. All this might indicate was that something was beyond 4,000 yards. The light remained on until the chase was broken off. After the chase, on the way home, the light blinked on and off several times indicating a possible malfunction. The sight was not checked by maintenance on return and had not been checked since.

The F-84 chased the light for about five minutes, or to about 80 miles north of the base. The light appeared to make slow changes in color and intensity. The pilot stated that the light definitely moved in relation to the stars. After the intercept was broken off, the aircraft returned toward base.

About 20 miles out of base he got a visual on a similar light that changed from red to white. He was on a heading of 180 degrees magnetic at 12-14,000 feet and the light was 10 degrees low to the right. He thought it was a car going around curves in the hills but changed his mind when the red and white lights were of equal intensity. This target was in the ground clutter of the radar but something at 8000 feet was picked up on the height finder radar. The light slowly went out then

## SECRET <br> UNCLASSIFIED

came back in. It seemed to be west moving since the aircraft was lept on a constant heading and the angle of azimuth and elevation inc.arsod. The light was first observed for 30 seconds, it faded, reoppearci, then faded ngain after 30 seconds.
 east side, he saw another light and turned into it to take gun camera photos. (The photos were no good).

## Discussion

A visit was made to the Weather Bureau station at the Rapid City Municipal Airport to check weather and balloon launches (Note: The air base launches no balloons). The observer on duty looked up the balloon track for the balloon launched at 2000 MST on 5 August 1953 and it went south from the Municipal Airport. This puts it out of the area of the sighting. Data on inversions was not available as it had been forwarded to Asheville, North Carolina. (Note: The balloon tracks and weather for 2000 MST on 5 August has been requested from Asheville.)

No attempt was made to contact the GOC observers at Blackhawk. They had been interrogated by base personnel and were "all excited". It was believed that an investigator talking to them would only further excite them neediessly. All the sightings at Bismarck are doubtful. The AC\&W Station called the Bismarck Filter Center and told them to "look for flying saucers", a perfect set up to see every star move around.

The upper air research balloon tracks at Lowry were checked. Two balloons were lost and could have been in the area at the time of the sighting.

A few comments on the sources can be made:
Controller left the impression that he was trying to prove the existence of an unidentified flying object. It is very unfortunate that no scope photos were available to collaborate his story. He saw targets on the scope, there is no doubt about it, but whether they acted exactly as he stated is unknown.

The two airmen that went outside to observe the object that was being carried on radar and reported by the GOC were not sure of what they saw, at least this is the impression they left. They were told to go out and look for a light so they saw one. Their description fits that of a meteor. They only saw a "streak" in the sky. They did not see it return north, only go south.

The first pilot only got a glimpse of a light so he could not add much.

The second pilot gave the impression of being "on the ball". He obviously was trying to convince himself the light was a star, but was UNCLASSIFIED

## SECRET

having difficulty. He took a realistic approach and had done some logical reasoning. He was worried about the fact that the light moved relative to the stars.

 balloon or star. Radar picked up something in the general area of the GOC post and vectored an aircraft toward it. The pilot saw a light and chased it. He got a radar lock on it, but this could have been a malfunction. The star Capella is possibly visible low on the horizon to the north and the pilot could have seen this. Pending further study, this incident is carried as Unsolved.

## Conclusion

Unsolved.

## UNCLAZSIFIED



T53-11156

Sightings for the month of June 1953 continued.
DATE LOCATION EVALUATION

2 Lake Charles, Louisiana Probably Astronomical - Meteor

2 Newton, Mississippi Probably Astronomical - Meteor

## DATE LOCATION

 29 Springfield; Ohio

26 Dayton, Ohio
26 Nellis AF Base, Nevada
26 Tinker, AF Base, Oklahoma
25 Washington, D. C.
25 Dayton, Ohio
25 Perrin AF Base, Texas
25 Central House, Alaska
24 Key West, Florida
22 Atlantic City, New Jersey
20 Offutt AF Base, Nebraska
19 La Grande, Oregon
18 Key West, Florida
18 Sheridan, Wyoming
18 Brooklyn, New York
14 Fairborn, Ohio
14. Opportunity, Montana

13 Shaw AF Base, South Carolina
12 Adrian, Michigan
11 Godman AF Base, Kentucky
10 Forrest City, Arkansas
9 Ft. Worth, Texas
9 Sheppard AF Base, Texas
8 Colville, Washington

Probably Astronomical - Meteor Probably Balloon

Balloon
Probably Balloon - UAR
Weather Balloon
Probably Astronomical
Insufficient Data
Possibly Belloon
Balloon
Other - Probably searchlight on aircraft
Insufficient Data
Unsolved
Balloon - UAR
Insufficient Data
Probably Astronomical - Meteor
Probably Aircraft
Probably Balloon
Insufficient Data
Possibly Astronamical - Meteor
Possibly Balloon
Astronomical
Possibly Balloon
Possibly Aircraft
Possibly Aircraft
Probably Astronomical

[^0]
## UNCLASSIFIED

## SECRET

Sightings for the month of July 1953 continued
DATE LOCATION
EVALUATION


7 Atlanta, Georgia
6 Stillwater, Oklahoma
4 Tinker AF Base, Oklahoma
3 Middletown, New York
3 Tipp City, Ohio
3 Reno, Nevada
3 Fremont, Wisconsin
2 Tinker AF Base, Oklahoma
2 Shaw AF Base, South Carolina
1 La Grande, Oregon
1 Ramore, Ontario, Canada

Other - Hoax
Other - Searchlight reflections
Balloon
Possibly Aircraft
Unsolved
Astronomical - Venus
Possibly Aircraft
Unsolved
Probably Astronomical
Possibly Balloon
Probably Astronomical

## UNCLASSIFIED

 SECRETSIGHTINGS FOR AUGUST 1953

| DATE | LOCATION | EVALUATION |
| :---: | :---: | :---: |
| 28 | Turner AF Base, Georgia | Possibly Balloon |
| 28 | Jamestown, North Dakota | Insufficient Data |
| 28 | San Rafael, California | Probably Astronomical |
| 27 | Falls Church, Virginia | Insufficient Data |
| 27 | Greenville, Mississippi | Insufficient Data |
| 26 | Bermuda | Insufficient Data |
| 23 | Port Moresby, New Guinea | Insufficient Data |
| 22 | San Antonio, Texas | Possibly Aircraft |
| 20 | California Area | Insufficient Data |
| 17 | Creola, Alabama | Probably Astronomical - Meteor |
| 17 | South Central France | Possibly Balloon |
| 17 | Wethersfield, England | Probably Balloon |
| 17 | Peoria, Illinois | Possibly Astronomical |
| 16 | Ramore, Ontario, Canada | Unsolved |
| 15 | Madison, Wisconsin | Possibly Balloon |
| 12 | Ventura, California | Probably Aircraft |
| 12 | Leesburg, Virginia | Probably Aircraft |
| 11 | Barksdale AF Base, Louisiana | Probably Astronomical - Meteor |
| 10 | Wilmington, North Carolina | Other - Unreliable Source |
| 9 | Moscow, Idaho | Other - Probably light reflections on clouds |
| 7 | Martha's Vineyard, Mass. | Possibly Astronomical |
| 5 | San Antonio, Texas | Possibly Balloon |
| 5 | Rapid City, South Dakota | Unsolved |
| 4 | Onida, South Dakota | Insufficient Data |
| 4 | West Point, Nebraska | Possibly Alrcraft |
| T53-11156 |  |  |

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Sightings for the month of August 1953 continued
DATE LOCATION
3 Dayton, Ohio
1 KVALUATION
Key West, Florida

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Hamilton, California
Cormander
25th Air Division (Defense)
ATTN: Intelligence Officer
McChord AF Base, Washington
Commander

Commander
Central Air Defense Force ATIN: Intelligence Officer Kansas City, Missouri

| Commander | 1 |
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| ATTN: Intelligence Officer |  |
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|  |  |
| Commander |  |
| 31st Air Division (Defense) |  |
| ATTN: Intelligence Officer |  |
| Ft. Snelling Minnesota |  |
| St. Paul ll, Minnes |  |

Commander
29th Air Division (Defense)
Great Falls AF Base
Great Falls, Montana

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Eastern Air Defense Force
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| SPECIAL REPORT NO. 14 |  |
| :---: | :---: | UNIDENTIFIED AERIAL OBJECTS

PROJECT NO. 10073

5 MAY 1955

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1. Title
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## SUMMARY

Reports of unidentified aerial $\begin{aligned} \text { objects (popularly termied "flying }\end{aligned}$ saucers" or "flying discs", have been received by the U. S. Air Force since mid- 1947 from many and diverse sources. Although there was no evidence that the unexplained reports of unidentified objects constituted a threat to the security of the U.S., the Air Force determined that all reports of unidentified aerial objects should be investigated and evaluated to determine if "flying saucers" represented technological developments not known to this country.

In order to discover any pertinent trends or patterns inherent in the data, and to evaluate or explain any trends or patterns found, appropriate methods of reducing these data from reports of unidentified aerial objects to a form amenable to scientific appraisal were employed. In general, the original data upon which this study was based consisted of impressions and interpretations of apparently unexplainable events, and seldom contained reliable measurements of physical attributes. This subjectivity of the data presented a major limitation to the drawing of significant conclusions, but did not invalidate the application of scientific methods of study.

The reports received by the U. S. Air Force on unidentified aerial objects were reduced to IBM punched-card abstracts of the data by means of logically developed forms and standardized evaluation procedures. Evaluation of sighting reports, a crucial step in the preparation of the data for statistical treatment, consisted of an appraisal of the reports and the subsequent categorizing of the object or objects described in each report. A detailed description of this phase of the study stresses the careful attempt to maintain complete objectivity and consistency.

Analysis of the refined and evaluated data derived from the original reports of sightings comprised (1) a systematic attempt to ferret out any distinguishing characteristics inherent in the data or any of their segments, (2) a concentrated study of any trends or patterns found, and (3) an attempt to determine the probability that any of the UNKNOWNS represent observations of a class, or classes, of "flying saucers".

The first step in the analysis of the data revealed the existence of certain apparent similarities between cases of objects definitely identified and those not identified. Statistical methods of testing were applied which indicated a low probability that these apparent similarities were significant. An attempt to determine the probability that any of the UNKNOWNS represent observations of a class, or classes, of "flying saucers" necessitated a thorough re-examination and re-evaluation of cases of objects not originally identified; this led to the conclusion that the probability was very small.

Therefore, on the basis of this evaluation of the information, it is considered to be highly improbable that reports of unidentified aerial objects examined in this study represent observations of technological developments outside of the range of present-day scientific knowledge. It is emphasized that there was a complete lack of any valid evidence consisting of physical matter in any case of a reported unidentified aerial object.

## INTRODUCTION

In June, 1947, Kenneth Arnold, a Boise, Idaho, businessman and private pilot, publicly reported the now-famous sighting of a chainlike formation of disc-shaped objects near Mount Rainier, Washington. Resulting newspaper publicity of this incident caught the public interest, and, shortly thereafter, a rash of reports of unidentified aerial objects spawned the term "flying saucers". During the years since 1947, many reports of unidentified aerial objects have been received by the Air Force from many and diverse sources.

The unfortunate term "flying saucer", or "flying disc", because of its widespread and indiscriminate use, requires definition. Many definitions have been offered, one of the best being that originated by Dr. J. Allen Hynek, Director of the Emerson McMillin Observatory of The Ohio State University, who has taken a scientific interest in the problem of unidentified aerial objects since 1949. Dr. Hynek's definition of the term is "any aerial phenomenon or sighting that remains unexplained to the viewer at least long enough for him to write a report about it'(1). Dr. Hynek, elaborating on his definition, says, "Each flying saucer, so defined, has associated with it a probable lifetime. It wanders in the field of public inspection like an electron in a field of ions, until 'captured' by an explanation which puts an end to its existence as a 'flying saucer' "(1).

This definition would be applicable to any and all of the sightings which remained unidentified throughout this study. However, the term "flying saucers" shall be used hereafter in this report to mean a novel, airborne phenomenon, a manifestation that is not a part of or readily explainable by the fund of scientific knowledge known to be possessed by the Free World. This would include such items as natural phenomena that are not yet completely understood, psychological phenomena, or intruder aircraft of a type that may be possessed by some source in large enough numbers so that more than one independent mission may have been flown and reported. Thus, these phenomena are of the type which should have been observed and reported more than once.

Since 1947, public interest in the subject of unidentified aerial objects fluctuated more or less within reasonable limits until the summer of 1952, when the frequency of reports of sightings reached a peak, possibly stimulated by severalarticles on the subject in leading popular magazines.

Early in 1952, the Air Force's cumulative study and analysis of reported sightings indicated that the majority of reports could be accounted for as misinterpretations of known objects (such as meteors, balloons, or aircraft), a few as the result of mild hysteria, and a very few as the result of unfamiliar meteorological phenomena and light aberrations. However;

[^1]a significant number of fairly complete reports by reliable observers remained unexplained. Although no evidence existed that unexplained reports of sightings constituted a physical threat to the security of the U. S., in March, 1952, the Air Force decided that all reports of unidentified aerial objects should be investigated and evaluated to determine if "flying saucers" represented technological developments not known to thil country.

Originally, the problem involved the preparation and analysis of about 1,300 reports accumulated by the Air Force between 1947 and the end of March, 1952. During the course of the work, the number of reports submitted for analysis and evaluation more than tripled, the result of the unprecedented increase in observations during 1952. Accordingly, this study is based on a number of reports considered to be large enough for a preliminary statistical analysis, approximately 4, 000 reports.

This study was undertaken primarily to categorize the available reports of sightings and to determine the probability that any of the reports of unidentified aerial objects represented observations of "flying saucers". With full cognizance of the quality of the data available for study, yet with an awareness of the proportions this subject has assumed at times in the public mind, this work was undertaken with all the seriousness accorded to a straightforward scientific investigation. In order to establish the probability that any of the reports of unidentified aerial objects represented observations of "flying saucers", it was necessary to make an attempt to answer the question "What is a 'flying saucer'?". However, it must be emphasized that this was only incidental to the primary purpose of the study, the determination of the probability that any of the reports of unidentified aerial objects represented observations of "flying saucers", as defined on Page 1.

The basic technique for this study consisted of reducing the available data to a form suitable for mechanical manipulation, a prerequisite for the application of preliminary statistical methods. One of International Business Machine Corporation's systems was chosen as the best available mechanical equipment.

The reduction of data contained in sighting reports into a form suitable for transfer to IBM punched cards was extremely difficult änd time consuming.

For this study a panel of consultants was formed, consisting of both experts within and outside ATIC. During the course of the work, guidance and advice were received from the panel. The professional experience available from the panel covered major scientific fields and numerous specialized fields.

All records and working papers of this study have been carefully preserved in an orderly fashion suitable for ready reference. These
records include condensations of all individual sighting reports, and the IBM cards used in various phases of the study.

## ORIGIN AND NATURE OF DATA


#### Abstract

Reports of sightings were received by the U. S. Air Force from a representative cross section of the population of the U. S., and varied widely in completeness and quality. Included were reports from reputable scientists, housewives, farmers, students, and téchnically trained members of the Armed Forces. Reports varied in length from a few sentences stating that a "'flying saucer" had been sighted, to those containing thousands of words, including description, speculation, and advice on how to handle the "problem of the 'flying saucers'". Some reports were of high quality, conservative, and as complete as the observer could make them; a few originated from people confined to mental institutions. A critical examination of the reports revealed, however, that a high percentage of them was submitted by serious people, mystified by what they had seen and motivated by patriotic responsibility.


Three principal sources of reports were noted in the preliminary review of the data. The bulk of the data arrived at ATIC through regular military channels, from June, 1947, until the middle of 1952.

A second type of data consisted of letters reporting sightings sent by civilian observers directly to ATIC. Most of these direct communications were dated subsequent to April 30, 1952, and are believed to be the result of a suggestion by a popular magazine that future reports be directed to the Air Technical Intelligence Center. As could be expected, a large number of letters was received following this publicity.

A third type of data was that contained in questionnaire forms completed by the observer himself. A questionnaire form, developed during the course of this study, was mailed by ATIC to a selected group of writers of direct letters with the request that the form be completed and returned. Approximately 1,000 responses were received by ATIC.

In general, the data were subjective, consisting of qualified estimates of physical characteristics rather than of precise measurements. Furthermore, most of the reports were not reduced to written form immediately. The time between sighting and report varied from one day to several years. Both of these factors introduced an element of doubt concerning the validity of the original data, and increased its subjectivity. This was intensified by the recognized inability of the average individual to estimate speeds, distances, and sizes of objects in the air with any degree of accuracy. In spite of these limitations, methods of statistical analysis of such reports in sufficiently large groups are valid. The danger lies in the possibility of
forgetting the subjectivity of the data at the time that conclusions are drawn from the analysis. It must be emphasized, again and again, that any conclusions contained in this report are based NOT on facts, but on what many observers thought and estimated the true facts to be.

Altogether, the data for this study consisted of approximately 4,000 reports of sightings of unidentified aerial objects. The majority were received through military channels or in the form of observer-completed questionnaires; a few were accepted in the form of direct letters from unquestionably reliable sources. Sightings made between June, 1947, and December, 1952, were considered for this study. Sightings alleged to have occurred prior to 1947 were not considered, since they were not reported to official sources until after public interest in "flying saucers" had been stimulated by the popular press.

## REDUCTION OF DATA TO MECHANIZED COMPUTATION FORM

As received by the Air Technical Intelligence Center, the sighting reports were not in a form suitable for even a quasi-scientific study. A preliminary review of the data indicated the need for standardized interrogation procedures and supplemental forms for the reduction of currently held and subsequently acquired data to a form amenable to scientific appraisal.

The plan for reduction of the data to usable form consisted of a pro-gram of development comprising four major steps: (1) a systematic listing of the factors necessary to evaluate the observer and his report, and to identify the unknown object observed; (2) a standard scheme for the transfer of data to a mechanized computation system; (3) an orderly means of relating the original data to all subsequent forms; and (4) a consistent procedure for the identification of the phenomenon described by the original data.

## Questionnaire

The first reports received by ATIC varied widely in completeness and quality. Air Force Letter 200-5(2) and Air Force Form 112(1) were attempts to fix responsibility for and improve the quality of the reports of sightings. To coordinate past efforts and to provide standardization for the

[^2]future, it was imperative to develop a questionnaire form listing the factors necessary for evaluation of the observer and his report, and identification of the unknown objects. In addition, it was decided that such a questionnaire should be designed to serve as an interrogator's guide, and as a form for
-the observer himself to complete when personal interrogation was not possible or practicable.

Ideally, a questionnaire for the purposes required should contain questions pertaining to all technical details considered to be essential for the statistical approach, and should serve to obtain a maximum of information from the average individual who had made a sighting in the past or would be likely to be reporting sightings in the future. Besides these discrete facts, an integrated written description of a sighting would be required, thus enabling the reported facts of the sighting to be corroborated. Also, a narrative description might allow subtle questions to be answered concerning the observer's ability, such as indirect questions that would reveal his reasoning ability, suggestibility, and general mental attitude. As a whole, then, the information contained in a questionnaire should make possible the classification and evaluation of the sighting, the rating of the observer, the probability of accuracy of reported facts, and the identification of what was reported by the observer as unidentified.

During the course of this project, three questionnaire forms were developed, each intended to be an improved revision of the one preceding. The improvements were suggested and confirmed by members of the panel of consultants connected with this project.
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The original form was evolved by the panel of consultants as their first work on this project. It was intended to allow the start of the reduction of reports to discrete data, and was immediately subjected to extensive review and revision by the panel. The revised (second) form was subjected to a trial test before adoption. ATIC sent a copy to observers reporting sightings, with the request that the form be completed and returned. Of the first 300 questionnaires returned during July and August, 1952, 168 were analyzed by a consulting psychologist. On the basis of this analysis, plus the experience gained in working with past reports, the final form of the questionnaire - the U. S. Air Force Technical Information Sheet - was evolved. Copies of the three forms of the questionnaire, in the order of their development, are shown as Exhibits B1, B2, and B3 in Appendix B.

In order to implement the transcription of data from past sighting reports, each succeeding form was put to use as soon as it was developed and approved. Accordingly, experience was obtained with each form in relation to past data, an important factor in the improvement of the quality and completeness of the later reports included in this study.

The reduction of non-numerical data to numerical form is mandatory in the machine handling of data. Thus, the selection of the IBM punchedcard system for analysis of data forced the adoption of a master coding plan. Since it was impracticable to transfer detailed data of an exact nature from the questionnaire to the IBM card, an intermediate transfer form, coordinated with the master code, was necessary.

The master coding plan was evolved during the early stages of the preliminary analysis of data, and was reviewed by the panel of consultants before use. It was recognized that this system of coding would be the heart of the analysis, that is, the completeness of the facility for translation of data could make or break the study. Accordingly, every conceivable factor that might influence the identification of unidentified aerial objects was included, together with a wide range of variations within each factor. The original coding system (with minor corrections) was used throughout the translation of the original data with marked success. A copy of this system, called CODES, is enclosed as Exhibit B4, Appendix B.

To facilitate the preparation of the punched-card abstract, an intermediate form called the WORK SHEET (later, the CARD BIBLE) was developed. Referenced to both the data from the questionnaire and the system of report identification, the WORK SHEET permitted an orderly transcription of data simultaneously by several people. In conjunction with the CODES, the WORK SHEET was used during the reduction of the original data to code form necessary for transfer to punched cards. A sample is included as Exhibit B5, Appendix B.

After the analysis was under wăy, it became apparent that the mechanics of machine processing could be improved by incorporating in the IBM card system group classifications of certain factors requiring more than one column for discrete expression. In addition, the inclusion of certain data relating to the evaluation and bearing of the sun with respect to the observer was considered necessary. Finally, a critical examination of certain segments of the data indicated the need for the definition of a new factor relating to the maneuvers of the object or objects sighted. Prior to the start of the analytical study, it had been assumed that a combination of stated factors would, by inference, define the maneuver pattern.

All these additions have been incorporated in a revised set of CODES and CARD BIBLE that are illustrated as Exhibits B6 and B7, Appendix B. However, at the time that the maneuver factor was determined to be critical, it was physically impracticable to make the required definitions and re-evaluate the original data. Therefore, no code for maneuverability has been included in the CODES, CARD BIBLE, or IBM cards.

The actual reduction of data to IBM punched-card form presented a problem of mass transfer of figures by several workers. Recognizing that an orderly system of relating the original data to the questionnaire, the WORK SHEET, and the IBM card was imperative, a scheme of SERIAL NUMBERS was developed to answer this need.

The first data consisted of a series of letter-file folders identified by the year and location of the sighting or sightings they contained. The number of reports of sightings in a single folder varied from 1 to over 20. Under these conditions, there was a great possibility for incorrect transcription of data, duplication of transcription, or misplacement of intermediate forms. Further, it was considered desirable to relate all sightings of the same object or objects to one another. The concept of a four-digit serial number (major), followed by a two-digit subserial number (minor), was adequate to fulfill these requirements.

To expedite handling of the data, temporary serial numbers were assigned until each report had been evaluated and the phenomenon had been placed in a category of identification. The use of temporary serial numbers permitted the consolidation of duplicate reports from apparently diverse sources, such as a teletype message and an Air Force Form 112. However, this consolidation was made ONLY when it could be proved conclusively that the sources of the two documents were one and the same. Factors of the observer's location, date and time of observation, description of the phenomenon, and finally, the name of the observer were considered. In this manner, the assignment of major serial and minor subserial numbers in continuous series was made only to the reports accepted for the statistical study. It is believed that the reports accepted represent unique and unduplicated instances of sightings.

In the establishment of the serial-number system, it was necessary to define certain terms, so that a standard interpretation could be achieved. The terms and corresponding definitions were:

OBSERVER - Any wịtness reporting to a proper authority that he had seen unidentified aerial objects.

SIGHTING

- The report or group of reports of the same observed phenomenon that remained unidentified to the observer or observers, at least until reported.

SINGLE OBSERVATION - A SIGHTING consisting of a single report from (1) one OBSERVER with no knowledge of additional OBSERVERS of the same phenomenon, or (2) a group of witnesses of the same phenomenon, each cognizant of the others. The witness who made the report is ralled a SINGLE OBSERVER.

MULTIPLE OBSERVATION - A SIGHTING consisting of several reports from OBSERVERS of the same phenomenon who were cognizant of each other. The witnesses who made reports are called MULTIPLE OBSERVERS.

ALL SIGHTINGS - (1) The group of reports consisting of one report for each OBSERVER, including both SINGLE and MULTIPLE OBSERVERS. (2). The questionnaire, work sheet, and IBM card representing the report from each OBSERVER in other words, the representation of each report accepted for the statistical study.

UNIT SIGHTINGS - (1) The group of reports consisting of one report for each SIGHTING, including all the reports of SINGLE OBSERVATIONS and the one most representative report from each MULTIPLE OBSERVATION. (2) The questionnaire, work sheet, and IBM card representing the report for each SIGHTING accepted for the statistical study.

A major serial number (four digits) was assigned to each sighting, segregating the year of occurrence by selection of limits for each year, as follows:

> 0001 to 0500 reserved for 1947
> 0501 to 1000 reserved for 1948
> 1001 to 1500 reserved for 1949
> 1501 to 2000 reserved for 1950
> 2001 to 2500 reserved for 1951
> 2501 to 4900 reserved for 1952

While this scheme would serve to identify any individual sighting, identification of each report and its subsequent forms was necessary. The minor subserial numbers (two digits) fulfilled this requirement. For all SINGLE OBSERVATIONS, a major serial number followed by two (2) zeros, for example, 2759.00, was sufficient identification. For MULTIPLE OBSERVATIONS, the major serial number followed by a series of two-digit numbers ranging from 00 to 99 was used to identify the individual reports. In general, the most complete report from the most reliable observer of that

MULTIPLE OBSERVATION was identified with the . 00 subserial number. As an example, a MULTIPLE OBSERVATION consisting of six sighting reports would have the following serial numbers:
1132.00 representing the best report and observer 1132.01 representing an additional observer 1132.02 representing an additional observer 1132.03 representing an additional observer 1132.04 representing an additional observer 1132.05 representing an additional observer

During the course of the transcription of the data to machine card form, it became obvious that certain reports could have been independent observations of the same phenomenon. So, if the presentation of an analysis based on one report for each sighting was valid (the concept of UNIT SIGHTINGS), a presentation of an analysis based on one report for each phenomenon should be valid also. Further, the examination of data relating to the actual number of phenomena was considered to be the proper basis for assessing the probability of technological developments outside the range of present-day scientific knowledge. Therefore, a designation of OBJECT SIGHTINGS was established, with the following definition:

OBJECT SIGHTING - (1) The group of reports consisting of one report for each phenomenon. (2) The questionnaire, work sheet, and IBM card representing a report for each phenomenon accepted for the statistical study.

In brief review, ALL SIGHTINGS refer to all reports, UNIT SIGHTINGS refer to actual sightings, and OBJECT SIGHTINGS refer to the assumed number of phenomena.

It must be recognized that the process of identifying OBJECT SIGHTINGS was deductive, while that for UNIT SIGHTINGS was definitive. A conservative approach was adopted in the determination of OBJECT SIGHTINGS, using the factors of date and time of observations, location of observers, duration of observations, and range, bearing, track direction, and identification of the phenomena. Any error of selection of OBJECT SIGHTINGS will tend to be in the direction of reducing the actual number of phenomena observed (several instances of UNIT SIGHTINGS that might be one OBJECT SIGHTING were noted, but the evidence was not conclusive enough to justify consolidation of the reports).

Following the determination of OBJECT SIGHTINGS, a series of serial numbers, called the INCIDENT SERIAL NUMBERS, was established to facilitate any future study of a specific object sighting. Each reported sighting that relates to an OBJECT SIGHTING received the same incident serial number, a four-digit code paralleling the major serial number series.

For machine manipulation, it was desirable to be able to select the sample of cards (all reports, all sightings, or all phenomena) to be included in a particular study. The concept of a SIGHTING IDENTIFICATION NUMBER was evolved to fill this desire. Using one column of the IBM card, and the correlated working papers, the code for this function was developed, Multiple punching eliminated the need to ase several columns for discrete expression of the variations., Selection of the proper number in this column thus permitted selection of the desired sample of cards.

## Evaluation of Individual Reports

Evaluation of sighting reports was recognized as a crucial step in the preparation of data for statistical treatment; inconsistent evaluations would have invalidated any conclusions to be derived from this study. A method of evaluation was, therefore; determined simultaneously with the development of the questionnaire, the coding system, and the work sheet. It is emphasized that all phases of evaluation, even including the tedious preparation of the original data for statistical treatment, were entrusted only to selected, specially qualified scientists and engineers.

Evaluation consisted of a standardized procedure to be followed for: (1) the deduction of discrete facts from data which depended on human impressions rather than scientific measurements, (2) the rating of the observer and his report as determined from available information, and (3) the determination of the probable identification of the phenomenon observed. Categories of identification, established upon the basis of previous experience, were as follows:

Balloon<br>Astronomical<br>Aircraft<br>Light phenomenon<br>Birds<br>Clouds, dust, etc.<br>Insufficient information<br>Psychological manifestations<br>Unknown<br>Other

The first step in evaluation, the deduction of discrete facts from subjective data, required certain calculations based on the information available in the sighting report. An example was the finding of the approximate angular velocity and acceleration of the object or objects sighted. Care was taken during this phase of the work to insure against the deduction of discrete facts not warranted by the original data. Thus, even though there was a complete lack of any valid evidence consisting of
physical matter in any case of a reported unidentified aerial object, this was not assumed to be prima facie evidence that "flying saucers" did not exist.

In those cases in which an attempt to reduce the information to a factual level failed completely, the report was eliminated from further consideration, and thus not included in the statistical analysis. About 800 reports of sightings were eliminated or rejected in this manner. Most of these reports were rejected because they were extremely nebulous; the rest were rejected because they contained highly conflicting statements.

The second step in evaluation, the rating of the observer and his report, logically followed the first step, the reduction of the data to usable form. Ratings were assigned on the basis of the following factors of information, considered in relation to one another:
(1) The experience of the observer, deduced from his occupation, age, and training;
(2) The consistency among the separate portions of the description of the sighting;
(3) The general quality and completeness of the report;
(4) Consideration of the observer's fact-reporting ability and attitude, as disclosed by his manner of describing the sighting.

In cases in which insufficient information was available to make a judgment of the observer or report, none was made, but the report was accepted for the statistical study.

The third step in the process of evaluation, the attempted identification of the object or objects sighted, was done twice, first by the individual who made the transcription of the data (the preliminary identification), and later (the final identification) by a conference of four persons, two representatives from ATIC and two from the panel of consultants. Although representatives of ATIC participated in making the final identifications, it must be emphasized that any previous identification of a sighting made by ATIC was not introduced or referred to in any way.

In the coding system, the choices provided for final identifications were based on ATIC's previous experience in analysis of the data. They had found that the majority of sightings could be classified as misinterpretations of common objects or natural phenomena. Accordingly, categories for objects most frequently present in the air were provided. Balloons, aircraft, astronomical bodies (such as meteors), birds, and clouds or dust were recognized as major categories. The less frequent, but common objects, such as kites, fireworks, flares; rockets, contrails, and
meteorological phenomena like small tornadoes, were collected into a category called OTHER. A separate category for the uncommon natural phenomena associated with light reflections or refractions, such as mirages, sun dogs, inversion-layer images, and distortions caused by airborne ice, was established with the title of LIGHT PHENOMENON. Categories for INSUFFICIENT INFORMATION, PSYCHOLOGICAL MANIFESTATIONS, and UNKNOWN were provided for the sightings that could not be fitted into the preceding identifications. An explanation of their use follows:

> INSUFFICIENT INFORMATION - This identification category was assigned to a report when, upon final consideration, there was some essential item of information'missing, or there was enough doubt about what data were available to disallow identification as a common object or some natural phenomenon. It is emphasized that this category of identification was not used as a convenient way to dispose of what might be called "poor unknowns", but as a category for reports that, perhaps, could have been one of several known objects or natural phenomena. No reports identified as INSUFFICIENT INFORMATION contain authenticated facts or impressions concerning the sighting that would prevent its being identified as a known object or phenomenon;

PSYCHOLOGICAL MANIFESTATIONS - This identification category was assigned to a report when, although it was well established that the observer had seen something, it was also obvious that the description of the sighting had been overdrawn. Religious fanaticism, a desire for publicity, or an over-active imagination were the most common mental aberrations causing this type of report;

UNKNOWN - This designation in the identification code was assigned to those reports of sightings wherein the description of the object and its maneuvers could not be fitted to the pattern of any known object or phenomenon.

For the purposes of this study, two groups of identifications were recognized, the KNOWNS (including all identification categories except the UNKNOWNS) and the UNKNOWNS.

All possible identifications provided in the code system, except INSUFFICIENT INFORMATION and UNKNOWN, could be assigned according to two degrees of certainty, designated "Certain" and "Doubtful".

A "Certain" identification indicated a minimum amount of doubt regarding the validity of the evaluation. By "rule-of-thumb" reasoning, the probability of the identification being correct was better than 95 per cent. A "Doubtful" identification indicated that the choice was less positive, but that there was a better than even chance of being correct.

It is emphasized again that, as was true for other phases of evaluation, preliminary and final identification was entrusted only to scientists and engineers who, in addition to their broad scientific background, had received instruction, where necessary, in specialized subjects. The panel of consultants provided background information for this instruction. Many of the cases representing unusual features or maneuvers were submitted to and discussed with various members of the panel of consultants prior to the final identification.

Consistency in the application of the knowledge necessary for making identifications was maintained by frequent collaboration among the personnel involved, and systematic spot checks of the work. In addition to the general fund of knowledge required to identify satisfactorily a reported unidentified aerial object, an attempt was made to correlate specific data such as flight plans of aircraft, records of balloon releases, weather conditions, and an astronomical almanac with the reported sighting.

The procedure followed in making final identifications deserves explanation because of the importance assumed by the identification as a basis for statistical treatment. As was mentioned, a conference of four qualified persons, two from ATIC and two from the panel of consultants, decided upon the final identification for each sighting report. This work was done at ATIC, periodically, as reports became ready.

During an identification conference, each sighting reportiwas first studied, from the original data, by one person. If that person arrived at a decision, it was checked against the preliminary identification; if the two identifications were the same, the report was appropriately marked and considered finished. If the two identifications did not agree, the report was considered later by everyone participating in the conference until a group decision could be made.

If an evaluator was unable to categorize the report as one of the common objects or as a natural phenomenon, and his opinion was that the sighting should be recorded as UNKNOWN, a group decision was also required on that report before it was considered finished. A group decision was necessary on all reports finally recorded as UNKNOWN, regardless of what the preliminary identification had been. In cases where a group decision was not made within a reasonable time, the report was put aside and later submitted to certain members of the panel of consultants for their opinions. If, after this, disagreement continued to exist, the report of the sighting was identified as UNKNOWN.

Upon completion of final identifications, all data were transferred to IBM cards, preparatory to analysis.

## ANALYSIS OF THE DATA

Broadly stated, the problem at this point consisted of the judicious application of scientific methods of categorizing and analyzing the subjective data in reports of sightings of unidentified aerial objects. It was recognized that an approach to this problem could best be made by a systematic sorting and tabulation program to give frequency and percentage distributions of the important characteristics of sightings. A suggestion that an attempt be made to anticipate all questions that might be asked in the future about a sighting or a group of sightings, and to provide answers, was rejected. The systematic approach also made it possible to develop a detailed reference manual of the attributes of the sightings included in this study.

Thus, at the beginning of the analysis, a detailed plan was developed for sorting, counting, and tabulating the information from the punched-card abstracts of reports of sightings. It was believed at the time, and later substantiated, that the results of the program for sorting and tabulating would serve as a guide for the more sophisticated treatment involving statistical methods.

Also, it was anticipated that any patterns or trends that might be found could be subjected to concentrated study in the hope of discovering significant information relating to the characteristics of "flying saucers". Further, it was believed that these trends could serve as certain of the criteria of validity for any concepts (models) developed in the attempt to discover a class of "flying saucers".

The three parts of this study (1) the sorting and tabulation program, (2) the advanced study of the results of that program, and (3) the investigation of the possibility of conceiving a model of a "flying saucer" from descriptions reported, are discussed in sections entitled "Frequency and Percentage Distributions by Characteristics", "Advanced Study of the Data", and "The 'Flying Saucer' Model".

## Frequency and Percentage Distributions by Characteristics

The original conception of this study assumed the availability of sufficient data to describe adequately the physical appearance, maneuver characteristics, range, direction, and probable path of the object or objects observed. However, familiarity with the data, acquired during the
translation and transcription from reports to punched cards, indicated that there would be relatively few specific variables or factors that would yield meaningful correlation studies. Either the original data were too subjective, or the incompleteness of the original reports would seriously reduce the sample of a specific variable.

Preliminary tabulations of various sortings substantiated the impossibility of deriving statistical results from certain variables, such as movement of the observer during, the sighting, sound, shape parameter, size, angular velocity and acceleration, appearance and disappearance bearing, initial and final elevation, altitude, and orientation of the object. The statistically usable variables presented in this study include the date, time, location, duration, reliability, and method of observation of the sighting, and the physical attributes of number, color, speed, shape, light brightness, and identification of the objects sighted.

The presentation of frequency and percentage distributions of any of the variables must be interpreted in the light of the sample of incidents represented. For example, the analysis of the reported colors of the objects sighted, based on ALL SIGHTINGS, could lead to misrepresentation of the distribution of the reported color of the objects, because of the multiplicity of reports on some of the phenomena. On the other hand, the percentage distribution of the light brightness reported by each observer is more likely to be correct than a distribution based on one report for each phenomenon. To assure that the most nearly correct presentation was made, and to avoid the possibility of failure to uncover any pattern or trend inherent in the data, the variables were studied on five different bases or samples. These samples, and their numerical relation to each other, were as follows:

| ALL SIGHTINGS (all reports) | $-3,201$ cards |
| :--- | :--- |
| UNIT SIGHTINGS, all observers | $-2,554$ cards |
| UNIT SIGHTINGS, single observer | $-2,232$ cards |
| UNIT SIGHTINGS, multiple observers | 322 cards |
| OBJECT SIGHTINGS | $-2,199$ cards |

The preliminary tabulations indicated that the samples based on UNIT SIGHTINGS, single observer, and UNIT SIGHTINGS, multiple observers, would not add materially to this study. Accordingly, although the frequency distributions were recorded and are available for study, they are not presented in this report.

The bases of ALL SIGHTINGS, UNIT SIGHTINGS (referring to all observers), and OBJECT SIGHTINGS are presented in Appendix A as Tables Al through A240. A critical study of these tabulations reveals that there is no apparent change in the distribution of any variable from one basis to another, and that no marked patterns or trends exist in any sample.

## Graphical Presentation

Graphical representation of the important information contained in the tables is presented in Figures 1 through 38 . These figures present the distributions of the important variables only by the total number of cases in each identification category, since no"significant differences were found between the distributions of "Certain" and "Doubtful" identifications of objects with respect to the variables. A chronological study of these figures will afford a broad picture of the tabulated information, without the necessity of a detailed study of the tables.

A critical examination of the figures will show that no trends, patterns, or correlations are to be found, with the exception of Figures 18 through 30. The apparent similarity of the distributions shown by these mirror graphs, Figures 18 through 23, was tested by statistical methods which showed that there was a low probability that the distributions of the KNOWNS and UNKNOWNS by these characteristics were the same. These tests and their interpretation are discussed in the following section. For purposes of this study, the strategic areas, shown in Figures 32 through 38, and Tables A223 through A240, Appendix A, were designated on the basis of concentration of reports of OBJECT SIGHTINGS in an area. No other interpretation of the tables or remaining charts was deemed necessary.

Advanced Study of the Data

It was recognized that the lack of any patterns or trends, as shown by the tabulations and graphs, provided an insecure basis for drawing definite conclusions. Accordingly, shortly before the sorting and tabulation program was concluded, a program of study of the data was developed to utilize statistical and other mathematical methods, which could lead to a more concrete interpretation of the problem.

Position of the Sun Relative to the Observer
The first thing that was done was to calculate the angle of elevation of the sun above the horizon and its bearing from true north as seen by the observer at the time of each sighting. With this information, it could then be determined whether there was a possibility that the reported object could have been illuminated by light from the sun. In addition, it could be determined whether an object could be a mock sun (sun dog) or whether there was a possibility of specular reflection from an aircraft at the position of the object, which would give the appearance of a "flying disc".

A program of computation was set up and carried out to obtain the angle of elevation and the bearing of the sun for each sighting. All information needed for this calculation was available on the deck of IBM cards.


FIGURE I FREQUENCY OF SIGHTINGS BY YEAR FOR OBJECT, UNIT,AND ALL SIGHTINGS


FIGURE 2 DISTRIBUTION OF EVALUATIONS OF OBJECT, UNIT, AND ALL SIGHTINGS FOR ALL YEARS


FIGURE 3 DISTRIBUTION OF OBJECT SIGHTINGS BY EVALUATION FOR ALL YEARS WITH COMPARISONS OF EACH YEAR FOR EACH EVALUATION GROUP A-7481


FIGURE 4 DISTRIBUTION OF OBJECT SIGHTINGS BY EVALUATION FOR ALL YEARS AND EACH YEAR

No. of object sightings


FIGURE 5 DISTRIBUTION OF OBJECT SIGHTINGS BY EVALUATION WITHIN MONTHS FOR ALL YEARS


FIGURE 6 DISTRIBUTION OF OBJECT SIGHTINGS BY CERTAIN AND DOUBTFUL EVALUATIONS FOR ALL YEARS AND EACH YEAR


FIGURE 7 FREQUENCY OF OBJECT SIGHTINGS AND UNKNOWN OBJECT EVALUATIONS BY MONTHS, 1947-1952


FIGURE 8 DISTRIBUTION OF OBJECT SIGHTINGS BY SIGHTING RELIABILITY GROUPS WITH EVALUATION DISTRIBUTIONS FOR EACH GROUP

No. of object sightings


FIGURE 9 DISTRIBUTION OF OBJECT SIGHTINGS AMONG THE FOUR SIGHTING RELIABILITY GROUPS FOR ALL YEARS AND EACH YEAR


FIGURE IO DISTRIBUTION OF ALL SIGHTINGS BY SIGHTING RELIABILITY GROUPS. SEGREGATED BY MILITARY AND CIVILIAN OBSERVERS WITH EVALUATION DISTRIBUTION FOR EACH SEGREGATION


FIGURE \|I DISTRIBUTION OF OBJECT SIGHTINGS BY REPORTED COLORS OF OBJECT(S) WITH EVALUATION DISTRIBUTION FOR EACH COLOR GROUP


FIGURE 12 DISTRIBUTION OF OBJECT SIGHTINGS BY NUMBER OF OBJECTS SEEN PER SIGHTING WITH EVALUATION DISTRIBUTION FOR EACH GROUP


FIGURE 13 DISTRIBUTION OF OBJECT SIGHTINGS BY DURATION OF SIGHTING WITH EVALUATION DISTRIBUTION FOR EACH DURATION GROUP

No. of object sightings


FIGURE 14 DISTRIBUTION OF OBUECT SIGHTINGS BY MONTHS AMONG THE EIGHT DURATION
GROUPS FOR ALL YEARS



FIGURE 15 DISTRIBUTION OF OBJECT SIGHTINGS BY SHAPE OF OBJECT(S) REPORTED WITH EVALUATION DISTRIBUTION FOR EACH SHAPE GROUP


FIGURE 16 DISTRIBUTION OF OBJECT SIGHTINGS BY REPORTED SPEED OF OBJECT(S) WITH EVALUATION DISTRIBUTION FOR EACH SPEED GROUP

No. of all sighting


FIGURE 17 DISTRIBUTION OF ALL SIGHTINGS BY OBSERVER LOCATION FOR ALL YEARS AND EACH YEAR


FIGURE 18 COMPARISON OF KNOWN AND UNKNOWN OBJECT SIGHTINGS BY COLOR,1947-1952 A-7496


FIGURE 19 COMPARISON OF KNOWN AND UNKNOWN. OBJECT SIGHTINGS BY NUMBER OF OBJECTS PER SIGHTING, 1947-1952


FIGURE 20 COMPARISON OF KNOWN AND UNKNOWN OBJECT SIGHTINGS BY SPEED, 1947-1952


FIGURE 21 COMPARISON OF KNOWN AND UNKNOWN OBJECT SIGHTINGS BY DURATION, 1947-1952


FIGURE 22 COMPARISON OF KNOWN AND UNKNOWN OBJECT SIGHTINGS BY SHAPE, 1947-1952


FIGURE 23 COMPARISON OF KNOWN AND UNKNOWN OBJECT SIGHTINGS BY LIGHT BRIGHTNESS, 1947-1952


FIGURE 24 COMPARISON OF MONTHLY DISTRIBUTION OF OBJECT SIGHTINGS EVALUATED AS ASTRONOMICAL VERSUS TOTAL OBJECT SIGHTINGS LESS ASTRONOMICAL



FIGURE 25 COMPARISON OF MONTHLY DISTRIBUTION OF OBJECT SIGHTINGS EVALUATED AS AIRCRAFT VERSUS TOTAL OBJECT SIGHTINGS LESS AIRCRAFT


FIGURE 26 COMPARISON OF MONTHLY DISTRIBUTION OF OBJECT SIGHTINGS EVALUATED as balloon versus total object sightings less balloon


FIGURE 27 COMPARISON OF MONTHLY DISTRIBUTION OF OBJECT SIGHTINGS EVALUATED AS INSUFFICIENT INFORMATION VERSUS TOTAL OBJECT SIGHTINGS LESS INSUFFICIENT INFORMATION


FIGURE 28 COMPARISON OF MONTHLYIDISTRIBUTION OF OBJECT SIGHTINGS EVALUATED AS OTHER VERSUS TOTAL OBJECT SIGHTINGS LESS OTHER



FIGURE 29 COMPARISON OF MONTHLY DISTRIBUTION OF OBJECT SIGHTINGS EVALUATED AS UNKNOWN VERSUS TOTAL OBJECT SIGHTINGS LESS UNKNOWN


FIGURE 30 CHARACTERISTICS PROFILES OF OBJECT SIGHTINGS BY TOTAL SAMPLE, KNOWN EVALUATIONS, AND INDIVIDUAL KNOWN EVALUATIONS, WITH UNKNOWN EVALUATIONS SUPERIMPOSED


FIGURE 31 FREQUENCY OF OBJECT, UNIT, AND ALL SIGHTINGS WITHIN THE UNITED STATES 1947-1952, BY SUBDIVISIONS OF ONE DEGREE OF LATITUDE AND LONGITUDE


FIGURE 32 DISTRIBUTION OF OBJECT SIGHTINGS BY EVALUATION FOR THE TWELVE REGIONAL areas of the united states, with the strategic areas located (strategic AREAS WERE DETERMINED ON THE BASIS OF CONCENTRATION OF OBJECT SIGHTINGS)


FIGURE 33 COMPARISON OF EVALUATION OF OBJETCT SIGHTINGS IN THE STRATEGIC AREAS OF THE CENTRAL EAST REGION


FIGURE 34. COMPARISON OF EVALUATION OF OBJECT SIGHTINGS IN THE STRATEGIC AREAS OF THE CENTRAL MIDWEST REGION

8-7512
2


FIGURE 35 COMPARISON OF EVALUATION OF OBJECT SIGHTINGS in the strategic areas of the central farwest region B-7513


FIGURE 36 COMPARISON OF EVALUATION OF OBJECT SIGHTINGS IN THE STRATEGIC AREAS
OF THE SOUTH MIOWEST REGION OF THE SOUTH MIOWEST REGION


FIGURE 37 COMPARISON OF EVALUATION OF OBJECT SIGHTINGS IN THE STRATEGIC AREAS OF THE SOUTH WEST REGION


FIGURE 38 COMPARISON OF EVALUATION OF OBJECT SIGHTINGS IN THE STRATEGIC AREAS OF THE SOUTH FARWEST REGION B-7516

This information consisted of:
(1) Time and date of observation in Greenwich Civil Time
(2) Latitude and longitude of the observer at the time of observation.

Figure 39 shows a celestial sphere on which $Z$ represents the observer's zenith, s represents the sun, and $\underline{N}$ represents the north celestial pole.

Using the date and time of the observation, the longitude and declination (S) of the sun were obtained from an ephemeris of the sun and corrected for the equation of time. The difference between the longitudes of the sun and the observer was taken, and called the hour angle (HA on Figure 39).

Then, using the declination of the sun (S), the latitude of the observer (lat), and the hour angle (HA), the angle (ZS) between the observer's zenith and the sun can be calculated from the law of cosines of spherical trigonometry. Thus, $\cos \overline{Z S}=\cos (90-l a t) \cos (90-S)+\sin (90-l a t) \sin$ (90-S) $\cos (H A)$.

Since the angle ZS is measured from the observer's zenith, the angle of elevation of the sun above the horizon for daytime sightings was found by taking $90-\overline{\mathrm{ZS}}$. When the sun was below the horizon, the angle of depression of the sun below the horizon was found by taking $\overline{\mathrm{ZS}}-90$.

Having found the angle ZS, the bearing of the sun (angle B) was obtained from the formula:

$$
\frac{\sin (B)}{\sin (90-S)}=\frac{\sin (\mathrm{HA})}{\sin (\mathrm{ZS})}
$$

All of the above calculations were made with IBM equipment. Sines, cosines, andtheir inverses were obtained from a deck of 9,000 IBM cards on which seven-place Peter's tables of the sines, cosines, and tangents of angles had been punched for each 0.01 of a degree from 0 to 90 degrees.

Upon completion of these calculations, the cards representing OBJECT SIGHTINGS were sorted on the sign of the sine of the bearing angle. This separated the cards into two groups: (l) sightings which occurred between noon and midnight, for which the sine of the bearing angle was positive; and (2) sightings between midnight and noon, for which the sine of the bearing angle was negative. Then each of these groups was sorted into groups for intervals of $10^{\circ}$ in angle of elevation of the sun from $-90^{\circ}$ to $+90^{\circ}$. A count was made of the number of cards in each group and from this a histogram was constructed (Figure 40). The UNKNOWN OBJECT SIGHTINGS were then sorted out, counted in the same manner, and a histogram was made (again see Figure 40).


FIGURE 39 DIAGRAM OF A CELESTIAL SPHERE


FIGURE 40 FREQUENCY OF OBJECT SIGHTINGS BY ANGLE OF ELEVATION OF THE SUN, INTERVALS OF 10 DEGREES OF ANGLE

The following points should be carefully noted about these histograms:
(1) The negligible number of sightings when the sun is within $10^{\circ}$ of the zenith and nadir (angle of elevation of the sun $=$ $\pm 90^{\circ}$ ) of the observer is due to the fact that the southernmost latitude of the U.S. is greater than the declination of the sun at the summer solstice, so that it would be impossible for the sun to reach the zenith or nadir of any observer in the $U$. S. (where most of the sightings were made).
(2) The time of day at which a particular angle of elevation of the sun occurs does not remain fixed but varies from day to day. Consider, for example, the variation in sunrise and sunset times over the course of ayear.

Thus, there are only two inferences to be made from this histogram: (1) the high peak of sightings soon after sunset, and (2) the lack of increase in the UNKNOWNS relative to the KNOWNS near either sunset or sunrise. This would seem to discount the possibility that atmospheric phenomena such as mock suns were the primary cause of the unknown reports, since such phenomena usually occur when the sun is near the horizon.

The Local Sun Time was computed as a step in the calculation of the angle of elevation of the sun. It is related to the hour angle by the equation: Local Sun Time (L.S.T.) $=$ HA/ $15+12.00$, where L.S.T. is in hours and HA in degrees.

The cards were grouped on the basis of L.S.T. in intervals of one hour, and the number of cards in each interval was counted. Again the UNKNOWNS were sorted out and similarly treated. Histograms were constructed with the results of these tabulations of OBJECT SIGHTINGS (Figure 41). Here, again, there is a peak in the early evening hours.

The cards were then broken up into seven groups on the basis of the angle of elevation of the sun, as follows:

Group $1-\frac{\text { Daylight sightings }}{10^{\circ} \text { above the horizon. }}$ which the sun was more than

Group $2-$ Sunset sightings for which the sun was between $0^{\circ}$ and $10^{\circ}$ above the horizon.

Group 3 - Sunset sightings for which the sun was between $0^{\circ}$ and $10^{\circ}$ below the horizon.

Group $4-\frac{\text { Evening sightings for which the sun was between }}{10^{\circ} \text { and } 40^{\circ} \text { below the horizon. }}$


FIGURE 41 FREQUENCY OF OBJECT SIGHTINGS BY LOCAL SUN TIME, INTERVALS OF ONE HOUR

Group 5 - Night sightings for which the sun was more than $10^{\circ}$ below the horizon and which were not included in Group 4.

Group 6 - Sunrise sightings for which the sun was between $0^{\circ}$ and $10^{\circ}$ below the horizon.

Group 7 - Sunrise sightings for which the sun was between $0^{\circ}$ and $10^{\circ}$ above the horizon.

These group numbers were punched on the cards and incorporated into the coding system. The number of OBJECT SIGHTINGS in each group for each identification was then tabulated and is given in Table I.

TABLE I OBJECT SIGHTINGS

| Identification | Angle of Elevation Group |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 2 | 3. | 4 | 5 | 6 | 7 |
| Balloon | 156 | 17 | 28 | 83 | 40 | 0 | 2 |
| Astronomical | 52 | 6 | 43 | 236 | 118 | 9 | 6 |
| Aircraft | 187 | 23 | 49 | 144 | 60 | 5 | 2 |
| Light phenomena | 8 | 2 | 4 | 25 | 7 | 0 | 0 |
| Insufficient information | 72 | 12 | 26 | 76 | 28 | 2 | 0 |
| UNKNOWN | 134 | 14 | 25 | 150 | 86 | 6 | 7 |
| Other | 64 | 8 | 12 | 50 | 36 | 3 | 7 |
| Total | 673 | 82 | 187 | 764 | 375 | 25 | 24 |

According to this table, a large majority of the KNOWN OBJECT SIGHTINGS in Group 1 ( 343 out of 467 ) were either aircraft or balloons. In Groups 4 and 5 combined, a large majority ( 681 out of 899 ) were either balloons, aircraft, or astronomical. Accordingly, a re-evaluation of the UNKNOWNS in these three groups was planned with the objective of determining which of the UNKNOWNS in Group 1 might possibly be aircraft or balloons and which of the UNKNOWNS in Groups 4 and 5 might possibly be balloons, aircraft, or astronomical objects. More will be said of this project later.

## Statistical Chi Square Test

In the meantime, mirror graphs had been constructed from the frequency tabulations which seemed to show that, when the KNOWNS (total less UNKNOWNS) and the UNKNOWNS were grouped according to one of six characteristics, the percentage of KNOWNS and the percentage of

UNKNOWNS in each characteristic group showed the same general trend. In other words, on the basis of these graphs, it looked as though there was a good possibility that the UNKNOWNS were no different from the KNOWNS, at least in the aggregate. It was decided to investigate this by the use of a statistical procedure called the "Chi Square Test".

The Chi Square Test is a statistical test of the likelihood that two distributions come from the same population, that is, it gives the probability that there is no difference in the make-up of the two distributions being measured.

The method is outlined as follows:
(1) Adjust the distributions by multiplying the KNOWNS in each characteristic group by the ratio of the total number of UNKNOWNS to the total number of KNOWNS. (The Chi Square Test is applicable only to distributions which have the same total number of elements.)
(2) Take the difference between the number of UNKNOWNS and the adjusted number of KNOWNS in each characteristic group.
(3) Square the remainder from Step 2.
(4) Divide the result of Step 3 by the corresponding number of adjusted KNOWNS.

This is the chi square for the particular group. Summing the individual chi squares over the groups of a characteristic gives the chi square for that characteristic. This number is then compared with a table of the distribution of chi square which can be found in many texts on elementary statistics.

It will be noted that chi square is tabulated in terms of degrees of freedom which in this case is one less than the number of groups of sightings for each characteristic.

The tabulations of KNOWNS and UNKNOWNS against the six characteristics and the Chi Square Test as it was applied are shown in Tables II through VII. In each case, the number of degrees of freedom is given, as is the value of chi squares corresponding to probabilities of 5 per cent and 1 per cent that two distributions with this number of degrees of freedom come from the same population.- Since the greater the value of chi square the smaller the probability of homogeneity of two distributions, a calculated value of chi square greater than either the 5 per cent or 1 per cent values will indicate a probability less than 5 per cent or l per cent, respectively, that the two distributions are homogeneous. The term homogeneity is used here to indicate that two distributions could have come from the same population.

TABLE II CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF COLOR

| Color | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} \begin{array}{c} X^{2} \jmath^{2} \\ (\mathrm{~K}-\mathrm{n})^{2} \end{array} \\ \hline \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| White | 405 | 100 | 112 | 1.44 |
| Metallic | 313 | 77 | 76 | 0.01 |
| Not stated | 209 | 51 | 62 | 2.37 |
| Orange | 172 | 42 | 49 | 1. 17 |
| Red | 146 | 36 | 33 | 0.25 |
| Yellow | 128 | 31 | 31 | 0 |
| Green | 130 | 32 | 14 | 10.13 |
| Blue | 67 | 17 | 26 | 4.76 |
| Other | 195 | 48 | 31 | 6.02 |
| Total | 1765 | 434 | 434 | 26.15 |

Degrees of freedom 8

```
5%
15.5
20.1
```

TABLE III CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF NUMBER

| Number of Objects Per Sighting | Number of KNOWNS | Adjusted <br> Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2} \\ \frac{(K-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 1339 | 329 | 297 | 3.11 |
| 2 | 159 | 39 | 37 | 0.10 |
| 3-10 | 185 | 46 | 70 | 12.52 |
| 11 or more | 41 | 10 | 25 | 22. 50 |
| Not stated | 41 | 10 | 5 | 2. 50 |
| Total | 1765 | 434 | 434 | 40.73 |
| Degrees of freedom |  |  |  | 4 |
| 5\% |  |  |  | 9.5 |
| 1\% |  |  |  | 13.3 |

TABLE IV CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF SHAPE

| Shape | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} \begin{array}{c} x^{2}, \\ (K-n)^{2} \end{array} \\ K \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Elliptical | 838 | 206 | 195 | 0.59 |
| Rocket and aircraft | 80 | 20 | 33 | 8.45 |
| Meteor or comet | 55 | 14 | 4 | 7. 14 |
| Teardrop, lenticular, or conical | 103 | 25 | 22 | 0.36 |
| Flame | 96 | 24 | 10 | 8. 17 |
| Other | 193 | 47. | 54 | 1.04 |
| Not stated | 400 | 98 | 116 | 3.30 |
| Total | 1765 | 434 | 434 | 29.05 |
| Degrees of freedom |  |  |  | 6 |
| 5\% |  | : |  | 12.6 |
| 1\% |  |  |  | 16.8 |

TABLE V CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF DURATION OF OBSERVATION

| Duration of Observation | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} x^{2},{ }^{2} \\ \frac{(K-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 5 sec or less | 259 | 64 | 27 | 21.39 |
| $6-10 \mathrm{sec}$ | 92 | 23 | 21 | 0.17 |
| 11-30 sec | 153 | 38 | 33 | 0.66 |
| 31-60 sec | 108 | 26 | 42 | 9.85 |
| $61 \mathrm{sec}-5 \mathrm{~min}$ | 269. | 66 | 99 | 16.50 |
| 6-30 min | 305 | 75 | 71 | 0.21 |
| Over 30 min | 135 | 33 | $37^{\prime}$ | 0.48 |
| Not stated | 444 | 109 | 104 | 0.23 |
| Total | 1765 | 434 | 434 | 49.49, |

Degrees of freedom
7
$5 \%$ 14.1
$1 \%$
18.5

TABLE VI CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF SPEED

| Speed | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2}, \\ (K-n)^{2} \\ K \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Stationary | 249 | 61 | 53 | 1.05 |
| Less thán 100 mph | 154 | 38 | 26 | 3.79 |
| 100 to 400 mph | 181 | 45 | 58 | 3.76 |
| Over 400 mph | 403 | 99 | 145 | 21:37 |
| Meteor-like | 83 | 20 | 16 | 0.80 |
| Not stated | 695 | 171 | 136 | 7.16 |
| Total | 1765 | 434 | 434 | 37.93 |
| Degrees of freedom |  |  |  | 5 |
| 5\% |  |  |  | 11.1 |
| $1 \%$ |  |  |  | 15.1 |

TABLE VII CHI SQUARE TEST OF KNOWNS VERSUS UNKNOWNS ON THE BASIS OF LIGHT BRIGHTNESS

| Light Brightness | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2}, \\ \frac{(K-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Sunlight on mirror | 47. | 11 | 14 | 0.82 |
| Sunlight on aluminum | 151 | 37 | 28 | 2.19 |
| Sunlight on plaster, stone, or soil | 76 | 19 | 16 | 0.47 |
| Brighter than moon | 273 | 67 | 61 | 0.55 |
| Like moon or duller than moon | 68 | 17 | 22 | 1.47 |
| Not stated | 1150 | 283 | 293 | 0.35 |
| Total | 1765 | 434 | 434 | 5.85 |
| Degrees of freedom |  |  |  | 5 |
| 5\% |  |  |  | 11.1 |
| 1\% | . |  |  | 15.1 |

In five of the six cases, the probability is less than 1 per cent that the distributions are the same. In the sixth case, Light Brightness, the classifications are too nebulous to be of real value. However, these tests do not necessarily mean that the UNKNOWNS are primarily "flying saucers" and not aircraft, balloons, or other known objects or natural phenomena. The UNKNOWNS might still be unidentified KNOWNS if either of the following cases occurred:
(1) The characteristics which were observed for the UNKNOWNS were different from those observed for the KNOWNS because of the psychological make-up of the observer or because of atmospheric distortion. This assumes the distribution of objects in KNOWNS and UNKNOWNS is the same.
(2) The UNKNOWNS may be known objects in different proportions than the group identified as KNOWNS. (That is, a greater percentage of the UNKNOWNS could be aircraft than the percentage of aircraft in the identified KNOWNS.)

The second case is the more probable one. In this connection, it is interesting to note the factors which contributed to a large chi square result in the tests made above:
(1) Color

The major contribution to chi square in color is from the color green. There is a large excess of green sightings among the KNOW $N$ N over the UNKNOWNS. Of the 130 known objects in this classification, 98 are astronomical, and are due mostly to the green fireballs reported from the Southwest U.S.
(2) Number

The large chi square is due to a greater proportion of UNKNOWNS in the multiple object classification. Apparently these are harder to identify.
(3) Shape

In this case, there is a higher percentage of UNKNOWNS in the rocket-aircraft-shape classification. These might be familiar objects for which unusual maneuvers were reported.

There is a higher percentage of KNOWNS in the flame and in the meteor-or comet-shape category, which in both cases appears to result mainly from excesses of astronomical sightings.

Here there is an excess of KNOWNS in the less-than-$5-$ second group. Again, the majority of KNOWNS in this group are astronomical. The greater proportion of UNKNOWNS in the 31- to $60-$ second and 61-second to 5 -minute groups cannot be explained.

Speed
The major contribution to chi square for this characteristic is due to a large excess of UNKNOWNS in the over $400-\mathrm{mph}$ class. It can be assumed that some of the excessive speeds are inaccuracies in estimates by observers. However, some radar sightings, which are practically impossible to identify, show objects with speeds of 1,000 to $2,000 \mathrm{mph}$ and over, and these reports account for a number of these UNKNOWNS.
(6)

## Light brightness

Since this chi square was not significant, it is not necessary to discuss it here.

An examination of theseldiscrepancies thus brings up a very interesting point. In every case for which there is a significant excess of KNOWNS over UNKNOWNS, the excess can be attributed to an excess of identifiable astronomical phenomena. This would seem to lead to the conclusion that astronomical phenomena are easy to identify and there are very few left in the UNKNOWNS. Accordingly, the astronomical object sightings were deleted from the KNOWN object sightings and the Chi Square Test was again applied. The results are shown in Tables VIII through XIII, where in this case the KNOWNS do not contain astronomical sightings.

It will be noted that some groups were combined when the adjusted number of KNOWNS was ten or less, except for the case for which the number of objects per sighting was the characteristic studied. These were borderline cases, and no good combination of groups existed.

It is apparent that the deletion of astronomical sightings gives a better fit, although the decision is not clear cut, since for two cases (light brightness and speed), the chi square increased. However, it can again be pointed out that the reporting of these two characteristics is highly subjective and is open to question. The estimation of speed is especially open to question because of the impossibility of accurately determining it visually.

TABLE VIII CHI SQUARE TEST OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF COLOR

| Color | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} x^{2}, \\ (K-n) \\ K \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| White | 281 | 95 | 112 | 3.04 |
| Metallic | 298 | 101 | 76 | 6.19 |
| Not stated | 189 | 64 | 62 | 0, 06 |
| Orange | 117 | 39 | 49 | 2.56 |
| Red | 92 | 31 | 33 | 0.13 |
| Yellow | 90 | 30 | 31 | 0.03 |
| Green | 32 | 11 | 14 | 0.82 |
| Blue | 2.9 | 10 | 267 |  |
| Other | 158 | 53 | 31\} | 0.57 |
| Total | 1286 | 434 | 434 | 13.40 |
| Degrees of freedom |  |  |  | 7 |
| 5\% |  |  |  | 14.1 |
| 1\% |  |  |  | 18.5 |

TABLE IX CHI SQUARE TESTT OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF NUMBER

| Number of Objects Per Sighting | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2} \\ \frac{(k-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 1 | 913 | 308 | 297 | 0.39 |
| 2 | 142 | 48 | 37 | 2.52 |
| 3-10 | 168 | 57 | 70 | 2.96 |
| 11 or more | 34 | 11 | 25 | 15.36 |
| Not stated | 29 | 10 | 5 | 2.50 |
| Total | 1286 | 434 | 434 | 23.73 |
| Degrees of freedom |  |  |  | 4 |
| 5\% |  |  |  | 9.5 |
| 1\% |  |  |  | 13.3 |

TABLE X CHI SQUARE TEST OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF SHAPE

| Shape | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} x^{2}, \\ \frac{(K-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Elliptical | 632 | 213 | 195 | 1. 52 |
| Rocket or aircraft | 72 | 24 | 33 | 3. 37 |
| Meteor or comet | 9 | 3 | $4\}$ | 1.32 |
| Flame | 47 | 16 | 10 \} | 1.32 |
| Teardrop, lenticular, or conical | 79 | 27 | 22 | 0.93 |
| Other | 151 | 51 | 54 | 1.76 |
| Not stated | 296 | 100 | 116 | 2.56 |
| Total | 1286 | 434 | 434 | 11.46 |
| Degrees of freedom |  |  |  | 5 |
| 5\% |  |  |  | 11.1 |
| 1\% |  |  |  | 15.1 |

TABLE XI CHI SQUARE TEST OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF DURATION OF OBSERVATION

| Duration of Observation | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2}, \\ (K-n)^{2} \\ K \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| 5 sec or less | 92 | 31 | 27 | 0.52 |
| $6-10 \mathrm{sec}$ | 47 | 16 | 21 | 1. 56 |
| $11-30 \mathrm{sec}$ | 118 | 40 | 33 | 1.23 |
| $31-60 \mathrm{sec}$ | 92 | 31 | 42 | 3.90 |
| $61 \mathrm{sec}-5 \mathrm{~min}$ | 252 | 85 | 99 | 2.31 |
| $6 \mathrm{~min}-30 \mathrm{~min}$ | 259 | 87 | 71 | 2.94 |
| Over 30 min | 91 | 31 | 37 | 1.16 |
| Not stated | 335 | 113 | 104 | 0.72 |
| Total | 1286 | 434 | 434 | 14. 34 |

Degrees of freedom

## 7

| $5 \%$ | 14.1 |
| :--- | :--- |
| $1 \%$ | 18.5 |

TABLE XII CHI SQUARE TEST OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF SPEED

| Speed | Nuinber of KNOWNS | Adjusted <br> Number of KNOWNS (K) | Number of UNKNOWNS ( n ) | $\begin{gathered} x^{2}, \\ \frac{(K-n)^{2}}{K} \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Stationary | 196 | 66 | 53 | 2.56 |
| Less than 100 mph | 128 | 43 | 26 | 6.72 |
| 100 to 400 mph | 156 | 53 | 58 | 0.47 |
| Over 400 mph | 291 | 98 | 145 \} | 28. 54 |
| Meteor-like | 24 | 8 | $16\}$ | 28.54 |
| Not stated | 491 | 166 | 136 | 5.42 |
| Total | 1286 | 434 | 434 | 43.71 |
| Degrees of freedom |  |  |  | 4 |
| 5\% |  |  |  | 9.5 |
| 1\% |  |  |  | 13.3 |

## TABLE XIII CHI SQUARE TEST OF REVISED KNOWNS VERSUS UNKNOWNS ON THE BASIS OF LIGHT BRIGHTNESS

| Light Brightness | Number of KNOWNS | Adjusted Number of KNOWNS (K) | Number of UNKNOWNS (n) | $\begin{gathered} x^{2}, \\ (K-n)^{2} \\ \hline K \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Sunlight on mirror | 24 | 8 | $14\}$ | 2.67 |
| Sunlight on aluminum | 136 | 46 | $28\}$ | 2.67 |
| Sunlight on plaster, stone, or soil | 63 | 21 | 16 | 1.19 |
| Brighter than moon | 143 | 48 | 61 | 3.52 |
| Like moon or duller than moon | 42 | 15 | 22 | 3. 27 |
| Not stated | 878 | 296 | 293 | 0.03 |
| Total | 1286 | 434 | 434 | 10.68 |
| Degrees of freedom |  |  |  | 4 |
| 5\% |  |  |  | 9.5 |
| 1\% |  |  |  | 13.3 |

Another interesting aspect of these new tests is that there are only two large discrepancies in all of the groups. These are for the 11 or more groups in the classification by number of objects per sighting and for the over $400-\mathrm{mph}$ and meteor-like group for the classification by speed. The first was relatively unchanged by deletion of the astronomical sightings principally because of the concentration of sightings in the single-object category. The second was slightly increased by the removal of the astronomical sightings from the meteor-like classification. However, the main discrepancy, that of the excess of UNKNOWNS in the over-400-mph class, was little changed.

The results of these tests are inconclusive since they neither confirm nor deny that the UNKNOWNS are primarily unidentified KNOWNS, although they do indicate that relatively few of the UNKNOWNS are actually astronomical phenomena.

It was decided that this process would not be carried to its logical conclusion (that is, the determination of a linear combination of KNOWNS that would give a negligible chi square when compared with the UNKNOWNS), since it was felt that the inaccuracies in the reports would give a distorted and meaningless résult.

## The "Flying Saucer" Model

The importance of the problem dictated a second approach, should the statistical results prove inconclusive. It was decided that an attempt would be made to describe the physical appearance, flight characteristics, and other attributes (that is, construct a model) of a class or classes of "flying saucers".

Preparatory to this attempt, a re-evaluation of the UNKNOWNS was necessary. This re-evaluation was accomplished by a panel composed only of persons previously associated with the work. Using all the UNKNOWNS reports available at ATIC, the panel made a careful study of the reports for the UNKNOWN SIGHTINGS in angle-of-sun-elevation Groups 1, 2, 3, 6, and 7 - those groups for which the sun was either above the horizon or less than $10^{\circ}$ in elevation below the horizon.

This study had two purposes. The first was to determine, with additional information such as the angle of elevation of the sun, how many. of the UNKNOWNS might be ascribed to known phenomena. The second was to obtain those UNKNOWNS which were described in sufficient detail that they might be used to construct a model or models of "flying saucers".

It was decided to put any of the UNKNOWNS which might be known phenomena into a "possible KNOWN" category to denote the slightly lower confidence level which could be ascribed to these new evaluations. The

UNKNOWNS with sufficiently detailed description would be called "good UNKNOWNS", while the remainder would simply be called UNKNOWNS. One hundred sixty-four folders of a total of 186 OBJECT SIGHTINGS in Groups 1, 2, 3, 6, and 7 were examined. There were 18 possible aircraft, 20 possible balloons, 7 good UNKNOWNS, 100 UNKNOWNS, and 19 others which were identified as being possible KNOWNS of various types. It is interesting to note that two of these were established as mock suns on the basis of the angle of sun elevation and the sun bearing angle, together with the direction of the object from the observer. In addition, the UNKNOWNS in angle-of-sun-elevation Groups 4 and 5 (nighttime sightings) were scanned with no attempt at identification, but to find any possible "good UNKNOWNS". There were five sightings that could be put into this category.

Of the UNKNOWNS, there were approximately 20 sightings that were observed in such a way that they should have been recognized easily if they had been familiar objects, that is, there was little possibility that their shapes, as seen, could have been distorted sufficiently by one cause or another to render them unrecognizable. There were a very few that would have been identified as guided missiles or rockets, but that were not so identified because of the geographical location in which they were seen.

All of the remaining UNKNOWNS were classified as such solely because they were reported to have performed maneuvers that could not be ascribed to any known objects. In these cases, the shape might have been unrecognizable also, but it was felt that this was because of distortion and distance, or because of darkness.

This is a very important point. To put it differently, if these UNKNOWNS, which represent all but about 40 of the UNKNOWN SIGHTINGS, were reported to have performed maneuvers which could be ascribed to known phenomena, they would probably have been identified as KNOWNS. With the exception of some radar sightings, all of these maneuvers were observed visually. The possibilities for inaccuracies are great because of the inability of an observer to estimate visually size, distance, and speed.

Reports of sightings by radar usually were of high-speed objects, some at extremely high altitudes. Some were identified as UNKNOWNS because there was no object to be seen visually at the point indicated by the radar set. It cannot be said with any assurance what these radar sightings mean, but the most logical explanation is that they are ground targets reflected by an atmospheric temperature inversion layer. The validity of this statement cannot be established. It is felt that radar sightings in this study are of no significance whatsoever unless a visual sighting of the object also is made.

Taken in conjunction with the Chi Square Tests discussed earlier, the results of the re-evaluation of reports identified as UNKNOWN SIGHTINGS would seem to indicate that the majority of them could easily
have been familiar objects. However, the resolution of this question with any degree of certainty appears to be impossible.

Thus, out of the 434 OBJECT SIGHTINGS that were identified as. UNKNOWNS by the data reduction process, there were only 12 that were described with sufficient detail that they could be used in an attempt to derive a model of a "flying saucer". The following is a summary of the 12 good UNKNOWN SIGHTINGS:

## Case I (Serial 0573.00)

Two men employed by a rug-cleaning firm were driving across a bridge at 0955 hours on July 29, 1948, when they saw an object glide across the road a few hundred feet in front of them. It was shiny and metallic in construction, about 6 to 8 feet long and 2 feet wide. It was in a flat glide path at an altitude of about 30 feet and in a moderate turn to the left. It was seen for only a few seconds and apparently went down in a wooded area, although no trace of it was found.


Case II (Serial 4508.00)
A naval aviation student, his wife, and several others were at a drive-in movie from 2115 to 2240 hours on April 20, 1952, during which time they saw several groups of objects fly over. There were from two to nine objects in a group and there were about 20 groups. The groups of
objects flew in a straight line except for some changes in direction accomplished in a manner like any standard aircraft turn.

The objects were shaped like conventional aircraft. The unaccountable feature of the objects was that each had a red glow surrounding it and was glowing itself, although it was a cloudless night.


Case III (Serial 2013.00, 2014.00, and 2014.01)
Two tower operators sighted a light over a city airport at 2020 hours on January 20, 1951. Since a commercial plane was taking off at this time, the pilots were asked to investigate this light. They observed it at 2026 hours. According to them, it flew abreast of them at a greater radius as they made their climbing turn, during which time it blinked some Clights which looked like running lights. While the observing plane was still in its climbing turn, the object made a turn toward the plane and flew across its nose. As the two men turned their heads to watch it, it instantly appeared on their other side flying in the same direction as they were flying, and then in 2 or 3 seconds it slipped under them, and they did not see it again. Total time of the observation was not stated. In appearance, it was like an airplane with a cigar-shaped body and straight wings, somewhat larger than a B-29. No engine nacelles were observed on the wings.


Case IV (Serial 4599.00)
A part-time farmer and a hired hand were curing tobacco at midnight on July 19, 1952, when they looked up and saw two cigar-shaped objects. One hovered while the other moved to the east and came back, at which time both ascended until out of sight. Duration of observation was 3 to 4 minutes. Both had an exhaust at one end, and neither had projections of any kind. It was stated that they appeared to be transparent and illuminated from the inside.


A pilot and copilot were flying a DC-3 at 0340 hours on July 24, 1948, when they saw an object coming toward them. It passed to the right and slightly above them, at which time it went into a sterp climb and was lost from sight in some clouds. Duration of the observation was about 10 seconds. One passenger was able to atch a flash of light as the object passed. The object seemed powered by rocket or jet motors shooting a trail of fire some 50 feet to the rear of the object. The object had no wings or other protrusion and had two rows of lighted windows.


An instrument technician, while driving from a large city toward an Air Force base on December 22, 1952, saw an object from his car at 1930 hours. He stopped his car to watch it. It suddenly moved up toward the zenith in spurts from right to left at an angle of about $45^{\circ}$. It then moved off in level flight at a high rate of speed, during which maneuver it appeared white most of the time, but apparently rolled three times showing a red side. About halfway through its roll it showed no light at all. It finally assumed a position to the south of the planet Jupiter at a high altitude, at which position it darted back and forth, left and right alternately. Total time of the observation was 15 minutes. Apparently, the observer just stopped watching the object.


Case VII (Serial 2728.00)
A Flight Sergeant saw an object over an Air Force base in Korea at 0842 hours on June 6, 1952. The object flew in a series of spinning and tumbling actions. It was on an erratic course, first flying level, then stopping momentarily, shooting straight up, flying level and again tumbling, then changing course and disappearing into the sun. It reappeared and was seen flying back and forth across the sun. At one time an $F-8.6$ passed between the observer and the object. He pointed it out to another man who saw it as it maneuvered near the sun.


Black lines evenly spaced


Proportion 7 to 1
(Dimensions are as shown in observer's original drawing)

## Case VIII (Serial 0576.00)

An electrician was standing by the bathroom window of his home, facing west, at 0825 hours on July 31,1948 , when he first sighted an object. He ran to his kitchen where he pointed out the object to his wife. Total time in sight was approximately 10 seconds, during which the object flew on a straight and level course from horizon to horizon, west to east.

(Ratio approx. 3:1)

A farmer and his two sons, aged 8 and 10 , were at his fishing camp on August 13, 1947. At about 1300 hours, he went to look for the boys, having sent them to the river for some tape from his boat. He noticed an object some 300 feet away, 75 feet above the ground. He saw it against the background of the canyon wall which was 400 feet high at this point. It was hedge hopping, following the coritour of the ground, was sky blue, about 20 feet in diameter and 10 feet thick, and had pods on the side from which flames were shooting out. It made a swishing sound. The observer stated that the trees were highly agitated by the craft as it passed over. His two sons also observed the object. No one saw the object for more than a few seconds.


Side view


End view

An employee in the supersonic laboratory of an aeronautical laboratory and some other employees of this lab, were by a river, 2-1/2 miles from its mouth, when they saw an object. The time was about 1700 hours on May 24, 1949. The object was reflecting sunlight when observed by naked eye. However, he then looked at it with 8 -power binoculars, at which time there was no glare. (Did glasses have filter?) It was of metallic construction and was seen with good enough resolution to show that the skin was dirty. It moved off in horizontal flight at a gradually increasing rate of speed, until it seemed to approach the speed of a jet before it disappeared. No propulsion was apparent. Time of observation was $2-1 / 2$ to 3 minutes.


## Case XI (Serial 1550.00)

On March 20, 1950, a Reserve Air Force Captain and an airlines Captain were flying a commercial airlines flight. At 2l:26, the airline Captain directed the attention of the Reserve Air Force Captain to an object which apparently was flying at high speed, approaching the airliner from the south on a north heading. The Reserve Air Force Captain focused his attention on the object. Both crew members watched it as it passed in front of them and went out of sight to the right. The observation, which lasted about 25 to 35 seconds, occurred about 15 miles north of a medium-sized city. When the object passed in front of the airliner, it was not more than $1 / 2$ mile distant and at an altitude of about 1000 feet higher than the airliner.

The object appeared to be circular, with a diameter of approximately 100 feet and with a vertical height considerably less than the diameter, giving the object a disc-like shape. In the top center was a light which was blinking at an estimated 3 flashes per second. This light was so brilliant that it would have been impossible to look at it continuously had it not been blinking. This light could be seen only when the object was approaching and after it had passed the airliner. When the object passed in front of the observers, the bottom side was visible. The bottom side appeared to have 9 to 12 symmetrical oval or circular portholes located in a circle approximately $3 / 4$ of the distance from the center to the outer edge. Through these portholes came a soft purple light about the shade of aircraft fluorescent lights. The object was traveling in a straight line without spinning. Considering the visibility, the length of time the object was in sight, and the distance from the object, the Reserve Air Force Captain estimates the speed to be in excess of 1000 mph .


At 0535 on the morning of August 25, 1952, a musician for a radio station was driving to work from his home when he noticed an object hovering about 10 feet above a field near the road along which he was driving. As he came abreast of the object, he stopped his car and got out to watch. Having an artificial leg, he could not leave the road, since the surrounding terrain was rough. However, he was within about 100 yards of it at the point he was standing on the road. The object was not absolutely still, but seemed to rock slightly as it hovered. When he turned off the motor of his car, he could hear a deep throbbing sound coming from the object. As he got out of the car, the object began a vertical ascent with a sound similar to "a large covey of quail starting to fly at one time". The object ascended vertically through broken clouds until out of sight. His view was not obscured by clouds. The observer states that the vegetation was blown about by the object when it was near the ground.

Description of the object is as follows:
It was about 75 feet long, 45 feet wide, and 15 feet thick, shaped like two oval meat platters placed together. It was a dull aluminum color, and had a smooth surface. A medium-blue continuous light shone through the one window in the front section. The head and shoulders of one man, sitting motionless, facing the forward edge of the object, were visible. In the midsection of the object were several windows extending from the top to the rear edge of the object; the midsection of the ship had a blue light which gradually changed to different shades. There was a large amount of activity and movement in the midsection that could not be identified as either human or mechanical, although it did not have a regular pattern of movement. There were no windows, doors or portholes, vents, seams, etc., visible to the observer in the rear section of the object or under the object (viewed at time of ascent). Another identifiable feature was a series of propellers 6 to 12 inches in diameter spaced closely together along the outer edge of the object. These propellers were mounted on a bracket so that they revolved in a horizontal plane along the edge of the object. The propellers were revolving at a high rate of speed.

Investigation of the area soon afterward showed some evidence of vegetation being blown around. An examination of grass and soil samples taken indicated nothing unusual. Reliability of the observer was considered good.


These 12 sightings can be classed into four categories on the basis of their shapes, as follows:
(1) Propeller shape - Case I
(2) Aircraft shape - Cases II and III
(3) Cigar shape - Cases IV and V
(4) Elliptical or disc shape - Cases VI to XII

The criterion for choosing the above sightings was that their descriptions were given in enough detail to permit diagrams of the objects to be drawn. It might be noted here that in all but one of these cases (Case XI) the observer had already drawn a diagram of what he had seen.

The objective of this section of the study was the conceiving of a model, or models. The requirement that the description be detailed is an important one, and was the easiest to determine in the re-evaluation program. However, a good model ought to satisfy the following conditions as well:
(1) The general shape of the object and the maneuvers it performed should fit the reports of many of the UNKNOWNS and thus explain them.
(2) The observer and the report should be reliable.
(3) The report should contain elements which should have been observed with accuracy, and which eliminate the possibility that the sighting could be ascribed to a familiar object or to a known natural phenomenon.
(4) The model should be derived from two or more good UNKNOWNS between which there is no essential conflict.

It can be shown that it is not possible to deduce a model from the 12 cases that will satisfy all of these conditions. The following case-by-case discussion of the 12 good UNKNOWNS will illustrate this point:
(1) Case I does not satisfy Conditions 1 and 4. The reported shape of this object is not duplicated in any of the other UNKNOWNS.
(2) Case II does not satisfy Conditions 1 and 3. There are very few UNKNOWNS in the aircraft shape classification. In addition, the unusual characteristic of this sighting (i.e., the red glow) could have been reflection of the lights of Flint from the objects if they were either birds or aircraft.
(3) Case III does not satisfy Condition 1. It also does not satisfy Condition 4 when Case II is eliminated as a good UNKNOWN.
(4) Case IV does not satisfy Conditions 1 or 2. There are few cigar-shaped or rocket-shaped objects reported in the literature. In addition, this observer is not considered to be well-qualified technically.
(5) Case $V$ does not satisfy Condition 1. It also does not satisfy Condition 4 when Case IV is eliminated as a good UNKNOWN.

It might be argued here that many of the UNKNOWNS might actually have shapes similar to these good UNKNOWNS. It will be noted, however, that each of these five cases does not satisfy one of the other three conditions.
(6) Case VI does not satisfy Condition 2. In the description of the object, it was stated that at certain times there was no light seen from the object. Apparently, the "band of no light", as diagrammed by the observer, was an attempt to explain this. However, if the object were constructed as shown in the diagram, light should have been seen at all times. Because of this conflict the drawing is not considered reliable, and without the drawing, there is not enough detail in the description to make it useful for this study.
(7) Case VII violates Conditions 1 and 4. Although the shape is disc-like, the maneuvers performed by the object are unique both among the UNKNOWNS and among the good UNKNOWNS.

Cases VIII to XII satisfy Conditions 1 through 3, but they do not satisfy Condition 4. The features which make them different from each other are as follows:
(8) Case VIII. The object is smooth, with no protrusions or other details.
(9) Case IX. The object had rocket or jet pods on each side that were shooting out flames.
(10) Case X. The object had a fin or rudder.
(11) Case XI. The object had a series of portholes, or windows, on its under side.
(12) Case XII. The object had windows in its top and front and its top midsection. It also had a set of propellers around its waist.

It is not possible, therefore, to derive a verified model of a "flying saucer" from the data that have been gathered to date. This point is important enough to emphasize. Out of about 4,000 people who said they saw a "flying saucer", sufficiently detailed descriptions were given in only 12 cases. Having culled the cream of the crop, it is still impossible to develop a picture of what a "flying saucer" is.

In addition to this study of the good UNKNOWNS, an attempt was made to find groups of UNKNOWNS for which the observed characteristics were the same. No such groups were found.

On the basis of this evidence, therefore, there is a low probability that any of the UNKNOWNS represent observations of a class of "flying saucers". It may be that some reports represent observations of not one but several classes of objects that might have been "flying saucers"; however, the lack of evidence to confirm even one class would seem to make this possibility remote. It is pointed out that some of the cases of KNOWNS, before identification, appeared fully as bizarre as any of the 12 cases of good UNKNOWNS, and, in fact, would have been placed in the class of good UNKNOWNS had it not been possible to establish their identity.

This is; of course, contrary to the bulk of the publicity that has been given to this problem. The reason for the nature of this publicity was clearly brought out during the re-evaluation study. It is a definite fact that upon reading a few reports, the reader becomes convinced that "flying saucers" are real and are some form of sinister contrivance. This reaction is independent of the training of the reader or of his attitude toward the problem prior to the initial contact. It is unfortunate that practically all of the articles, books, and news stories dealing with the phenomenon of the "flying saucer" were written by men who were in this category, that is, men who had read only a few selected reports. This is accentuated by the fact that, as a rule, only the more lurid-sounding reports are cited in these publications. Were it not for this common psychological tendency to be captivated by the mysterious, it is possible that no problem of this nature would exist.

The reaction, mentioned above, that after reading a few reports, the reader is convinced that "flying saucers" are real and are some form of sinister contrivance, is very misleading. As more and more of the reports are read, the feeling that "saucers" are real fades, and is replaced by a feeling of skepticism regarding their existence. The reader eventually reaches a point of saturation, after which the reports contain no new information at all and are no longer of any interest. This feeling of surfeit was universal among the personnel who worked on this project, and continually necessitated a conscious effort on their part to remain objective.

## CONCLUSIONS

It can never be absolutely proven that "flying saucers" do not exist. This would be true if the data obtained were to include complete scientific measurements of the attributes of each sighting, as well as complete and detailed descriptions of the objects sighted. It might be possible to demonstrate the existence of "flying saucers" with data of this type, IF they were to exist.

Although the reports considered in this study usually did not contain scientific measurements of the attributes of each sighting, it was possible to establish certain valid conclusions by the application of statistical methods in the treatment of the data. Scientifically evaluated and arranged, the data as a whole did not show any marked patterns or trends. The inaccuracies inherent in this type of data, in addition to the incompleteness of a large proportion, of the reports, may have obscured any patterns or trends that otherwise would have been evident. This absence of indicative relationships necessitated an exhaustive study of selected facets of the data in order to draw any valid conclusions.

A critical examination of the distributions of the important characteristics of sightings, plus an intensive study of the sightings evaluated as UNKNOWN, led to the conclusion that a combination of factors, principally the reported maneuvers of the objects and the unavailability of supplemental data such as aircraft flight plans or balloon-launching records, resulted in the failure to identify as KNO $N$ m most of the reports of objects classified as UNKNOWNS.

An intensive study, aimed at finding a verified example of a "flying saucer" or at deriving a verified model or models of "flying saucers" (as defined on Page 1), led to the conclusion that neither goal could be attained using the present data.

It is emphasized that there was a complete lack of any valid evidence consisting of physical matter in any case of a reported unidentified aerial object.

Thus, the probability that any of the UNKNOWNS considered in this study are "flying saucers" is concluded to be extremely small, since the most complete and reliable reports from the present data, when isolated and studied, conclusively failed to reveal even a rough model, and since the data as a whole failed to reveal any marked patterns or trends.

Therefore, on the basis of this evaluation of the information, it is considered to be highly improbable that any of the reports of unidentified aerial objects examined in this study represent observations of technological developments outside the range of present-day scientific knowledge.

## APPENDIX A

TABULATIONS OF FREQUENCY AND PERCENTAGE DISTRIBUTIONS BY CHARACTERISTIGS

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|  | ALI GEARS |  |  |  |  |  | ．－． 94 |  |  |  |  |  | 1948 |  |  |  |  |  | Number |  |  | Per Cent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Momber |  |  | Percort |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percent |  |  |  |  |  |
| Evaluation | Cran | Doubtivi | Totai | Centan | Doubten： | Tota | Cetain | Doubtuil | Tobi | Centan | Doubitic | Total | Cerran | Douthil | Total | Cerran | Doublul | Tiola | certan | Ooubasij |  |  |  | Tota |
| O－Ballcon | 270 | 180 | 450 | 8. |  |  | 7 |  | － | 60 | 0.0 | $6 \%$ | 12 | $\because$ | $\because$ | 5 | ES | ＇8： | 16 | 5 | $2{ }^{2}$ |  |  | \％ | 12 | 6 |
| 1－Astrononical | 416 | $34^{\prime}$ | 8：1 | $13^{\prime} 9$ | $\because 6$ | 20 |  | $\delta$ | 4 \％ | $=17$ | 6.5 | 51： | 36 | $\because$ | － 5 | 1－5 | 12 | 365 | 74 | 132 | 20 | 51 | 354 |  |
| 2－Aicciatt | 354 | 288 | 642 | 11. | 4 | 吅！ | － | ？ | ¢ | 17 | 17 | $\because$ | 16 | 5 | $\because$ | 75 | $\because 1$ | 12 | 31 | － | 5 | 28 | 6＇ | $\because$ |
| 3 3－Light Phenom， | 32 | 24 | 56 | 10 | 88 | 1.8 | 2 | i | 2 | 17 | 00 | 1 | ？ | 6 | 5 | 10 | 2.9 | 20 | 0 | 0 | 0 | 00 | ＂ | U6＇ |
| 4 －Birds | 19 | 10 | 29 | 06. | ＂ | 04 | 0 | 0 | 2 | 08 | $0 \cdot 1$ | U1 | $\because$ | $\because$ | 5 | $\because$ | 1.5 | 25 | $\leq$ | ， | 5 | 11 | $\because 2$ | 13 |
| 5－Clowds，Oust，etc． | 12 | 13 | 15. | $0 \leq 1$ | 4. | 38 | 2 | $\bigcirc$ | C | 0＜ | 1： | 06 | 2 | 0 | 0 | $6{ }^{2}$ | 00 | 02 | 0 | 0 | 0 | 12 | v2 | ＜1－ |
| G－Insulfic int． | 298 | 0 | 298 | 4.3 | $\because 0$ | 93 | $1{ }^{\prime \prime}$ | 0 | 1 | （ | 00 | 120 | 19 | 0 | $1{ }^{\circ}$ | 0 ： | C | 03 | 3 | 0 | 36 | 41 | E |  |
| 7．－Psycholgical | 38 | 10 | 48 | 12． | 031 | 5 | 3 | 2 | 5 | 16 | 17 | $\therefore$ | 1 | 0 | 1 | 4 | O1， | $\therefore$ | 3 | 0 | 3. | 0.7 | $\square^{\prime \prime}$ | $\leqslant-$ |
| 8Unknown | 689 | 0 | 659 | $=15$ | 00 | ${ }^{\prime} 5$ | 25 | $\checkmark$ | －5 | $\because 7$ | 00 | $2=0$ | $\because$ | 0 | $\bigcirc 7$ | is | 01 | 0 | 56 | 0 | 56 | 暒： | 0 | ＜－ |
| 9－0ther | 112 | 35 | $14 \%$ | 35 | 1.1 | 46 | 17 | $\checkmark$ | $\cdots$ | 14.5 | 0.2 | L＇S | 4 | 5 | 12 | 0 | $\because:$ | C． | $\because$ | 0 | 1 | $\because 5$ | $\because$ | － 8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tola | 2300 | 901 | $320 \cdot 1$ | 119 | 251 | wir | 1051 | 12 | 117 | 545 | 102 | 100： | 124 | 81 | $\sim$ | $6 \cdot 5$ | ． 595 | $10 \%$ | 231 | ＇6＜1 | 345 | 58． | 4：5 | Lov |


|  | 1950 |  |  |  |  |  | 1251 |  |  |  |  |  | 195 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | Nunter |  |  | Pel Cent |  |  | Number |  |  | Pet Cott |  |  |
| Evaluation | Centain | Doubltul | Total | Critan | Ooubthl | Total | Cerain | Doubthil | Toial | Centain | Doubitul | Tota | Cerlain | Doubtrul | Tobil | Cerrain | Doobtitul | Total | Certan | Doultris | Total | Cetra： | Dactal | Told |
| a－Balloon | 33 | ＂ | C＇t | 10.8 | 23 | 13.1 | 10 | 4 | 14 | 6.2 | 2.5 | 81 | 182 | 144 | $33 /$ | 9.3 | \％1 | ＇6． |  |  |  |  |  |  |
| 1－Astronomical | 43 | 15 | 74 | 16.0 | S2 | 24.2 | 15 | 17 | 42 | 15.6 | 10.6 | 26.2 | 260 | 120 | 380 | 12.9 | 6.0 | 189 |  |  |  |  |  |  |
| 2－Aircraft | $3^{\circ}$ | 15 | 54 | 12.7 | 49 | 116 | 16 | 8 | 24 | 10.0 | 50 | 15.0 | 250 | 232 | 482 | 12.4 | 11.5 | 239 |  |  |  |  |  |  |
| 3－Light Pherom． | 0 | $L^{\prime}$ | 2 | 0.0 | 0.0 | 00 | 2 | 1 | 3 | 13 | 0.7 | 2.0 | 26. | 17 | 43 | 13 | 08 | 21 |  |  |  |  |  |  |
| 4 －${ }^{\text {inds }}$ | 0 | $\because$ | $\cdots$ | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 0.1 | 0.7 | 13 | 5 | 18 | 06 | 02 | $0 \cdot 5$ |  |  |  |  |  |  |
| S－Clouds，Ovst，etc． | 0 | 0 | 1－ | 00 | 00 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 12 | 13 | 25 | 0.6 | 06 | 12 |  |  |  |  |  |  |
| G－Insuffic．Intig． | 48 | ？ | 4 | 16.0 | 0.0 | 16.0 | 14 | 0 | 14 | 81 | 0.0 | 8.1 | 166 | 0 | 166 | 82 | 0.0 | $5=$ |  |  |  |  |  |  |
| 7－Psychlological | 4 | 3 | $4^{\prime}$ | 13 | 0.0 | 1.3 | 1 | 1 | 2 | 07 | 0.7 | 1.4 | 26 | 1 | 33 | 1.3 | 0.3 | 16 |  |  |  |  |  |  |
| －Unknown | 71 | 3 | 11 | 23.2 | 0.0 | 232 | 52 | 0 | 52 | 32.5 | 0.0 | 32.5 | 455 | 0 | 455 | 27.6 | 00 | $2 ¢ 6$ |  |  |  |  |  |  |
| 9－0ther | 7 | \＃ | ＇先＇ | 2.3 | 2.3 | 4.6 | $\varepsilon$ | 0 | 8 | 5.0 | 0.0 | 5.0 | 65 | 20 | 85. | 3.2 | 1.0 | S：2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 252 | $5 \%^{\prime}$ | 30 | 82.31 | 177 | ieo． | 128 | 32 | 160 | 80.0 | 200 | 100. | 1460 | 558 | 2018 | 72.4 | 276 | 100 |  |  |  |  |  |  |

TABLE：AZ EVRLUATION OF UNUT SIGHTINGS BY YEARS

| Evaluation | $A L L$ YEARS |  |  |  |  |  | 1947 |  |  |  |  |  | 1848 |  |  |  |  |  | 1？：0 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per cent |  |  | Rumber |  |  | Per Cent |  |  | Hunber |  |  | Per Cent |  |  | Number |  |  | Percont |  |  |
|  | Centain | Dobbttul | 061 | Centain | Dosittul | Total | Ceritain | Dabiluil | Toba | Certain | Dowblul | Tota | ertain | Doobttul | Total | Ceritain | Doubitu | Tolal | Cetan | Douttol | Toㅔ1 | Cetan | Dountral | Tota |
| 0－Ballcon | 228 | 151 | 379 | 8.9 | 5.9 | 14.8 | 7 | 0 | 7 | 7.2 | 0.0 | 12 | 14 | 10. | 24. | 92 | 65 | 157 |  | 3 | 14 | 1 | 3 | 60 |
| 1－Astrononical | $3 \times 3$ | 256 | 634 | 15.0 | 10.0 | 25.0 | 19 | 8 | 27 | 196 | 8.2 | 278 | 28 | 21. | 55 | 183 | 11：6 | 359 | 3 | 80. | 114 | 14.4 | 338 | 482 |
| 2－Aircratt | 232 | 235 | 527 | 11.4 | 92 | 20.6 | 2 | 2 | 4 | 2.1 | 2．1． | 4.2 | 15 | 4 | 19 | 98 | 36 | 12.4 | 18 | 12 | 30 | 76 | 51 | 127 |
| 3－Light Premen． | 32 | 21 | 53 | 13 | 0.8 | 2.1 | 2 | 0 | 2 | 2.1 | 0.0 | 2.1 | 2 | 3 | 5 | 13 | 20 | 33 | 0 | 0 | 0 | 12 | 00 | 00 |
| 4 Birds | 13 | ： 0 | 23 | 0.5 | 0.4 | 0.2 | 0 | 0 | － 0 | 0.0 | 0.0 | 0.0 | 2 | 3. | 5 | 13. | 20 | 33 | 2 | 1 | 3 | 0.8 | 4 |  |
| 5 －Clouds．Dust，etc． | 3 | 7 | 10 | a1 | 0.3 | 0.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00. | 0.0 | 0.0 | 0 | 0 | 0 | Cil | 02 | 02 |
| G－Insulfic．info． | 261 | 0. | 261 | 10.2 | 0.0 | 10.2 | 12 | 0 | 12 | 12.4 | 0.0 | 12.4 | 1 | 0. | 17 | 111 | 0.0 | 11.1 | 33 | 0 | 33 | 140 | co | 140 |
| 7．Psyctological | －${ }^{\circ}$ | 4. | 45 | 1.4 | 0.4 | 1.8 | 3 | 2 | 5 | 3.1 | 2.1 | 5.2 | 1 | 0 | 1 | 07 | 00 | 02 | 3 | 0 | 3 | 13 | 2i | 13 |
| GUnknow | 497 | 0 | 497 | 185 | 00 | 125 | 24 | 0 | 24 | 24.1 | 0.0 | 241 | 16 | 0 | 16 | 105 | 08 | 10.5 | 33 | 0 | 33 | 140 | so | 148 |
| $9-0$ ther | 42 | 28 | 120 | 3.6 | 11 | 4.1 | 16 | 0 | 16 | 16.5 | 0.0 | 16.5 | 4 | 1 | 1 | 26 | 46 | 12 | 6 | 0 | 6 | 25 | 0.0 | 25 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rotal | 1831 | 712 | 2554 | 71.9 | 28.1 | 100. | 85 | 12 | 91 | 81.6 | 12.4 | 100 | 49 | 54 | 153 | 64.1 | 353 | 10 | 140 | 96 | 236 |  |  |  |


| Evaluation | 1950 |  |  |  |  |  | 1751 |  |  |  |  |  | 1052 |  |  |  |  |  | Nunber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Avmber |  |  | Per Cent |  |  | Humber |  |  | Pet Cent |  |  | Number |  |  | Percent |  |  |  |  |  | Percent |  |  |
|  | Centain | Doustul | Tolat | Cendan | Doubthe ${ }^{\text {a }}$ | Total | Ceftain | Doübrai | Total | Cetain | Doubttel | Total | Centan | ［0outitul | Total | Cerlain | Douthil | Total | Cerlain | Ooubthy | Toial | Canain | Doubtiol | Tax |
| O－Balloon | 22 | 5. | 27 | 10.5 | 2． 4 | 12.8 | 9 | 3 | 12 | 66 | 2.2 | 8．8 | 165 | 130 | 245 | 9.6 | 75 | 171 |  |  |  |  |  |  |
| 1－Astronomial | 42 | 18 | 60 | 20.1 | 8.6 | 287 | 21. | 14 | 35 | 15．3 | 10.2 | 25．5 | 239 | 109 | 348 | 13.9 | 63 | 20.2 |  |  |  |  |  |  |
| 2．Aircalt | 30 | 11 | 41 | 43 | 5.3 | 14.6 | 16 | 8 | 24 | 11.7 | 5.8 | 17.5 | 211 | 198 | 409 | 12.3 | 115 | 11.4 |  |  |  |  |  |  |
| 3－Light Phenom． | 0 | 0 | 0 | 0.0 | 00 | 00 | 2 | 1 | 3 | 15 | 27 | 2.2 | 26 | 17 | 43 | 15 | 1.0 | 2.5 |  |  |  |  |  |  |
| 4 －Bids | e | 0 | 0 | 0.0 | 0.2 | 0.0 | 0 | 1 | 1 | 0.0 | 0.7 | 27 | 4 | 5 | 14 | 0.5 | 0.2 | 28 |  |  |  |  |  |  |
| 5 Clouds，Dust，elc． | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 120 | 0.0 | 00 | 3 | 7 | 10 | 02 | 0.4 | 0.6 |  |  |  |  |  |  |
| 6－insuttic inf． | 26 | 0 | 26 | 124 | 0.0 | 124 | 14 | 0 | 14 | 10.2 | 00 | 102 | 159 | 0 | 159 | 92 | 0.0 | 92 |  |  |  |  |  |  |
| 7．Psyctological | 2 | 0 | 2 | 1.0 | －0．01 | 10 | 1 | 1 | 2 | 0.7 | 0.1 | 1.4 | 26 | 6 | 32 | 15 | 0.3 | 18 |  |  |  |  |  |  |
| BUnkromm | 42 | 0 | 42 | 101 | 0.0 | 201 | 38. | 0 | 38 | 217 | 0.0 | 217 | 344 | 0 | 344 | 20.0 | 0.0 | 20.0 |  |  |  |  |  |  |
| 90 ther | 6 | 5 | 11 | 2.9 | 2.4 | 5.3 | 8 | 0 | 8 | 5.8 | 2.0 | 5.8 | 52 | 16 | 68 | 3.0 | 0.9 | 3.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 170 | 39 | 209 | 81.4 | 18.6 | 10. | 1091 | 28 | 137 | 49.6 | 20．4 | $\cdots 2$ | 1234 | 488 | 1122 | 117 | 28.3 | 100 |  |  |  |  |  |  |


| Eruaution | ALL $\bar{Y} E R R S$ |  |  |  |  |  | 1947 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | 1948 | [-1949 |  |  |  |  |  |
|  |  |  |  |  |  | , |  |  |  |  |  |  |  |  |  | Mumber |  |  | Pa | Pecicon | Tola | Crian | $\frac{\text { Mumber }}{\text { TDoubthed }}$ | Tobl | Pacent |  |  | $\bigcirc \mathrm{Pec} \mathrm{Cml}$ |  |  |
| abation | 207 | 132 | 331 | 9.4 | 6.0 | 154 | 7 | 0 | 7 | 8.9 | 0.0 | 89 | 12 | 10 | 22 | 8.4 | 10 | 15.4 | II | 2 | 13 | 5 | - | 70 |
| 1-Atmonmiot | 274 | 205 | 478 | 12.5 | 9.3 | 21.5 | 8 | 8 | 16 | 10.1 | 10.1 | 202 | 25 | 23 | 48 | 175 | 16.1 | 336 | 24 | 55 | 84 | 15.6 | 295 | (5) |
| 2 2incran | 265 | 208 | 414 | 12.0 | 25 | 215 | 2 | 2 | 4 | 2.5 | 25 | 5.0 | 15 | 4 | 19 | 105 | 28 | 123 | 18 | 12 | 30 | 27 | 6.4 | $16: 1$ |
| HLietren Pheom | 30 | 18 | 48 | 14 | 0.8 | 2.2 | 2 | e | 2 | 25 | 00 | 2.5 | 2 | 3 | 5 | 1.4 | 21 | 35 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 Birds | 12 | 10 | 22 | 0.5 | 0.5 | 1.0 | 0 | e | 0 | 0.0 | 00 | 0.0 | 2 | 3 | 5 | 1.4 | 2 | 35. | 2 | 1 | 3. | 1 | 0.5 | 16 |
| 5 clounds, Doste ela | 3 | 7 | 10 | 0.1 | 0.3 | 0.4 | 0 | a | 0 | 2.0 | 0.0 | 0.0 | e | 0 | 0 | 0.0 | 00 | -00 | e | 0 | 0 | 0.0 | 00 | 20 |
| Gramicic mio. | 240 | -0 | 240 | 10.9 | 00 | 10.9 | 12 | e | 2 | 15.2 | 0.0 | 15.2 | 7 | 0 | ノ | 119 | 20 | 11.9 | 25 | 0 | 25 | 13.4 | co | 34 |
| 2 Pendologian | 35 | 9 | 44 | 16 | 0.4 | 20 | 3 | , | 5 | 3.8 | 25 | 6.3 |  | 0 | 1 | e7 | 0. 0 | 0.1 | 3 | , | 3 | 1.6 | en | 16 |
| Euthow | 484 |  | 454 | 19.7 | 00 | 191 | 22 | 0 | 22 | 27.8 | 0.0 | 21.8 | , | 0 | 15 | 105 | 0.0 | 10.5 | 22 | 0 | 22 | 148 | co | 18 |
| Sothe | 65 | 24 | 108 | 39. | 11 | 5.0 | II | e | 11 | 19.9 | 0.0 | 13.9 | , | 7. | 11 | 2.8 | 4.9 | 17 | , | 0 | 6 | 3.2 | ce | 32 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1585 | 614 | 2199 | 122.1 | 27.9 | 100. | 67 | 12 | 19 | 84.8 | 152 | 100. | 93 | 50 | 143 | 65.0 | 35.0 | 100. | 116 | 20 | 186 | 4 | 26 | 100. |


|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | miner |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mumber |  |  | Pat Comt |  |  | Aumber |  | $\mathrm{PaCm}_{\text {cmi }}$ |  |  | muster |  |  | Pacent |  |  |  |  |  |  |  |  |
| Evalazion | Combin | Doubtui | Tobl | Centain] | Dabtum | Tobi | cmain | Dowituol | Total | Cettion | Dabbltam | Totad | Cestion | Dowbutis | Tobl | Centin | Dabtitud | Tatil | Cotion | Dowidh | Yote | IC Perlisn Cont |  |  |
| O-aylton | 2 | 4 | 25 | 12.4 | 2.4 | 14.8 | 8. | 3 | 11 | 66 | 2.5 | 9.1 | 128 | 113 | 261 | 49 | 75 | 118 |  |  |  |  |  |  |
| L-Astronacical | 15 | 14 | 39 | 14.8 | 8.3 | 23.1 | 16 | 14 | 30 | 13.2 | 11.6 | 24.8 | 17 | 4 | 262 | 《4 | 61 | 17.5 |  |  |  |  |  |  |
| 2 - icicant | 22 | 9 | 31 | 13.0 | 5.3 | 18.3 | 15 | 6 | 2 | 2.4 | 5.0 | $1 \% .4$ | 193 | 176 | 369 | 12.9 | 11.7 | 24.6 |  |  |  |  |  |  |
| 3 ligmp Phemen. | 0 | 0 | e | 0. | 00 | Qe | 1 | 1 | 2 | 0.8 | 0.8 | 1.6 | 25 | 14 | 39 | 47 | 0.9 | 2.6 |  |  |  |  |  |  |
| + Birats | 0 | 0 | $\bigcirc$ | 0.0 | an | 0.9 | 0 | 1 | 1 | 0.0 | 08 | 08 | 8 | 5 | 13 | Q 5 | e3 | 0.8 |  |  |  |  |  |  |
| 5 Sclauts, Dosst 0 ce | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | a0 | 0.0 | 0.0 | 3 | 7 | 10 | 4.2 | 26. | 0.7 |  |  |  |  |  |  |
| Fraselic. mio. | 24 | 0 | 24 | (14. 2 | 0. | 14.2 | 14 | e | 14 | 11.6 | 0.0 | 11.6 | 148 | 0 | 148. | 9.9 | ee | 8.8 |  |  |  |  |  |  |
| 2psycriofyicat | 2 | $\bigcirc$ | 2 | 12 | e. | 12 | 1 | 1 | 2 | 0.8 | 0.8 | 1.6 | 25 | 6 | 31 | 1 | 04 | 2.1 |  |  |  |  |  |  |
| a | 39 | 0 | 39 | 23.0 | ee | 23.0 | 33 | 0 | 33 | 27.3 | 0.0 | 213 | 303 | 0 | 303 | 20.2 | 0.0 | 20.2 |  |  |  |  |  |  |
| Gother | , | 1 | , | 35 | 18 | 5.3 | 1 | 0 | 7 | 5.8 | 0.0 | 5.8 | 51 | 14 | 65 | 19\% | 0.9 | 43 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 139 | 30 | 169 | 82.3 | 171 | 100. | 95 | 26 | 121 | 78.5 | 265 | 100. | 275 | 26 | 1501 | $1 \% .6$ | 284 | 100. |  |  |  |  |  |  |



| Evalustion | Javinary |  |  |  |  |  | Feqpuaty |  |  |  |  |  | MApco |  |  |  |  |  | APRLL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Patcmt |  |  | menber |  |  | Per Cont |  |  | Mumber |  |  | Percent |  |  |  |  |  | Percemt |  |  |
|  | Cortain | Doubtrol | ToEI | Certain | Doubltal | Total | Cestan | Dowblu] | Totic | Cetrin | [Dowiffor | Tota | Cerixin | Doabitul | rotal | Certan | Doubtel | Tout | Certan | Doubicki | 88021 | Costan | Dowbtụ | aj |
| O-Baylosm | 3 | 3 | 6 | 2.2 | 2.2 | 4.4 | 9 | 0 | 9 | 9.7 | 0.0 | 9.7 | 16 | 4 | 20 | 9.6 | 2.4 | 12.0 | 7 | 3 | 10 | 35 | 1.5 | 5:0 |
| $1-$ Stronomian | 29 | 46 | 75 | 21.3 | 33.8 | 55.1 | 17 | 16 | 33 | 18.3 | 17.2 | 35.5 | 21 | 20. | 41 | 12.7 | 12.0 | 24.7 | 52 | 9 | 61 | 260 | 4.5 | 30.5 |
| 2-Aircaint | 6 | 3 | 9 | 4.4 | 2.2 | 6.6 | 9 | 5 | 14 | 2.7 | 5.4 | 15.1 | 23 | 7 | 30 | 13.9 | 4.2 | 18.1 | 28 | 8 | 36 | 140 | 4.0 | 18.9 |
| 3-Lint Pheom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 05 | 0.0 | 0.5 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 0 | 5 | 3.0 | 0.0 | 3. 0 | 4 | 1 | 5 | 20 | 0.5 | 2.5 |
| 5 Cloouts, Duste etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 0 | 1 | 1 | 0.0 | 0.6 | 0.6 | 0 | 0 | 0 | 01 | 0.0 | 0.0 |
| Gmastric nio. | 8 | 0 | 8 | 5.9 | 0.9 | 5.9 | 13 | 0 | 13 | 14.0 | 0.0 | 14.0 | 22 | 0 | 22 | 13.3 | 0.0 | 13.3 | 26 | 0 | 24 | 130 | 0.0 | 13.0 |
| 7Psyctiogical | 2 | 0 | 2 | 1.5 | 0.0 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 10 | 0.0 | 1.0 |
| Sumben' | 26 | 0 | 26 | 19.5 | 0.0 | 19.5 | 16 | 0 | 16 | 17.2 | 0.0 | 17.2 | 29 | 0 | 29 | 17.5 | 0.0 | 17.5 | 57 | 0 | 57 | 2B.5 | 0.0 | 28,5 |
| Sothem | 9 | 7 | 10 | 6.6 | 0.7 | 7.3 | 8 | 0 | $B$ | 8.6 | 0.0 | 8.6 | 1 | 17 | 18 | 0.6 | 10.2 | 10.8 | 2 | 0 | 2 | 1.0 | 0.0 | 1.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 83 | 53 | 136 | 61.0 | 37.0 | 100. | 72 | 21 | 93 | 77.4 | 27.6 | 108. | 117 | 49 | 166 | 70.5 | 79.5 | 100. | 179 | 21 | 200 | 89.5 | 10.5 | 100. |


| Enaluation | MAx |  |  |  |  |  | Juke |  |  |  |  |  | Tuer |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Percent |  |  | Mumber |  |  | Par cent |  |  | number |  |  | Per Comt |  |  | Number |  |  | Percomt |  |  |
|  | Centin | Dosibtal | Otat | Certain | Dasotiol | Tota | Centain | Dousithal | Totar | Cetrin | Dooubtia | Toti | 员ia | Dowbtrul | Total | Certain | Doibticul | Total | Certin | Dovering | Tota | Critan | Daubitus | Ota |
| O-Ballom | 24 | 5 | 29 | 12,4 | 2.6 | 15.0 | 36 | 6 | 42 | 15.8 | 2.4 | 18.4 | 100 | 55 | 155 | 10.8 | 5.9 | 16.7 | 39 | 44 | 83 | 75 | 8.4 | 158 |
| 2-Astraomical | 28 | 10 | 38 | 14.4 | 5.2 | 17.6 | 29 | 23 | 52 | 17.7 | 10.1 | 12.8 | 116 | 55 | 171 | 12.5 | 5.9 | 18.4 | 53 | 70 | 123 | 18. | 134 | 236 |
| 2-Airaval | 25 | 15 | 40 | 12.9 | 7.7 | 20.6 | 30 | 13 | 43 | . 2 | 5.7 | 18.9 | 133 | 98 | 231 | 14.3 | 18. 5 | 24.8 | 52 | 55 | 107 | 10.3 | 10.6 | 20.6 |
| 3 Libti Phano | 3 | 3 | 6 | 1.5 | 1.5 | 3 | 1 | 3 | 4 | 0.4 | < 3 | 1.7 | 14 | 4 | 18 | 1.5 | 0.4 | 1.4 | 7 | 7 | 1 | 1.3 | , 3 | 2.6 |
| 4 Bints | 0 | 2 | 2 | 0.0 | 1.0 | 1.0 | 0 | 0 | - 0 | 0.0 | 0.0 | $0 . \mathrm{C}$ | 4 | 3 | 7 | 0.4 | 0.3 | 0. | 0 | 0 | 0 | 0.0 | $0 \cdot 0$ | 2.0 |
| 5 Clounts, Dist, et | 8 | 0 | 8 | 4.1 | 0.0 | 4.1 | 0 | 0 | e | 0.2 | P. 0 | 0.0 | 4 | 1 | 5 | 0.4 | 0.1 | 0.5 | 0 | , |  | 0.0 | 0.2 | 0.2 |
| F-msunfic, mia. | 22 | 0 | 22 | 11.3 | 0.0 | 16.3 | 25 | O | 25 | 11.8 | 0.0 | . 0 | 88 | $\theta$ | 88 | 9.5 | 0.0 | 9.5 | 45 | 0 | 45 | 8.6 | 0.0 | 8.6 |
| PPsyctological | 0 | 1 | 0 | 0.0 | 0.0 | 0. | , | 0 | 6 | 26 | 0.8 | 2.6 | 9 | 9 | 18 | 1.0 | 1.0 | 2.0 | 10 | 1 | 11 | 1.9 | 0.1 | 2.1 |
| B-umanom | 36 | 0 | 36 | 18.4 | 0.0 | 18. | 47 | 0 | 47 | 286. | 0.0 | 30.6 | 195 | 0 | 195 | 21.0 | 0.0 | 21.0 | 119 | 0 | 119 | 22.8 | 0.0 | 12.8 |
| Sother | 9 | 4 | 13 | 4.6 | 2.1 | 6.7 | 8 | 1 | 9 | 3.5 | 0.4 | 3.9 | 40 | 1 | . 41 | 4.3 | 0.1 | 4.4 | /1 | 7 | 18 | 2.1 | 1.3 | 3.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toual | 155 | 39 | 194 | 79.9 | 201 | 100 | 182 | 46 | 128 | 79.8 | 20.2 | 160. | 703 | 226 | 999 | 75.7 | 24.3 | 192 | 336 | 185 | 521 | 645 | 3:5. 5 | 100 |


| Evaluation | SEPTEMBER |  |  |  |  |  | Ocreser 4 |  |  |  |  |  | NOVEMEER |  |  |  |  |  | PECKMFKR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percat |  |  | muber |  |  | PaCmit |  |  | number |  |  | Percern |  |  | Mumber |  |  | Per Cort |  |  |
|  | Centin | Doobbluil | Tobl | Centin | Dasotiol | Toted | Certrin | Doubtrul | Toter | Cotrin | Daubtoul | Toter | Certain | Dowitul | Total | Cersin | Doubitul | Tatel | Certion | Douttru | Tow | Cotam | Doublin | Tola |
| O-Baxloon | 6 | 14 | 20 | 2.9 | 6. | 9.6 | 16 | 21 | 37 | 8.3 | 10.9 | 19.2 | 5. | 18 | 23 | 3.0 | 11.0 | 14.0 | 9 | 7 | 16 | 5.4 | 4.2 | 9.6 |
| 1-Atruamion | 31 | 11 | 42 | 14.8 | 5.2 | 20. | 40 | 21 | 61 | 20.8 | 10.9 | 31.7 | 28 | 29 | 57 | 17.1 | 17.7 | 34.8 | 32 | 31 | 63 | 19.1 | 18.5 | 27.5 |
| 2-Aimunt | 14 | 37 | 51 | 6.7 | 17.6 | 34 | 11 | 17 | 28 | 5.7 | 8.9 | 14.6 | 11 | 16 | 27 | 6.7 | 9.8 | 16.5 | 12 | 14 | 26 | 7.1 | 8.3 | 15.4 |
| 3-Limat Phem | 1 | 2 | 3 | 0.5 | 1.0 | 1.5 | 1 | 4 | 5 | 0.5 | 2.1 | 2.6 | 3 | 1 | 4 | 1.8 | 0.6 | 2.4 | 1 | 0 | , | 0.6 | 0.0 | 0.6 |
| 4 Bints | , | 2 | 3 | 0.5 | 1.0 | 1.5 | 5 | 2 | 7 | 2.6 | 1.0 | 36 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| 5-Clouds, Dust, | $e$ | 1 | - | 0.0 | 0.5 | 0.5 | 0 | 1 | , | 0.0 | 0.5 | 0.5 | 0 | 8 | 8 | 0.0 | 4.9 | 4.9 | 0 | 0 | O | 0.0 | 0.0 | 0.0 |
| Grasuffic. min. | 20 | 0 | 20 | 9.5 | 0.0 | 9.5 | 12 | 0 | 12 | 6.2 | 0.0 | 6.2 | 8 | 0 | 8 | 4.9 | 0.0 | 4.4 | 9 |  | 9 | 5.4 | 0. | 5.4 |
|  | 3 | 0 | 3 | 1.4 | 0.0 | 1.4 | 1 | $B$ | 1 | 0.5 | 0.0 | 0.5 | 1 | 0 | 1 | 0.6 | Q. 0 | 0.6 | 4 | 0 | 4 | 3.4 | 0. | 2.4 |
| - - - | 56 | 0 | 56 | 26.7 | 0.0 | 26.7 | 36 | 0 | 36 | 18.7 | 0.0 | 18.7 | 32 | 0 | 32 | 19.5 | 0.0 | 18.5 | 40 | 0 | 40 | 238 | 0.0 | 23.8 |
| 90thee | 8 | 3 | 11 | 3.8 | 1.4 | 5. 2 | 3 |  | 4 | 1.6 | 0.5 | 2.1 | 4 | 0 | 4 | 2.4 | 0.8 | 2.4 | 9 | 0 | 9 | 5.4 | 0.0 | 5.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 140 | 70 | 210 | 66.71 | 33.3 | 100. | 125 | 67 | 712 | 65.1 | 34.9 | 100. | 92 | 72 | 764 | 56.1 | 43.9 | 100 | 116 | 52 | 168 | 69.0 | 3.0 | 100 |

TABLE RS EVALUATION OF ALL SIGHTINGS BY MONTH DE YEAR,

|  | Jarumaty |  |  |  |  |  | Fispuaty |  |  |  |  |  | Mapen |  |  |  |  |  | Aperl |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pestin Cernt |  |  | Munber |  |  | Percot |  |  | Munber |  |  | Parcot |  |  | mumar |  |  | Peecent |  |  |
| Evaluation | Centin | Dowothl | Total |  |  | Iobal | Certain |  | Tolal | Certain | Dawilu | Toial | Cetria |  | Tout | Cerlain | Poibital | Total | Cerian | Doutital | Tota | Corian | Dawbl | Todal |
| a-Eaxilocn |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astronomical |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Airctar |  |  |  | 1 | r |  |  |  |  |  | K |  |  |  |  |  | c |  |  |  |  | 1 |  |  |
| 3-Lidit Pheron. |  |  |  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  |  |
| 4 Binds |  |  |  | ${ }^{+}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | F |  |  |
| 5-Clowds, Dust, etc |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| G-msulfic.mo. |  |  | 0 |  |  |  |  |  |  |  |  |  |  |  | $\theta$ |  |  |  |  |  | - |  |  |  |
| 7.Psycrologial |  |  |  |  |  | 1 |  |  |  |  |  |  |  | $\checkmark$ |  |  |  |  |  |  |  |  |  |  |
| 2Undinom. |  |  |  |  |  |  |  |  | $\stackrel{1}{1}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 O 隹 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | May |  |  |  |  |  | TUNE |  |  |  |  |  | Jucy |  |  |  |  |  | AU605 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munder |  |  | Percent |  |  | Mumber |  |  | Percart |  |  | nuber |  |  | Pec Cont |  |  | metas |  |  | Per Coml |  |  |
| Evalualion | Centain | Doubtul | Total | Cortion | Dosbtitul | Toun | Centain | Daubtuil | Totad | Certrin | Dovotul | Tota | Setroin | Douibutul | Toual | Certain | Dosillal | Totar | Cettion | Dowitin | Toten | Certin | Daubetiol | Tola |
| 0-Basloon |  |  |  |  |  |  | 1 | 0 | 1 | 77 | 0.0 | 77 | 6 | 0 | 6 | 10.7 | 0.0 | 10.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astionomical |  |  |  |  |  |  | 0 | 1 | 1 | 00 | 2.1 | 7.7 | 5 | 3 | 8 | $9 /$ | 5. | 14.6 | 6 | 1 | 7 | 32,5 | 6.3 | 438 |
| 2-Aircratt |  |  |  |  |  |  | 2 | 0 | 2 | 15.9 | 0.0 | 15.0 | 0 | 2 | $z$ | 0.0 | 36 | 3.6 | 0 | 0 | 2 | 0.0 | 0.1 | 0.0 |
| 3-Limt Phenom. |  |  |  | $\checkmark$ |  |  | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 | 1 | 0 | 1 | 18 | 2, 0 | 1.8 | 0 | e | 0 | 1.0 | 0.0 | 0.0 |
| 4 -irins |  |  |  | A |  |  | 0 | 0 | $\bigcirc$ | ae | 10 | de | 0 | $\bigcirc$ | e | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | O.e | 00 |
| 5-Clouds, Dust etc. |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | al | 0.0 | 0 | 0 | 0 | De | 20 | 0.0 | 0 | 0 | 0 | 0.0 | Le | 0.0 |
| G-Insutfic. mio. |  |  |  |  |  |  | 3 | 0 | 3 | 23.1 | 00 | 23.1 | 8 | 0 | 8 | 14.5 | 0,0 | 1125 | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 |
| 7-Psycrobogical |  |  |  |  |  |  | 1 | 0 |  | 7.7 | 0.0. | 27 | 0 | 2 | 2 | 80 | 3.6 | 36 | 0 | 0 | 0 | 00 | 0. | 0.8 |
| B-Unknome |  |  |  |  |  |  | 4 | 0 | 4 | 30.8 | 00 | 30.8 | 12 | e | 12 | 218 | 0.0 | 248 | 2 | 0 | 7 | 13.8 | 0.0 | 438 |
| 90ther. |  |  |  |  |  |  | 1 | 0 | 1 | 1.7 | 0.0 | 27 | 16 | 0 | 16 | $2 \% 1$ | 0.0 | 221 | 0. | 0 | Q | 0.0 | en | 00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  | 12 | 1 | 13 | 42.3 | 7.2 | 100. | 48 | 7 | 55 | 82,3 | 12.7 | 100. | 15 | 1 | 16 | 23.7 | 6.3 | 100 |


| Evaluation | SEPTEMEER |  |  |  |  |  | DCTEAER |  |  |  |  |  | NOVEMPEA |  |  |  |  |  | DEKEMEEA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | memba |  |  | Pacent |  |  | Nember |  |  | Percat |  |  | munter |  |  | Pachat |  |  | Humber |  |  | Perceml |  |  |
|  | Certw | Oowitur | Tobal | Certain | Dabitu | Total | Centrin | Dadimi | Tota | Catrin | Dabolthy | Totai | Cembin | Doubltul | Total | Cerdin | Dowithal | Yotal | Certain | Doultiol | Tota | Ceriain | Daubinu | Total |
| 0-Balloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\bigcirc$ | OP | 0.0 | 00 |
| 1-Astromacical | 1 | 0 | 1 | 167 | 0.0 | 167 | 14 | 2 | 16 | 737 | 10.5 | 84.2 | 1 | 1 | Z | 33.3 | 33.3 | 666 | 5 | 0 | 5 | 100. | 0.0 | 100.0 |
| 2-Aircaft | 0 | e | 0 | 00 | 00 | 0.1 | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 3-Light Pherom. | 0 | 0 | 0 | 0.0 | 02 | a0 | 0 | R | 0 | 20 | el | 20 | 1 | 0 | 1 | 33,3 | e0 | 333 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 Birts | 0 | 0 | 0 | 20.0 | 0.0 | 0.0 | 0 | 0 | 0 | el | e. 0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 12. |
| 5-Clouds, Dust, etc. | 0 | 0 | 0 | 1.0 | R. 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0, | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | Qd | 0.0 | 00 |
| 6-Insulfic. Mio. | 1 | 0 | 1 | 16.7 | 1. | 167 | 0 | 0 | 0 | 20 0 | 0.0 | e. 0 | 0 | 0 | 0 | 0.1 | e. 0 | 0,0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 7-Psyctrological | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 1 | 0 | 1 | 5.3 | 0.0 | 5.3 | 0 | 0 | 0 | 0. 0 | 00 | 0.0 | 0 | 0 | 0 | 0.8 | al | Q0 |
| 8-Umbnown | 3 | 0 | 3 | 50.0 | $0 \cdot$ | 50.0 | 2 | 0 | 2 | 145 | 0. | 10.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | ae | 80 |
| 9 Othet | 0 | 0 | 0 | 0.0 | 00 | e. 0 | 0 | 0 | Q | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 2.0 | Q 0 | 0 | 0. | 0 | 00 | 0.8 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totan | 6 | 0 | 6 | 100.1 | Qe | 100. | 17 | 2 | 19 | 89,5 | 10.5 | 10. | 2 | 1 | 3 | 66.7 | 323 | 100 | 5 | 0 | 5 | 100.5 | 0 | 100. |



| Eviluation | MAY |  |  |  |  |  | TUNE |  |  |  |  |  | JULY |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | manter |  |  | Pex Cont |  |  | number |  |  | Per Corl |  |  |
|  | Certbin | Doubital | Total | Certain | Dabtinu | Tolat | Cetain | Doibthyl | Total | Centain | Dobitina | Total | Semtin | Dosobthl | Tolar | Certain | Doibltal | Tatal | Certion | Doulth | Tolad | Certain | Doutital | Told |
| O-Bation | 0 | 0. | 0 | 0.0 | 0.0 | D, 0 | 3. | 0 | 3 | 540 | 0.0 | 58.0 | 4 | 1 | 5 | 123 | 2.6 | 12.9 | 0 | 2 | 2 | 0.0 | 18.2 | 182 |
| 1-Astomaxical | 1 | 1 | 2 | 21 | 9.1 | 14.2 | 0 | 0 | 0 | de | 0.0 | 0.0 | 4 | 9 | 13 | 10,3 | 23.1 | 33.4 | 2 | 2 | 4 | 18.2 | 18.2 | 36.4 |
| 2-Aircari | 1 | 0 | 1 | q1 | 0.0 | 91 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 5 | 2 | 7 | 128 | 5.1 | 17.9 | 1 | 1 | $z$ | 91 | 91 | 182 |
| 3-Light Fheman. | 0 | 3 | 3 | 0.0 | 27.3 | 27.3 | 0 | 3 | 3 | 0.0 | 50.0 | 50.0 | 1 | 0 | 1 | 2.6 | 0.0 | 26 | 0 | E | 0 | 60 | eci | 0.8 |
| 4 Binds | 0 | 1 | 1 | 0.0 | 91 | 9.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 2.6 | 2.6 | 0 | R | 0 | 1.0 | 0.0 | 0.0 |
| 5-clouds, Dost, etc | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.2 | 0.0 | 0,0 | 0 | 0 | 0 | 0.0 | Cib | 0.0 |
| Einsumfic. mio. | 3 | 0 | 3 | 22.3 | 0.0 | 27.3 | 0 | 0 | 0 | 20 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | en | 1 | 0 | 1 | 9.1 | 0.0 | 21 |
| 7.Psyctiological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | en | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 1 | Q, 0 | 0.0 | 0.0 |
| BULutnova | 1 | $a$ | 1 | 91 | 0.0 | 11 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 11 | 0 | 11 | 28.2 | 0.01 | 28,2 | 0 | 0 | 0 | Qe | 0.0 | 0.0 |
| Popees | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 | 1 | 0 | 1 | 2.6 | 2. 0 | 26 | 12 | 2 | 2 | Qe | 18.2 | 18.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 6 | 5 | /1 | 546 | 45.4 | 100 | 3 | 3 | 6 | 500 | 60.0 | 100. | 26 | 13 | 39 | 66.7 | 33.3 | 100. | 4 | 7 | 11 | 36.4 | 63.6 | 100 |


| Evaluation | SEPTEM SEN |  |  |  |  |  | O¢TO8FP |  |  |  |  |  | NOVEMPER |  |  |  |  |  | DECEM |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Munber |  |  | Percert |  |  | Nunter |  |  | Percent |  |  | Number |  |  | Per Comt |  |  |
|  | Centin | Doibtuol | Tolad | Centia | Doditul | Tolal | Certain | Dacotul | Total | Certain | Doubtue | Tola | Cerrain | Doubtul | Total | Centrin | Doubtini | Tod | Cention | Doutitul | Tol2 | Certain | Dovoltio | Foid |
| a-Baxiloon | R | 3 | 3 | 0.0 | 375 | 37.5 | 5 | 1 | 14 | 167 | 30.0 | 46.7 | 1 | 5 | 6 | 5,0 | 25.0 | 30.0 | 2 | 0 | 2 | 7.1 | 0.0 | 2.1 |
| 1-Astronomical | D | 1 | 1 | 0.0 | 12.5 | 12.5 | 1 | 3 | 4 | 3.3 | 10.0 | 13.3 | 7 | 1 | B | 35,0 | 5.0 | 400 | 2 | 9 | $1 /$ | 7.1 | 32,1 | 39.2 |
| 2 -Airctat | 1 | 1 | 2 | 12.5 | 12.5 | 2.50 | 1 | 0 | 1 | 3.3 | 0.0 | 3.3 | 4 | 0 | 4 | 20.0 | 0.0 | 200 | 0. | 1 | 1 | 0.0 | 3,6 | 3.6 |
| 3-Light Phome | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 0 | 1 | 3.3 | 0.0 | 3.3 | 1 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 |
| 4 Binds | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 1 | 2 | 3.3 | . 3.3 | 66 | 0 | 0 | 0 | 0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 44 |
| 5-Clouds, Dast, etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| G-msulfic, mio. | 1 | 0 | 0 | 00 | 0.0 | 0.0 | 6 | 0 | 6 | 20.0 | 0.0 | 200 | 1 | 0 | 1 | 5.0 | 20 | 5.0 | 3 | 0. | 3 | 12.7 | Co | 10.1 |
| 7.Psychological | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | 0 | 0 | 0 | a 0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 20 | 00 | 0 | 0 | 0 | 0.0 | 06 | 0.0 |
| BUhlorom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 67 | 0.0 | 67 | 0 | 0 | 0 | 0.0 | Le | 0.0 | 2 | 0 | 9 | 32.1 | C. 0 | 321 |
| Yother | 0 |  | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 2 e | 0.0 | en | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 2 | 0 | 2 | 7.1 | C. 5 | 2.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2 | 6 | 8 | 25.0 | 75.01 | 100 | 12 | 13 | 30 | 56.7 | 43.3 | 100 | 14 | 61 | 20 | 70.0 | 38.0 | 100. | 18 | 10 | 28 | 64.3 | 35.7 | 100 |




| Evrlation | Lanvars |  |  |  |  |  | Ferpurry |  |  |  |  |  | Merch |  |  |  |  |  | - ApR1L |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Momber |  |  | Percent |  |  | Number |  |  | Per cont |  |  | Muncer |  |  | Per Coml |  |  | Mumber |  |  | Prg Conl |  |  |
|  | Certain | Dowithu | Total | Certan | [Doubtio] | Total | Certain | Doubtail | Toba | Certain | Douettul | Total | Certain | Doubtrul | Total | Centain | Dovoùm] | Total | Certm | Douvth | Total | Cubun | Doubimil | dil |
| D-Balloen | 0 | 0 | 0 | 0.0 | 0, | 0.0 | - 3 | 0 | 3 | 9.1 | 0.0 | 9.1 | 13 | 3 | 16 | R.1 | 4.2 | 233 | 1 | 0 | 1 | 3.4 | 0.0 | 3 4 |
| 1-Astronomical | 8 | 5 | 13 | 42.1 | 26.3 | 68.4 | -3 | 4 | 7 | 9.1 | 12.1 | 21.2 | 8 | 0 | 8 | 11.1 | 0.0 | 11.1 | 4 | 0 | 4 | 13.8 | 0.0 | 13.8 |
| 2-Airctat | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | - 6 | 0 | 6 | 18.2 | 0.0 | 18.2 | 12 | 4 | 16 | 16.7 | 5.6 | 22.3 | 6 | 0 | 6 | 20.7 | 0.0 | 10.7 |
| 3 Lioft Prenom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 00 | 0.0 |
| 4 - ${ }^{\text {inds }}$ | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | Q 0 | 0 | 8 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds, Oust, etc. | 0 | Q | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 40 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 6.nsumic min. | 1 | 8 | 1 | 5. | 0.0 | 5.3 | 11 | 0 | 11 | 33.3 | 0.0 | 33.3 | 13 | 0 | 13 | 18.1 | 0.0 | 18.1 | 8 | 0 | 8 | 27.6 | a0 | 27.6 |
| 7-Pyyctolotioal | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | $2 \Delta$ |  | 0 | 1 | 3.4 | 0.0 | 34 |
| AUndroum | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 3 | 0 | 3 | 9.1 | 0.0 | 9.1 | 15 | 0 | 15 | 208 | 0.0 | 20.8 | 9 | 0 | 9 | 31.0 | 0.0 | 31.0 |
| -other | 1 | 0 | 1 | 5.3 | 0.0 | 5.3 | 3 | 0 | 3 | 9.1 | 0.0 | 9.1 | 0 | 4 | 4 | 00 | 5.6 | 5.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 14 | 5 | 19 | 23.7 | 26.3 | 100. | 29 | 4 | 33 | 87.9 | 12.1 | 100. | 61 | 11 | 72 | 84.7 | 15.3 | 100. | 29 | 0 | 29 | 100.0 | 0.0 | 100. |


| Evalastion | May |  |  |  |  |  | JUNE |  |  |  |  |  | Jucy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per cem |  |  | Nurber |  |  | Per Cant |  |  | Murber |  |  | Per Cent |  |  | Mumbet |  |  | Premi |  |  |
|  | Cerrain | Doubthul | Toba | Centain | Doubtiol | Total | Cerrain | Dooithy | Total | Certain | Doubtul | Tota | Certain | Doubthit | Total | Certain | Doubtrul | Tolat | Cerlin | Douitur | Total | Certan | Doubivi | pota |
| 0-Baxloon | 3 | 0 | 3 | 15.0 | 0.8 | 15.0 | 5 | 0 | 5 | 214 | 40 | 714 | 1 | 0 | 7 | 42 | 0.6 | 4.2 | 2 | 0 | 2 | 8.8 | 0.0 | 8.0 |
| 1-Astroomica | 2 | 2 | 4 | 10.0 | 10.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 0 | 7 | 29.2 | Q 1 | 29.2 | 1 | 6 | 7 | 48 | 34.8 | 280 |
| 2-aircent | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | d. ${ }^{2}$ | 4 | 1 | 5 | 16.7 | 4.2 | 20.9 | 4 | 1 | 5 | 16.0 | 4.8 | 20.0 |
| 3-Lidt Phemam. | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\Delta$ | 0. | $\Delta$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | $2 d$ | , | 0 | 0 | 0.0 | d. 0 | 0.8 | 0 | d | 0 | 0. | 0.8 | 0.0 |
| 5-Clowes, Dost, etc. | 0 | 0 | 0 | 1.8 | 1. 0 | 0.0 | 0 | $\Delta$ | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | $\theta$ | 8 | 0.0 | 0.0 | 0.8 |
| G-Insultic info. | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 0 | 7 | 29.2 | 0.0 | 29.2 | 2 | 0 | 2 | 8.8 | 0.0 | 8.0 |
| 7.Psycholsgical | 0 | 0 | 0 | do | 0.0 | 0. 8 | 0 | 0. | 0 | 0.0 | 0.0 | 1.0 | 0 | 0 | $\lambda$ | 0.0 | 0.0 | 4.0 | 0 | A. | $\Delta$ | 0.0 | 0.8 | 0.0 |
| 6-Unksoma | 8 | 0 |  | yol | 0.0 | 20.0 | 2 | 0 | 2 | 28.6 | 0.02 | 28.6 | 4 | 0 | 4 | 16.7 | 0.0 | 16.7 | 8 | 8 | 8 | 32.0 | 0.0 | 32.0 |
| Somes | 0 | 3 | 3 | 0.0 | 15.d | 15.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 6 | 1 | \% 1. | 0.0 | 4.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 15 | 5 | 20 | 75.0 | 25.0 | 180. | 7 | 0 | 7 | 1090 | 0.0 | 100. | 23 | 1 | 24 | 95.8 | 4.2 | 100. | 18 | 7 | 25 | 72.0 | 28.0 | 100. |


|  | SEPTEMBER |  |  |  |  |  | OCTOBER |  |  |  |  |  | NOMEMBER |  |  |  |  |  | DESEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Nunter |  |  | Per Cent |  |  | Humbet |  |  | Peicent |  |  |
| Evalualion | Centin | Dowbtul | Tobl | Certain | Dosoditul | Tolal | Certain] | Dosituil | Total | Cetain | Doubltu | Totad | Certain | Doubttul | Tolas | Cerrain | Doubtru] | Total | Certan | Doubtiof | Tolal | Ceritain | Daustuil | Forat |
| O-Batloon | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 10.0 | 0.8 | 10.0 | 0 | 2 | 2 | 0.8 | 8.7 | 8.7 | 2 | 4 | 6 | 6.5 | 12.9 | 19.4 |
| 1-Astronomicat | 5 | 0 | 5 | 38.5 | 0.0 | 38.5 | -1 | 1 | 2 | 10.0 | 10.0 | 20.8 | 0 | 0 | 0 | 8.0 | 0.8 | 0.0 | 10 | 7 | 17 | 32.3 | 22.6 | 54.9 |
| 2-Aimath | 2 | 0 | 2 | 15.4 | 40 | 15.4 | - 0 | 1 | 1 | 0.8 | 10.0 | 10.0 | 2 | 8 | 18 | 8.7 | 34.8 | 43.5 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |
| 3-Light Pnowom | 0 | 0. | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\Delta$ | 0.0 | 0.0 | 0.0 | $\Delta$ | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $d$ | 8.8 | 0.0 | 0.8 | 0 | , | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, pust, elc | 0 | 0 | d | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | $d$ | 0 | 0 | 0.0 | 0.0 | 0.8 |
| G-Insuffic mata. | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 0 | e | 0 | 0.8 | 0.0 | 0.0 | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |
| 7 PPyctaologica | 0 | 0 | 0 | 0.0 | d) | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 0 | 0.0 | 0.8 | 0.0 | 3 | 0 | 3 | 9.7 | 0.0 | 9.7 |
| 6-Undoom | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 6 | 0 | 6 | 60.0 | 0.0 | 60.0 | 9 | 8 | 9 | 39.1 | 0.8 | 39.1 | 2 | 0 | 2 | 6.5 | 0.0 | 6.5 |
| Yotuen | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e. 0 | 0.0 | 0.0 | 1 | 0 | 1 | 4.3 | 0.0 | y. 3 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 13 | 0 | 13 | 100.01 | 0.0 | 108. | 8 | 2 | 10 | 800 | 20.0 | 100. | 13 | 10 | 23 | 56.5 | 43.5 | 108. | 20 | 11 | 31 | $6 \% .5$ | 35.5 | 100. |



|  | - $\mathrm{P}^{\text {cot }}$ |  | . EEBpanky |  |  |  |  |  | MAPET |  |  |  |  |  | APeil <br> Per cent |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | number |  |  | ${ }_{\text {Per comt }}$ |  |  | Munseen |  |  | Percmi |  |  |  |  |  |  |  |  |
|  |  | Dovate, Fouid |  | dold | Tout | I | Dosobil | 1 Total |  |  |  | 析 | Dandal | Troat | Momber |  |  | Cortiol |  | Trat |
| OS | \% | 74148 | 1 | 0 |  | 6.7 | -0.0 | 6.7 |  |  | 0 | 0.0 | 0. | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 00 |
| 1.At:rame |  | 3.1 | 0 | 2 | 2 | 0. | 13.3 | 13.3 | - |  | 2 | 16.7 | 16. | 33.4 |  |  | 0 | 0. | 0. | 0.0 |
|  | - | 20.1414 | 0 | 3 | 3 | $0 \cdot$ | 20. | 200 | 0 |  |  | 0. | 16 | $16 \cdot 1$ |  |  |  | 33. | 0 | 33.3 |
| mo | 100 | 0.00 .000 | 0 | 0 | - 0 | 0.0 | 0.1 | 0.0 |  |  | - 0 | 0.0 | 0.0 | 0.0 | 0 |  | - 0 | 0. | 0.0 | 0.0 |
| 11.8143 | 0 - 2 | 0.0 0.0, 0.0 | 0 | 0 | - 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - |  | 0 | 0. | 0. | 0. |
| 5 clauess Ost | - elo | 0.0 0.0. 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 | $\bigcirc$ | 0 | 0 | 0. | 0.0 | 0.0 | - |  | 0 | 0. | 0. | 0.0 |
| Ginumica | 5 5 5 | 1850.018 .5 | 0 | 0 | 0 |  | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 66.7 |  | 6.7 |
| 22Psran | 0.010 | 0.010 .010 .0 |  | e | - 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | ab | 0.0 | $\bigcirc$ | 0 | 0 | 0 | 0.0 | 0. |
| OUndx m | 0 | 37.00 .01371 | 7 |  |  | 46.7 | 0.0 | 46.2 | - | 0 |  | 350.0 |  | 500 | - | 0 | 0 | 0.0 | 0. | 0.0 |
| Oone | $0^{+}$ | 370.013 .7 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | 0 | , |  | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0 | 0.0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tow | 12.8 | 70.429 .6100 | 10 | 5 | 15 | 66.7 | 33.3 | 1100 | 4 | 2 | 6 | 66.7 | 33.3 |  | 3 | 0 | 3 |  |  |  |



|  | T- $S$ STEMBER |  |  | October |  |  |  |  |  | NOVEMSER |  |  |  |  |  | DECEMEER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Mumber |  |  | Pencerl |  |  | Sumber |  |  |  |  |  |  |  |  | Precomt |  |  |
| deal | Catan tame teb |  | Dasomit roba | Ceriain | Dasatiol | Toua | , |  | Total |  |  |  | Cerdin |  | (बत्व | Cortain |  |  |  | Dowthel |  |
| Batan | 1001 | 56 | 0.066 | 2 | 0 | - 2 | 7.1 | 0.0 | 7.1 | 0 |  | 1 | 0.0 | 5.9 | 5.9 |  | 0 | $9$ | 9.1 |  | 9.1 |
| 1-Asmamale |  | 16. | 5.6222 .3 | 39 |  | 10 | 32.1 | 3. | 35.7 | 8 | 5 | 13 | 47. | 29.9 | 764 | 2 |  | 3 | 18.2 |  | 27.3 |
| 2-A |  | 5.6 | 0.0 .56 | 4 | 2 | - 6 | 14.3 | 7.1 | 21.4 | 2 | 0 | 2 | 11.8 |  | 11.8 | 4 | 0 | 4 | 36.4 |  | 36.4 |
| \% | $\bigcirc$ | 0.0 | 0.000 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | - | 0 |  | 0.0 | 0.0 | 0.0 |
| tiase |  | 0.0 | 0.0 | 0 | 0 |  | $0 \cdot 0$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | a | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| cleuds. 0 | 0 | 0.0 | 0000 |  | 0 | - 0 | 0.0 | a ${ }^{1}$ | 0.0 | 0 | 0 |  | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  |  |
| Gtasatic mo. | 02 | 1.1 | 0.0111 | - 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 |  | 5.9 | 0.0 | 5.9 |  | 0 |  | 9.1 |  | 9.1 |
| PPsyextopen | 010 | 0.0 | 000.0 |  | 0 | 0 | 0.0 |  | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |  | 0 |  | 9. |  | 9.1 |
| Unkxwn |  | 24.4 | 0.094 .4 | 9 |  |  | 32.1 |  | 32.1 | 0 | 0 | 0 | 0.0 | 0.0 | $00$ |  | 0 |  | 9.1 |  | 9.1 |
| Potme |  | 11.1 | 0.01111 |  | 0 |  | 3.6 | 0.0 | 3.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| (ta | 14 | 744 | 5.61100. | 25 | 3 | 28 | 899.3 | 10.71 | 100. | II |  | 17 | 64 | 35.3 | 100. | 10 | . 1 | 11 | 91.9 | 9.1 | 110 |

TARG ALR EKALURTION OE RLG SIGHINGS BY MONTK OF VEAE, IQSZ

| Evalumbon | Janvary |  |  |  |  |  | FERRUARY |  |  |  |  |  | MARCH |  |  |  |  |  | APRIL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | PaCent |  |  | Number |  |  | Percent |  |  | Mumber |  |  | Percent |  |  | Mumber |  |  | Pes cent |  |  |
|  | Cettin | Doubthol | Total | Centan | [Doubth] | Totil | Cerain | Dowitral | Total | Certain | Doabtud | Tola | Cetrain | Doubtitul | Total | Cetain | Doubtbul | Tolat | Certain | Doobithal | Total | Cotion | Doubtiol | [Toza |
| O-Bazocon | . 1 | 0 |  | 6.7 | 0.0 | 6.7 | -1 | 0 | 1 | 5.6 | 0.0 | 56 | 3 | 1 | 4 | 11.1 | 3.7 | 148 | 3 | 3 | 6 | 2.9 | 2.9 | 58 |
| 1. Astronmial | 4 | 4 | 8 | 26.2 | 26.7 | 53.4 | 4 | 1 | 5 | 222 | 5.6 | 27.8 | -1 | 0 | 1 | 3.7 | 0. | 3.1 | 18 | 0 | 18 | 17.5 | 0.0 | 17.5 |
| 2-Atriath | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 2 | 4 | 11.1 | 1.1 | 22.2 | 3. | 2 | 5 | 11.1 | 7.4 | 18.5 | 15. | 8 | 23 | 14.6 | 7.8 | 22.4 |
| 3 L Mimt Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0. | 0. | 0.0 | 0.0 | 0.0 | 1 | Q | 1 | 1.0 | 0.0 | 1.0 |
| 4 -8ures | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 3.7 | 0.0 | 3.7 | 3 | 1 | 9 | 2.9 | 1.0 | 3.9 |
| 5-Clouds, Oust ete | 0 | 0 | 0 | 0.0 | 00. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.1 | 3.2 | 3.7 | $\bigcirc$ | $\triangle$ | 0 | 0.0 | 0.0 | 0.0 |
| G-1asuffic min. | 0 | 0 | 0 | 0.0 | 0.01 | 0.8 | 1 | 0. | 1 | 5.6 | 0.0 | 5.6 | 1 | $\Delta$ |  | 3.1 | 00 | 37 | 18 | 0 | 10 | 9.7 | 0.0 | 9.7 |
| 7. Psydioliciar | 2 | 0 | 2 | 13.3 | 001 | 133 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 |  | 1.8 | 0.0 | 1.0 |
| 4 Unkrom | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | 5 | 0 | 5 | 27.8 | 0. | 27.8 | 4 | 0 | 4 | 148 | 0.0 | 14.8 | 38 | 0 | 38 | 36.9 | 0.0 | 36.9 |
| soome | 2. | 0 | 2 | 13.3 | 0.6 | 13.3 | 2 | 0 | 2 | 11.1 | 0. | 11.1 | 1 | 9 | 10 | 3.7 | 33.3 | 37.0 | 2 | 0 | 2 | 1.9 | 0.0 | 1.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 11 | 4 | 15 | 73.3 | 26.7 | 180. | 15 | 3 | 18 | 83.3 | 16.7 | 100. | 14 | 13 | 27 | 51.8 | 48.2 | 100. | 91 | 12 | 103 | 88.4 | 11.6 | 100. |


| Evaluation | MAY |  |  |  |  |  | JUNE |  |  |  |  |  | Jucy |  |  |  |  |  | AUGUSI |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Nunber |  |  | PaCent |  |  | Wuaber |  |  | Percmat |  |  | Mumber |  |  | Peet cant |  |  |
|  | Certain | Dovothil | Tobi | Cetrain | Doubitul | Total | Centrin | Dountitul | Toteal | Certin | Doubthe | Totel | Centin | Doubthil | Total | Cention | Dowith | Toten | Certion | Dovilitio | Toba | Certin | Douttin | Total |
| a-8alloon | 15 | 4 | 19 | 13.3 | 3.5 | 16.8 | 26 | 6 | 32 | 148 | 3.4 | 182 | 88 | 54 | 142 | 11.3 | 6.9 | 18.2 | 36 | 41 | 71 | 9.1 | 10.3 | 19.4 |
| 1-Astromomical | 16 | 2 | 18 | 14.2 | 1.8 | 160 | 24 | 17 | 41 | 13.6 | 9.9 | 23.3 | 99 | 34 | 133 | 12.7 | 4.3 | 17.0 | 43 | 26 | 69 | 10.8 | 6.6 | 11.4 |
| 2-Airanth | 17 | 12. | 39 | 15.0 | 10.6 | 25.6 | 26 | 12 | 38 | 148 | 6.8 | 21.6 | 123 | 87 | 211 | 15.7 | 11.3 | 276 | 45 | 43 | 88 | 11.4 | 10.8 | 22.2 |
| 3-Light Pheom. | 3 | 0 | 3 | 2.7 | 0.0 | 2.7 | 1 | 0 | 1 | 0.6 | 0. | 0.6 | 12 | 9 | 16 | 1.5 | . 5 | 20 | 5 | 6 | 11 | 1.3 | 1.5 | 2.8 |
| 4 Burds | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 5 | . 5 | .1 | 6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| c-Cloods, Oust elc. | 8 | 0 | 8 | 7.1 | 0.0 | 7.1 | 0 | 0 | 0. | 0.0 | 0. | 00 | 4 | 1 | 5 | . 5 | . 1 | $b$ | 0 |  | 1 | 0.0 | . 3 | . 3 |
| GInsuticic into. | 6 | 0 | 6 | 5.3 | 0.0 | 53 | 20 | 0 | 20 | 11.4 | 0.0 | 11.4 | 70 | 0 | 70 | 9.0 | 0.0 | $9 D$ | 35 | 0 | 35 | 8.8 | 0.0 | 8.8 |
| 7.Psychatogieal | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 2.3 | 0.1 | 2.3 | 9 | 6 | 15 | 1.2 | . 8 | 2.0 | 8 |  | 9 | 2.0 | . 3 | 2.3 |
| Plunkrom | 20 | 0 | 20 | 17.7 | 0.0 | 17.7 | 33 | 0 | 33 | -18.8 | 00 | 18.8 | 163 | 0 | 163 | $20 \%$ | 0.0 | 20.8 | 93 | 0 | 93 | 234 | 0.0 | 23.4 |
| 90 thes | 9 | 1 | 10 | 8.0 | 0.9 | 8.9 | 6 | 1 | 7 | 3.4 | 0.6 | 4.0 | 21 |  | 22 | 2.7 | 1 | 2.8 | 9 | 5 | 14 | 23 | 1.3 | 3.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 94 | 19 | 113 | 83.2 | 16.8 | 100. | 140 | 36 | 176 | 79.6 | 20.4 | 100. | 593 | 189 | 782 | 75.8 | 24.2 | 100. | 274 | 123 | 397 | 69.7 | 31.3 | 100. |


| Evilualon | SEPTEMEER |  |  |  |  |  | OCTOBER |  |  |  |  |  | NEVEMBER |  |  |  |  |  | DEEEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Per Cent |  |  | nunber |  |  | PaComt |  |  | Muaber |  |  | Percent |  |  | Mumber |  |  | Percost |  |  |
|  | Centin | Doobtiul | T061 | Centin | Dosethl | Total | Certain | Doadtru! | Tolal | Certain | Dowbthy | Total | Cemain | Ooubthol | Tobal | Centain | Doublind | Total | Certain | Douttuy | Total | Certain | Daubthil | Tota |
| a-Balion | 4 | 11 | 15 | 2.5 | 68 | 9.3 | 8 | 12 | 20 | 8.7 | 13.) | 21.8 | 2 | 9 | 11 | 30 | 13.4 | 114 | 0 | 3 | 3 | 0.0 | 4.6 | 4.6 |
| 1-Astronomica | 22 | 9 | 31 | 13.6 | 5.6 | 19.2 | 13 | 10 | 23 | 14.1 | 10.9 | 250 | 5 | 8 | 13 | 7.5 | 11.9 | 19.9 | 11 | 9 | 20 | 16.7 | 13.6 | 30.3 |
| 2-Aircath | 10 | 36 | 46 | 6.2 | 22.2 | 28.4 | 5 | 13 | 18 | 54 | 19.1 | 19.5 | 3 | 3 | 6 | 4.5 | 4.5 | 9.8 | 1 | 13 | 14 | 1.5 | 19.7 | 21.2 |
| 3-Limt Pheno. | 1 | 2 | 3 | . 6 | 1.2 | 1.8 | 0 | 4 | 4 | 00 | 43 | 43 | 2. | 1 | 3 | 3.0 | 1.5 | 45 | 1 | 0 | 1 | 1.5 | 0.8 | 1.5 |
| 4 Biods | 1 | 2 | 3 | . 6 | 1.2 | 1.8 | 9 | 1 | 5 | 4.3 | 1.1 | 54 | 0 | 0 | 0 | 0.0 | 0.9 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds Dust ena | 0 | 1 | 1 | 0.0 | 0.6 | 0.6 | 0 | 1 | 1 | 0.0 | 1.1 | 1.1 | 0 | 8 | 8 | $0 \Delta$ | 11.9 | 11.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-InsyHtce. mo. | 12 | 0 | 12 | 7.4 | 0.8 | 7.4 | 4 | 0 | 4 | 4.3 | 0.0 | 4.3 | 4 | 0 | 4 | 60 | 0.0 | 6.0 | 3 | 0 | 3 | 4.6 | 0.0 | 4.6 |
| 7.Psycrological | 1 | 0 | 1 | 0.6 | 0.0 | 0.6 | 0 | $\delta$ | $\Delta$ | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 1.5 | 0.0 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8Unknom | 42 | 0 | 42 | 25.9 | 0.0 | 25.9 | 14 | 0 | 14 | 15.2 | 0.0 | 15.2 | 19 | 0 | 19 | 284 | do | 28.4 | 22 | $\theta$ | 22 | 33.4 | 0.0 | 33.4 |
| 9-0ther | 6 | 2 | 8 | 3.7 | 12 | 4.9 | 2 | 1 | 3 | 2.2 | 1.1 | 3.3 | 2 | 0 | 2 | 30 | 0.8 | 30 | 3 | 0 | 3 | 4.6 | 0.0 | 4.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toud | 99 | 63 | 162 | $6 / .1$ | 39.9 | 105. | 50 | 42 | 92 | 54.4 | 45.6 | 100. | 38 | 29 | 67 | 56.7 | 43.31 | 100. | 41 | 25 | 66 | 62.1 | 37.9 | 100. |



| Evalution | IANVAPY |  |  |  |  |  | Fenfutre |  |  |  |  |  | MABCH |  |  |  |  |  | APRIL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percent |  |  | Mumber |  |  | Per Cont |  |  | Mumber |  |  | Per Cent |  |  | Munber |  |  | Perceat |  |  |
|  | Cerran | Doubtrou' | Total | Centar | Doubitu! | Tobl | Certain | Doouth] | Tom | Cortain | Dastitul | Tola | Cetian | [Doubtha | Total | Centiain | Doubtol | Tota | Cemin | Ooubtiol | Tolei | Catrin | Doublul | Trad |
| O-8allose | 3 | 2 | 5 | 3.91 | 25 | 6.3 | 7 | 0 | 7 | 10.9 | 0.0 | 10.9 | 8 | 2 | 10 | 7.5 | 1.9 | 1.4 | 7 | 3 | 10 | 4.9 | 2.1 | 1.0 |
| 1-Attonomial | 21 | 18 | 39 | 26.2 | 22.5 | 48.7 | 11 | 15 | 26 | 12.2 | 23.5 | 40.7 | 15 | 12 | 27 | 14.0 | /1. 2 | 25.2 | 26 | 3 | 29 | 18.3 | 2.1 | 20.4 |
| 2-Aucram | 6 | 3 | 9 | 7.5 | 3.8 | 11.3 | 7 | 5 | 12 | 18.9 | 7.8 | 18.7 | 12 | 7 | 19 | 11.2 | 6.5 | 17.7 | 13 | 7 | 31 | 16.2 | 4.9 | 21.1 |
| 3 L.ami Phenom | 0 | 2. | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | Q 2.7 | 0.0 | 0.7 |
| 4-Buts | 0 | 0 | 0 | 0.1 | . 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 2.8 | 0.0 | 2.8 | 4 | 1 | 5 | 2.8 | 0.7 | 3.5 |
| SCloods, Oust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 0.9 | 0.9 | 0 | 0 | - 0 | 0.0 | 0.0 | 0.0 |
| Glosalicic inb. | 8 | 0 | 8 | 10.0 | 0.8 | 10.0 | 3 | 0 | 3 | 4.7 | 0.0 | 4.7 | 15 | 0 | 15 | 14.0 | 0.0 | 14.0 | 21 | 0 | 21 | 14.8 | 0.0 | 14.8 |
| 7-P.Promomial | 2 | 0 | 2 | 25 | 00 | 2.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 1.4 | 0.0 | 1.4 |
| Q-undonw | 11 | 0 | 11 | 13.8 | 0.0 | 13.8 | 9 | 0 | 9 | 14.1 | 0.0 | 14.1 | 17 | 0 | 17 | 15.9 | 0.0 | 15.9 | 42 | 0 | 42 | 29.6 | 0.0 | 29.6 |
| Sotre | 5 | 1 | 6 | 6.2 | 1.3 | 7.5 | 7 | 0 | 7 | 10.9 | 0.0 | 10.9 | 1 | 14 | 15 | 0.9 | 13.1 | 14.0 | 2 | 0 | 2 | 1.4 | 0.0 | 1.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 56 | 24 | 80 | 70.01 | 30.0 | 180. | 44 | 20 | 64 | 68.8 | $3 / .3$ | 100. | 71 | 36 | 107 | 66.4 | 33.6 | 100. | 128 | 14 | 142 | 90.1 | 9.9 | 100. |


| Evatualion | $\mu$ |  |  |  |  |  | TVNE. |  |  |  |  |  | Tu\& |  |  |  |  |  | AUGVST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | umber |  |  | Pencent |  |  | Humber |  |  | PaCmt |  |  | number |  |  | Percemt |  |  | member |  |  | Percent |  |  |
|  | Certain | Dovithuil | Total | Certain | Dowitul | Tolat | Cention | Daubtal | Total | Certain | Doustiv | Total | Certaia | Douldtul | Total | Certain | Dosidtul | Tota | Cettin | Doistim | Total | Certia | Dalbital | Total |
| O-Balloon | 18 | 5 | 23 | 17.0 | 3.3 | 15.3 | 29 | 6 | 35 | 14.4 | 3.0 | 17.4 | 92 | 48 | 140 | 11.9 | 6.2 | 18.1 | 39 | 42 | 81 | 1.7 | 9,4 | 8.1 |
| 1-Astronomical | 23 | 8 | 31 | 15.3 | 5.3 | 20.6 | 25 | 21 | 46 | 12.4 | 10.4 | 22.8 | 104 | 44 | 148 | 13.4 | 5.7 | 19.1 | 47 | 64 | 111 | 12.5 | 14.3 | 24.9 |
| 2-Aircrath | 18 | 15 | 33 | 12.0 | 10.0 | 27.0 | 30 | 13 | 43 | 14.9 | 6.5 | 21.4 | 106 | 81 | 187 | 13.7 | 10.5 | 24.2 | 48 | 38 | 86 | 10.7 | 8.5 | 192 |
| 3-Ligt Phenom. | 3 | 2 | 5 | 2.0 | 1.3 | 3.3 | 1 | 1 | 2 | 0.5 | 0.5 | 1.0 | 14 | 4 | 18 | 1.8 | 0.5 | 2.3 | 7 | 7 | 14 | 16 | 16 | 2 |
| 4 - ${ }^{\text {inds }}$ | 0 | 2 | 2 | R.0 | 1.3 | 1.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 3 | 6 | 0.4 | 0.4 | 8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust, etc | 2 | 0 | 2 | 1.3 | 0.0 | 1.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0:0 | 1 | 1 | 2 | 0.1 | 0.1 | 2 | 0 | 1 | 1 | 00 | 0.2 | 0.2 |
| G-nsulic. Mo. | 22 | 0 | 27 | 14.7 | 0.0 | 14.7 | 23 | 0 | 23 | 11.4 | 0.0 | 11.4 | 81 | 0 | 81 | 10.5 | 0.0 | 10.5 | 42 | 0 | 42 | 94 | al | 9.4 |
| 7-Pyctrolorical | $\underline{2}$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 0 | 6 | 3.0 | 0.0 | 3.0 | 9 | 8 | 17 | 1.2 | 1.0 | 2.2 | 10 | 1 | 11 | 2.2 | 0. | 2.4 |
| S-Unlorom | 23 | 0 | 23 | 15.3 | 0.0 | 15.3 | 38 | 0 | 38 | 18.9 | 0.0 | 18.9 | 146 | 0 | 146 | 18.8 | 0.0 | 18.8 | 87 | 0 | 87 | 124 | 0.0 | $12 \cdot 4$ |
| 9-0ther | 7 | 2 | 9 | 4.7 | 1.3 | 6.0 | 7 | 1 | 8 | 3.5 | 0.5 | 4.0 | 29 | 1 | 30 | 3.7 | 0.1 | 3.8 | 11 | 5 | 16 | $\underline{2.4}$ | $1 /$ | 3.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Pdal | 116 | 34 | 150 | 77.3 | 22.7 | 100. | 159 | 42 | 201 | 79.1 | 20.9 | 100 | 585 | 190 | 775 | 75.5 | 24.5 | 100. | 291 | 158 | 449 | 64.8 | 35.2 | 100. |


|  | SEPTEMBER |  |  |  |  |  | Ocrefer |  |  |  |  |  | NOVFMRCB |  |  |  |  |  | DFCEM 5 ¢ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evalualion | Mumber |  |  | Pectent |  |  | minber |  |  | Pacmit |  |  | Munber |  |  | Patcont |  |  | Mumber |  |  | Percont |  |  |
|  | Certain | [Doubthi] | Totait | Cerbin | Davitul | Tolal | Certrin | Douthil | Total | Cotria | Dabital | Total | Certion | Doobtctul | Total | Certain | Dosblat | Tota | Certin | Dosulitul | Total | Centan | Dabitiol | Total |
| a-Eation | 6 | 13 | 17 | 3.1 | 6.8 | 9.9 | 8 | 12 | 20 | 5.4 | 8.2 | 13.6 | 5 | 12 | 17 | 4.2 | 10.0 | 14.2 | 6 | 6 | 12 | 4.7 | 4.7 | 9.4 |
| 1-Astronomical | 30 | 11 | 41 | 15.6 | 5.7 | 21.3 | 27 | 17 | 46 | 18.4 | 12.9 | 11.3 | 25 | 19 | 43 | 20.9 | 15.0 | 35.8 | 29. | 23 | 52 | 22.8 | 18:1 | 40.9 |
| 2-Aicajat | 13 | 31 | 44 | 68 | 16.1 | 229 | 10 | 15 | 25 | 6.9 | 10.2 | 17.0 | 11 | 9 | 19 | 9.2 | 6.7 | 15.9 | 8 | 12 | 20 | 6.3 | 9.4 | 15.4 |
| 3-Limit Premm. | 1 | 2 | 3 | 0.5 | 10 | 1.5 | 1 | 4 | 5 | 0.7 | 27 | 3.4 | 3 | 1 | 4 | 25 | 0. | 3.3 | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 |
| 4 - Bins | 1 | 2 | 3 | 0.5 | 10 | 1.5 | 2 | 2 | 4 | 1.4 | 1.4 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds Dost elc | 0 | 1 | 1 | 0.0 | 0.6 | 0.5 | 0 | 1 | 1 | 0.0 | 0.7 | 0.7 | 0 | 2 | 2 | 00 | 1.7 | 1.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| E-Insulfic: into. | 20 | 0 | 70 | 10.4 | 00 | 104 | 10 | 0 | 10 | 6.8 | 0.0 | 6.8 | 7 | - 0 | 7 | 5.8 | 0.0 | 58 | 9 | 0 | 1 | 7.1 | 0.0 | 7.1 |
| 7.Psychobogical | 3 | 0 | 3 | 16 | d. 2. | 1.6 | 1 | 0 | 1 | 0.7 | 0.0 | 0.7 | 1 | 0 | 1 | 08 | 0.0 | 0.8 | 2 | 0 | 2 | 1.6 | 0.0 | 1.6 |
| Q-unknown | 47. | 0 | 47 | 247 | 20. | 14.7 | 31 | 0 | $3 /$ | 21.1 | R.P | 21.1 | 23 | 0 | 23 | 19,2 | 0.0 | 19.2 | 23 | 0 | 23 | 18.1 | 0.0 | 18.1 |
| $9-$ Othet | 同 | 3 | 11 | C.2 | 16 | 5.8 | -3 | 1 | 4 | 2.0 | 0.7 | 2.7 | 4 | 0 | 4 | 3.3 | 0.0 | 3.3 | 8 | 0 | 8 | 6.3 | 0.0 | 6.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |
| rat | 129 | 63 | 192 | 672 | 32.9 | 100. | 93 | 54 | 147 | 6.33 | 36.7 | 100. | 79 | 41 | 120 | 65.8 | 134.21 | 100. | 86 | 41 | 177 | 67.7 | 32.3 | 10. |


| Eraluaton | Janumey |  |  |  |  |  | Eebruary |  |  |  |  |  | March |  |  |  |  |  | Apels |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cent |  |  | Nunber |  |  | Pacart |  |  |  |  | Totil | Pacmi |  |  | munter |  |  | Paccot |  |  |
|  | Cetam | Dabmin | Tobi |  |  |  | Cerman | Oowituo | Tकबत |  |  |  | Certan | Oaudibl |  | Todil |  |  |  |
| OBaman |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Atrommical |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aicram |  |  |  |  |  |  |  |  |  |  | $\lambda$ |  |  |  |  |  | A |  |  |  |  |  |  |  |
| 3-Lutit Phemen. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | K |  |  |
| 4 Bras |  |  |  |  |  |  |  |  |  | ${ }^{\text {pr}}$ |  |  |  |  |  | A |  |  |  |  |  | A |  |  |
| Scloues , Dust ec |  |  |  | A |  |  |  |  |  | ) |  |  |  |  |  | ) |  |  |  |  |  | $)$ |  |  |
|  |  |  |  |  |  |  |  |  | 0 |  |  |  |  |  | 10 |  |  |  |  |  | 1 |  |  |  |
| rapgremozicex |  |  | 10 |  |  |  |  |  |  |  |  |  |  |  | $N$ |  |  |  |  |  | $\cdots$ |  |  |  |
| OUnuxam |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\bigcirc$ |  |  |  |
| Poune |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Evambion | May |  |  |  |  |  | TUNE |  |  |  |  |  | Juk |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumer |  |  | Pacamt |  |  | Number |  |  | PaCmi |  |  | mumer |  |  | Pacmit |  |  | Manter |  |  | Pecmicmer |  |  |
|  | Cortin | Doobtoly | Toun | Comin | Doustury | 7 TOL | Certin | Dowituol | Totar | Cetitin | Doastal | Trobl | Centian | Dowitaly | Toba | Centan | Dointiol | Tota | Crisin | Doulth | Toba | Cent | Daldital | Tota |
| a,ballom |  |  |  |  |  |  | 1 | 0 | 1 | 7.7 | 0.8 | 7.7 | 6 | 0 | 6 | 13.0 | 0.0 | 13.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astiomation |  |  |  |  |  |  | 0 | 1 | 1 | 0.0 | 7.7 | 7.7 | 2 | 3 | 5 | 4.3 | 6.5 | 10.8 | 2 | 1 | 3 | 18.2 | 9.1 | 27.3 |
| 2-Aicrath |  |  |  |  |  |  | 2 | 0 | 2 | 15.4 | 0.0 | 15.4 | 0 | 2 | 2 | 0.0 | 4.3 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3Liqut Pheom |  |  |  |  |  |  | 0 | 0 | l | 0.0 | 0.1 | P. $\theta$ | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4-Bins |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Clauds 0 Out ect |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.6 |  | 0.0 |
| GInumic. min. |  |  |  |  |  |  | 3 | 0 | 3 | 23.1 | e. 0 | 23.) | 6 | 0 | - | 13.0 | 0.0 | 13.0 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 |
| 7 Prydaloficax |  |  |  |  |  |  | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 0 | 2 | 2 | 0.0 | 4.3 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| AUbenm |  | 1 |  |  |  |  | 4 | 0 | 4 | 30.8 | 0.0 | 30.8 | 9 | 0 | 9 | 19.6 | 0.0 | 19.6 | 6 | 0 | 6 | 54.5 | 0.0 | 54.5 |
| 5000 |  |  |  |  |  |  | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 15 | 0 | 15 | 37.6 | 0.0 | 32.6 | 0 | 0 | - | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tom |  |  |  |  |  |  | 12 | 1 | 13 | 92.3 | 7.7 | 100. | 39 | 7 | 46 | 84.8 | 15.2 | 100. | 10 | 1 | 11 | 90.9 | 9.1 | 100 |


|  | SEPTFMRER |  |  |  |  |  | Osteper |  |  |  |  |  | NOVEHEFR |  |  |  |  |  | DECFMBEN |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mobe |  |  | Pacmat |  |  | Cential miober |  |  |  |  |  | number |  |  | Pacm |  |  | Numper |  |  | Pescort |  |  |
| Evalusion | Cent | Double |  | Centia | Dobibat | Tobal |  |  |  | T |  | Tolat |  |  |  | Certin | Dowbting | Tatel | Cetrio |  |  |  |  |  |
| O-Axiloen | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astramaica | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 8 | 2 | 10 | 6.5 | 15.4 | 76.9 | 1 | 1 | 2 | 33.3 | 33.3 | 6.6 | 5 | 0 | 5 | 100.0 | 0.0 | 100.0 |
| 2-Sictart | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3limil Pheme | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 10 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| +8irus | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  | 0 | 2 | 0 | 0.0 | e. 0 | 0.0 | 0 | 0 | 0 | 0.0 | $0: 0$ | 00 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| Stmantic. mine | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\theta$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot 0$ | 0.0 |
| 7. | $i$ | 0 | 1 | 16.7 | 0.0 | 16.7 | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 0 | Q | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Sunamom | 3 | 0 | 3 | 50.0 | 0.0 | 50:0 | 2 | $\theta$ | 2 | 15.4 | 0.0 | 15.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | , | 0.0 | 0.0 | $0 \cdot$ |
| 9ramer | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | D | 0 | 0.0 | 0.0 | 0.0 | e | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tata | 6 | 0 | 6 | 100.0 | 0.01 | 100.1 | 11 | 2 | 13 | 84.6 | 15.4 | 100. | 2 | 1 | 3 | 66.7 | 33.3 | 10. | 0 | $\square$ | 5 | 100.0 | 0.0 | 100 |

LABLE ATB ENRLUATION OE UNIT SLGHTINGS BK MONIH QE YEAR, $194 B$

| Evilution | JANV+RK |  |  |  |  |  | FEERUARK |  |  |  |  |  | Menct |  |  |  |  |  | Aepil |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | , Percort |  |  | Numbet |  |  | Percent |  |  | Munber |  |  | Percemt |  |  | Nmber |  |  | Percemt |  |  |
|  | Certan | Douttha | Tozi | Cetan! | Dountfol | Tomen | Cerrain | Dowity | Tobi | Certan | Domitul | Total | Certain | Doabitul | Total | Certion | Doowlini | Tota | Certion | Doutail | Total | Costion | Douthil | Total |
| C-Ballicon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 |
| 1-Astionomical | 6 | 3 | 9 | 50.0 | 25.0 | 75.0 | 3 | 2 | 5 | 60.0 | 40.0 | 100.0 | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 | 0 | 2 | 2 | 0.0 | 20.0 | 20.0 |
| 2-Amerath | 0 | 12 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 0 | Q 0 | al | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 30.0 | 0.0 | 30.0 |
| 3-Ligt Prenom. | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.1 | 0.0 | 0 | 9 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| A-Brits | 0 | 0 | 9 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 60 | 0.0 | 0.0 | 1 | 0. | 1 | 10.0 | 0.0 | 18.0 |
| S-Cloods, Dust elc | 4 | 1 | 0 | 0.0 | 0.91 | 0.0 | 0 | 0 | . 0 | 0.0 | 0.0 | 0.6 | 0 | 0 | 0 | 0,1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 lisumic mo. |  | 1 | 2 | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 0.0 | 0.8 | $0 \cdot 0$ | 2 | 0 | 2 | 22.2 | 0.0 | 22,2 | 1 | 0 | 1 | 10.0 | 0.1 | 10.0 |
| 7. Pyyctiogral | 0 | 0 | 0 | 0.0 | $0.0!$ | 0.0 | 0 | 0 | 0 | 00 | $0 \cdot 1$ | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.1 | 10.0 |
| Cundoem | $k$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | - 0.0 | 0.0 | 1 | 0 | 1 | 11.1 | 0,0 | 11.1 | 1 | 0 | 1 | 18.0 | Q. 0 | 10.0 |
| 900 m | 0 | 1 | 1 | 2.2 | 8.3 | 8.3 | 0 | 0 | 0 | a.e | 0.0 | Os | 0 | 4 | 4 | 0.0 | 44.4 | 4 4, 4 | 0 | 0 | 0 | l0 | Q, 0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 8 | 4 | 1. | 66.7 | 333 | 100. | 3 | 2 | 5 | 60.0 | 40.4 | 100. | 5 | 4 | 9 | 55.6 | 44.4 | 100. | 8 | 2 | 10 | 80.0 | 20.0 | 100 |


| Evaluation | MAY |  |  |  |  |  | TuNE |  |  |  |  |  | TuAK |  |  |  |  |  | AvG4St |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hunier |  |  | Per cemt |  |  | Number |  |  | Percont |  |  | Mumber |  |  | Per Cont |  |  | Number |  |  | Per Comt |  |  |
|  | Certain | Dovistal | T0tal | Certain | Doudtail | Total | Ceridif | Dosothil | Fotas | Certion | Doublitul | Total | Centain | Davbtul | Tobal | Centin | Dowitul | Tolal | Catrin | Doultain | Total | Cettion | Doubtiol | Tota |
| Q.8alloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 66.7 | 00 | 66.7 | 4 | 1 | 5 | 14.8 | 3.7 | 18.5 | 0 | 2 | 2 | 0.0 | 20.0 | 20.0 |
| 1-Astronaticat | 1 | 1 | 2 | 10.0 | 10.0 | 20.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 4 | 4 | 8 | 14.8 | 14.8 | 29.6 | 2 | 2 | 4 | 20.0 | 20.0 | 40.0 |
| 2-Aincrat | 1 | 9 | 1 | 11.0 | 1.0 | 10.0 | 0 | $\ell$ | 0 | 0.0 | 0.0 | 0.0 | 4 | 2 | 6 | 14.8 | 7.4 | 22.2 | 1 | 1 | 2 | 10.0 | 10.0 | 10.0 |
| 3-Liptr Preomat | 1 | , | 2 | 0.0 | 20.0 | 20.0 | 0 | $l$ | 0 | 0.0 | 0.0 | 0.9 | 1 | 0 | 1 | 3.7 | 0.0 | 3.7 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 |
| 4 Birch | 1 | 1 | 1 | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 3.7 | 3.7 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 |
| S-Cloves, oust, elc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 | 0 | 0 | 0 | 0.1 | 0.1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |
| G/mantic nto. | 3 | 1 | 3 | 300 | 00 | 30.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.1 | 0.0 | 1 | 0 | , | 10.0 | 0.0 | 10.0 |
| 2.Psychologica | 0 | 0 | 0 | 0.1 | 00 | 0.0 | $p$ | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.4 | 0.0 | 1.1 |
| 8Undrom | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 5 | 0 | 5 | 18.5 | 0.0 | 18.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 |
| gromer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 1 | 0 | 1 | 3.7 | 0.0 | 3.7 | 0 | 1 | 1 | 0.0 | 10.0 | 10.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rade | 6 | 4 | 10 | 60.0 | 41.0 | 100. | 3 | 0 | 3 | 100.0 | 0.0 | 100. | 19 | 8 | 27 | 70.4 | 29.6 | 100 | 4 | 6 | 10 | 40.0 | 60.0 | 181. |


| Evaluation | SEPTEMBER |  |  |  |  |  | DeteqEP |  |  |  |  |  | NOUEMSER |  |  |  |  |  | DFCEMAEP |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbe |  |  | pecen |  |  | member |  |  | 1. Peacont |  |  | numer |  |  | Pacent |  |  | Rumber |  |  | Percmit |  |  |
|  | Certain | Dabtity | Toti | Centin | Oubtal | Tocel | Certin | Daistal | Total | Centiin | Dasblful | Tota | Certin | Dastetul | Total | Centrin | Dobutax | Total | Cetrin | Dosutity | Toter | Certion | Doablitu | Total |
| Q-arlom | 0 | 2 | 2 | 0.0 | 33.3 | 33.3 | 3 | 3 | 6 | 150 | 15.0 | 30.0 | 1 | 2 | 3 | 5.9 | 11.8 | 17.7 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 |
| 1-Astreasical | 0 | 1 | 1 | 0.0 | 16.7 | 16.7 | 1 | 3 | 4 | 3.0 | 15.0 | 20.0 | 7 | 1 | 8 | 41.2 | 5.9 | 47.1 | 2 | 8 | 10 | 8.3 | 33.3 | 4/.6 |
| 2-Airtat | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 4 | 0 | 4 | 23.5 | 0.0 | 235 | 0. | 1 | 1 | 0.0 | 4.2 | -4.2 |
| 3-Limat Phenon | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 1 | $\bigcirc$ | 1 | 5.0 | 0.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 5.0 | 5.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.1 | 0 | 0 | 0 | 2.8 | 0.0 | 00 |
| S-Clouds, oust ac. | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-mamic. mit. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 20.9 | 0.0 | 20.0 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 3 | 0 | 3 | 12.5 | 0.0 | 12.5 |
| 1.Pspremopical | 1 | 0 | 1 | 16.7 | 0.1 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | a. 0 | 0,0 |
| 3 Unation | 2 | 0 | 1 | 0.0 | 0.0 | 0.1 | 2 | 0 | 2 | 10.01 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 0 | 6 | 25.0 | 0.0 | 25. |
| 90ther | 0 | 1 | 1 | 0.0 | 16.7 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | , | 5.9 | 0.0 | 5.9 | 2 | 0 | 2 | R. 3 | 0.0 | 8.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tatal | 2 | 4 | 6 | 33.3 | 66.7 | 100. | 13 | 7 | 20 | 65.0 | 35.0 | 100. | 14 | 3 | 17 | 82.4 | 17.6 | 187. | 15 | 9 | 24 | 62.5 | 37.5 | 100. |



| Evaluation | MAK |  |  |  |  |  | TUNE |  |  |  |  |  | TuL |  |  |  |  |  | AVGVST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Petcent |  |  | Number |  |  | Percmit |  |  | Number |  |  | Pescent |  |  | Number |  |  | Petcont |  |  |
|  | Certain | Doubtiol | Total | Certain | Dosubtrol | Tolal | Certain | Doubluil | Total | Centaia | Oabtut | Total | Cetain | Dosibetul | Tobal | Centain | Doubtitur | Total | Certain | Onowitu | Total | Certain | Doubtent | Total |
| O-Baltom | 4 | 1 | 5 | 10.0 | 2.5 | 12.5 | 1 | 0 | 1 | 5.9 | 00 | 5.9 | , | 0 | 1 | 6.2 | 0.0 | 6.2 | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 0.1 |
| 1-Astronomical | 7 | 4 | 6 | 17.5 | 10.0 | 27.5 | 1 | 3 | 4 | 5.9 | 17.6 | 23.5 | 0 | 5 | 5 | 0.0 | 31.2 | 31.2 | , | 30 | 31 | 2.6 | 76.9 | 79.5 |
| 2-Aircram | 4 | 3 | 7 | 10.0 | 7.5 | 17.5 | 1 | 1 | 2 | 5.9 | 5.9 | 11.8 | 0 | 3 | 3 | 0.0 | 18.8 | 18.8 | 1 | 2 | 3 | 2.6 | 5.1 | 7.7 |
| 3-Lidt Phenon. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0. | 0 | 5 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\theta$ | 0.0 | 9.0 | 0.0 | 0 | 1 | 1 | 0.0 | 6.2 | 6.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds Dust ect | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 1 | 3 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 |
| G-nsustic, mio. | 11 | 0 | 11 | 27.5 | 0.0 | 275 | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 | 3 | 0 | 3 | 18.8 | 0.0 | 18.8 | 2 | 0 | 2 | 5.1 | 0.0 | 5.1 |
| 7. Psycrelopical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 0 | 8 | 0 | 0.0 | 0.0 | 0.2 | 2 | 0 | 2 | 5.1 | 0.0 | 5.1 |
| Ga-Unlown | 6 | $c$ | 6 | 15.0 | 0.0 | 15.0 | 6 | 0 | 6 | 35.3 | 0.0 | 35.3 | 2 | 0 | 2 | 12.5 | 00 | 12.5 | 1 | 0 | 1 | 2.6 | 0.0 | 2.6 |
| S-Other | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 1 | 5.9 | 0.0 | 5.2 | 1 | 0 | 1 | 6.2 | 00 | 6.2 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 32 | 8 | 40 | 90.01 | 20.0 | 102. | 13 | 4 | 17 | 76.5 | 23.5 | 100. | 7 | 9 | 16 | 43.8 | 56.2 | 100. | 7 | 32 | 39 | 17.9 | 82. | 100. |


| Evaluation | SERTEMPEA |  |  |  |  |  | DCTEPER |  |  |  |  |  | NOVEMAET |  |  |  |  |  | DECEMEEP |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pencert |  |  | Number |  |  | Peecent |  |  | Number |  |  | Percent |  |  | Humber |  |  | Per Cost |  |  |
|  | Certain | Doviftul | Tomi | Certsin | Dovethil | Total | Certain | Doubtral | Tolat | Cotran | Doobthul | Total | Certain | Doobitfol | Total | Certain | Doubthol | Total | Centain | Doubthy | Total | Certain | Doubtul | Total |
| a-Barloon | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 | 0 | 0 | 0 | 0.0 | 0.9 | 0.0 | 0 | 1 | 1 | 0.8 | 6.7 | 6.7 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 |
| 1-Astronomical | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | 11.1 | 33.3 | 44.4 | 4 | 7 | 11 | 26.7 | 46.7 | 73.4 | 2 | 4 | 6 | 13.3 | 26.7 | 40.0 |
| 2-Aitcratt | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 11.1 | 11.1 | 22.2 | 0 | 1 | 1 | 0.0 | 6.7 | 6.7 | 2 | 0 | $?$ | 13.3 | 0.0 | 13.3 |
| 3-LInti Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 08 | 0 | 0 | 0 | 0.0 | Q. 1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $4{ }^{4}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | el | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S.Clious, Dust, ele | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 08 | 0 | 0 | 0 | 0.0 | 02 | 0.0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.0 |
| 6-1nsutic. mio. | 2 | 0 | 2 | 66.7 | 2.0 | 66.7 | 2 | 0 | 2 | 32.2 | 0.0 | 22.2 | 0 | 0 | 0 | 0.0 | 0.2 | 0.0 | 1 | 1 | I | 6.7 | 0.0 | 6.7 |
| 7.Pschelologial | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 |
| a Unknom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | 3 | 0 | 3 | 20.0 | 0.0 | 20.0 |
| Yother | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toda | 3 | 0 | 3. | 100.0 | 0.0 | 141, | 5 | 4 | 9 | 55.6 | 44:4 | 100. | 6 | 9 | 15 | 40.0 | 60.0 | 100. | /1 | 4 | 15 | 73.3 | 26.7 | 100. |

TABLE RLG EVAGUATION DE UNLT SLGTINGS BK MONTZ RE YEAR, 1950

|  | TAnvą |  |  |  |  |  | EERAUARK |  |  |  |  |  | MARCA |  |  |  |  |  | APRIL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percont |  |  | Mumber ! |  |  | Percent |  |  | Mumbes |  |  | Per Cent |  |  | member |  |  | Pexcemt |  |  |
| Evalation | Centim | Dasothl | Totit | Certan | Douthi | T0, 21 | Cetain | Doubituo | Tota | Catan | Dowitrul | Toliai | cetan | Dosistiol | Tolal | Certain | Dovitiol | Tata | cerbia | Doodivil | Totil | Combin | Domitul | Tond |
| Q Bullom | 0 | 0 | 0 | 0.0 |  | 00 | 3 | 0 | 3 | 16.7 | 0.0 | 167 | 5 | 1 | 6 | 13.5 | 2.7 | $16 . \lambda$ | 1 | 0 | / | 5.3 | 0.0 | 5.3 |
| 1.astromomial | 8 | 3 | 11 | 50.0 | 18.8 | 1688 | 2 | 4 | 6 | 11.1 | 22.2 | 33.3 | 4 | 0 | 4 | 10.8 | 0.0 | 10.8 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 |
| [2-Ancrim | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 | -4 | 0 | 4 | 22.2 | 0.0 | 22.2 | 7 | 4 | 11 | 18.9 | 10.8 | 29.7 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 |
| HLIMte Pramm. | 0 | - | 0 | 0.4 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 4.0 | 0.0 | $\ell$ | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4.80 nes | $i$ | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | . 0 | 0.0 | 2 | 0 | 0 | 0.0 | $0 \cdot 0$ | e. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 cliouts, Dust, etc | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 9 | 0.0 | 0.0 | 0.0 |
| 6 Gmuntic mb. | 1 | 0 | 1 | 6.2 | 0. | 62 | 1 | 0 | 1 | 5.6 | 0.8 | 5.6 | 8. | 0 | 8 | 21.6 | 0.0 | 21.6 | 3 | 0. | 3 | 15.8 | 0.0 | 15.8 |
| 2-Pyyctoperal | 0 | 8 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 1 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0. | 1 | 5.3 | 0.0 | 5.3 |
| 4 Unbiom | , | 0 | 1 | 6.2 | 01 | 6.2 | 2 | 0. | 2 | 11.1 | 0.0 | 11.1 | 4. | $\bigcirc$ | 4 | 10.8 | 0.0 | 11.8 | 6 | 0. | 6 | 31.6 | 0 O | 31.6 |
| 504m | 1 | 0 | 1 | 6.2 | 0.0 | 6.2 | 3 | 0. | 2 | 1111 | 0.0 | 11.1 | 0 | 4 | 4 | 0.0 | 10.8 | 10.8 | 0 | 9 | 0 | 0.0 | 0. | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todu | 13 | 3 | 16 | 81.2 | 18.81 | 100 | 14 | 4 | 18 | 77.8 | 22.2 | 100. | 28 | 9 | 37 | 75. 1 | 24.3 | 100. | 19 | 0 | 19 | 100.0 | 0.0 | 100. |



| Eviluation | SFPIEMPEA |  |  |  |  |  | Octeger |  |  |  |  |  | NUEMEER |  |  |  |  |  | DECEMPER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aumba |  |  | ${ }^{\text {P }} \mathrm{Pr} \mathrm{Cont}$ |  |  | Huanber |  |  | Parcort |  |  | Murber |  |  | Per cent |  |  | Munter |  |  | Pescont |  |  |
|  | Cembin | Dowitu\| | Total | Certain | Doubtral | Tola | Certain | Dasbitul | Total | Cettion | Doubltul | rotal | Certain | Doubthl | Total | Certain | Doubtul | Total | Centain | Doubtiti | Tota | Certain | Doubtul | Total |
| D日Baxicon | 2 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | $\theta$ | 1 | 10.0 | 0.0 | 10.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13:3 | 2 | 4 | 6 | 8.3 | 16.7 | 25.0 |
| asationemical | 5 | 0 | 5 | 385 | 0.0 | 38.5 | 1 | 1 | 2 | 10.0 | 10.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 3 | 12 | 37.5 | 12.5 | 50.0 |
| 2-Alicrath | 2 | t | 2 | 15.4 | 00 | 15.4 | 0 | 1 | 1 | 0.0 | 10.0 | 14.) | 2 | 4 | 6 | 13.3 | 261 | 40.0 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 |
| 3.15 | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 | 12 | 0 | 0 | 9.0 | 0.0 | 4.8 | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | c | 0 | 0.0 | 0.0 | 0.0 |
| 14 Bras | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 | $1-$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Sc-lovos Dust etc. | 6 | 2 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 00 | e. 0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-nsumica mm. | 3. | 0 | 3 | 23.1 | 0.0 | 23.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 |
| 17.psyctoonemal | 0 | 0 | 0 | 6.0 | 0.0 | 0.0 | - | 0 | 0 | $0 \cdot 1$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | $\bigcirc$ | 1 | 4.2 | 0.0 | 4.2 |
| 8-umkem | 3 | 0 | 3 | 23.1 | 0.0 | 13.1 | - 0 | 0 | 6 | 60.0 | 0.0 | 60.0 | 5 | 0 | 5 | 33.3 | 0.0 | 33.3 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 |
| 9 90thee | 6 | 0 | 0 | 8.0 | 0.0 | 0.0 | - | $\bigcirc$ |  | 0.01 | 0.0 | 0.0 | 1 | 0 | 1 | 6.7 | 0.0 | 67 | 1 | 0 | 0 | 4.2 | 0.0 | 4.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toua | /3 | 0 | 13 | 100.0 | 0.0 | k: | 8 | 2 | 10 | 80.01 | 20.0 | 100. | 11 | 4 | 15 | 73.3 | 26.7 | 100. | 17 | 7 | 24 | 70.2 | 29.2 | 100. |


| Evalution | Januar |  |  |  |  |  | Esppuar |  |  |  |  |  | Mapch |  |  |  |  |  | Apall |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mmber |  |  | pacom |  |  | Munber |  |  | Per Comt |  |  | number |  |  | Percmi |  |  | Number |  |  | Percmit |  |  |
|  | Centim | Doubth | Tola |  |  |  | ceran | Dovotity | Toon | - | Doubtiol | Total |  |  |  | Eentin | Douth | rota |  |  |  | Cesta | Southul |  |
| laballon | 2 | 1 | 3 | 10.5 | 53 | 15.8 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\checkmark$ | 0.8 | 0.0 | 0.0 |
| 1. Astomanal | 1 | 2 | 3 | 5.3 | 10.5 | 15.8 | 0 | 2 | 2 | 0.8 | 22.2 | 22.2 |  | 1 | 2 | 16.7 | 16.7 | 33.4 | 0 | 0 | 0 | $0 \times 1$ | 0.0 | 0,0 |
| $2-$ Alceat | 0 | 2 | 2 | 0.0 | 10.5 | 105 | 0 | 3 | 3 | 0.8 | 33.3 | 33.3 | 0 | 1 | 1 | 0.9 | 16.7 | 16.7 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 |
| Hupt Pnomam | 8 | c | 0 | 0.6 | 0.0 | 0.0 | $\bigcirc$ | 0 | 0 | e 0 | 0.0 | 0.0 | Q | 0 | 0 | 0.8 | O.C | 0.0 | c | 0 | 2 | 0.0 | 0.0 | 0.0 |
| 4 -ibiss | c. | $c$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 48 | 0.0 | 0.0 | Q | 0 | 0 | 0.0 | 6.2 | 0.0 | $\bigcirc$ | 0 | ? | 0.0 | 0.0 | 0.0 |
| Sclouds Dust eic | $c$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.4 | 0 | 0 | - | 0.0 | 0.0 | $0 \cdot \hat{c}$ |
| 5 Smanlic mb. | 5 | 0 | 5 | 26.3 | 0.0 | 126.3 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | - 3. | 60 | 0.0 | 2 | 0 | 2 | 66.7 | 0.0 | 66.7 |
| 2.Psycriofical | , | 0 | 0 | 0.6 | 0.0 | 0.0 | 0 | c | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | $0 . C$ | 2 | - | 0 | 0.0 | 0.0 | 0.0 |
| Butamem | 5 | , | 5 | 26.3 |  | 26,3 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | , | 0 | 3 | 50.0 | 0.0 | 50.6 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 |
| Somer | 1 | 0 | 1 | 53 | 0.0 | 53 | 2 | 0 | 2 | 22.2 | 0.8 | 22.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | c | 0 | 0 | 0.0 | 0.0 | . 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | [4] | 5 | 19 | 73.7 | 26.5 | 100. | 4 | 5 | 9 | 44.4 | 53.6 | 101 | 4 | 2 | 6 | 66.7 | 33.3 | 100. | 3 | 0 | 3 | 110.0 | 0.0 | 100 |


| Evalualion | Number |  |  |  |  |  | TUNE |  |  |  |  |  | Juak |  |  |  |  |  | AvGusT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | mumber |  |  | $\mathrm{Pectant}^{\text {cos }}$ |  |  | Number |  |  | Pecemt |  |  |  |  |  | Pexcomt |  |  |
|  | Cerain Dosoubitul Toual |  |  | Cemain | Per Cent Doubtul: Total |  | Cera | Doiblial | Toban | Celtan Douthtry Toiz |  |  | cestin | Dowbutul Totil |  |  | Mrain Doubtral Totail |  | Cation Mounes |  |  | Centin Doabtiol Tolat |  |  |
| a,amion | 2 | 0 | 2 | 40.2 | 0.0 | 40, 0 | 0 | d | 1 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 5.9 | 5.9 | 11.8 |
| 1.Astrommical | $\nu$ | , | $\stackrel{1}{ }$ | .. | 0.0 | 0.0 | 0 |  |  | 0.0 | 0.0 | 0.9 | 1 | 2 | 3 | II. 1 | 22.2 | 33.3 | 0 | C | 0 | 0.8 | 0.0 | 0.0 |
| 2-Aicrant | 1 | 0 | 1 | 20.0 | 0.0 | 20.6 | 1 | 6 | 1 | 102 | 0.0 | 108.0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 |
| 3-Limm Phome. | 0 | 0 | 0 | 0.0 | 0. | 0.7 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 11.8 | 5.9 | 17.7 |
| +Binds | 0 | 1 | 1 | c. 6 | 20.1 | 2i, 6 | 0 | 0 | 6 | 20 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | $0 . C$ | , | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Clauss, Oust ec | $c$ | $c$ | 0 | ¢ 0 | i. | U.v | 0 | 0 | 0. | Q. 1. | 0.0 | Ci | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | , | 0.0 | 0.0 | 0.0 |
| Ginumf | $c$ | 0 | 0 | $0 . i$ | 0.4 | ग. $0^{1}$ | 0 | 0 | 0 | 0.0 | 0.0 | d, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 17.6 | 0.0 | 17.6 |
| 2.Psycrionicar | 0 | ט | - | U. $0 \cdot 0$ | $\therefore$ | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 0 | 1 | $!$ | 0.0 | 11.1 | 11.1 | , | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Punumem | 1 | l | 1 | 06 | co | 20.0 | 0 | $\theta$ | D | 0.0 | 1.0 | 0.0 | 3 | 0 | 3 | 33.3 | 0.0 | $33 \cdot 3$ | 7 | 0 | 2 | 41.2 | 0.0 | 41.2 |
| 9-0mer | 0 | , | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toal | 4 | 1 | 5 | 80.0 | 20.0 | 100. | 1 | 0 | 1 | 108.0 | 0.0 | 100. | 6 | 3 | 9 | 66.7 | 33.3 | 100. | 15 | 2 | 17 | 88.2 | 11.8 | 7100. |


|  | SEPTEMSEA |  |  |  |  |  | Deteger |  |  |  |  |  | NOVEMBEA |  |  |  |  |  | DECEMREA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Numer |  |  | PaCmal |  |  | Kanmer |  |  | PaCmt |  |  | Nunber |  |  | Pectent |  |  | Mumber |  |  | Percorl |  |  |
| Evaluation | Combin | Dobitul | Tomi | emin | Doabtita | Til Toun | Certin | Doabtri] | Tol\| |  | Daubthul | , | cmain | Doouthun | Toit | Centin | Doubtion | Total | Cellian |  | b | Cention |  | Total |
| O-astion | 1 | 0 | ! | 5.9 | 0.0 | 5.9 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | ? | 1 | 1 | 0.0 | 6.2 | 6.2 | 1 | 0 | 1 | 9.1 | 0.0 | 9.7 |
| 1-Astromial | 2 | , | 3 | 11.8 | 5.9 | 17.7 | 6 | 1 | 7 | 25.0 | 4.2 | 27.2 | 8 | 4 | 12 | 50.0 | 25.0 | 75.0 | 2. | 1 | - 3 | 18.2 | 9.1 | 27.3 |
| 2-Aicath | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 4 | 2 | 6 | 16.7 | 8.3 | 25.0 | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 | 4 | 0 | 4 | 36.4 | 0.0 | 36.4 |
| 3-Lipti Phoma | 0 | 0 | 0 | 0.0 | 2.2 | O. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Alirs | 0 | 0 | 0 | 0.0 | 00 | 0.0 | c | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Sclaves, Oust ${ }^{\text {ac }}$ | 0 | , | 0 | 00 | 32 | 0.0 | 0 | 0 | $\ell$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Sthytric. ant | 2 | 0 | 2 | III. 8 | 0. | 11.8 | c | 0 | e | 0.0 | 0.e | 0.0 | 1 | 0 | 1 | 6.2 | 0.0 | 6.2 | 1 | 0 | , | 9. | 0.0 | 9.1 |
| 2.Psprcalogical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  | 0.0 | 1 | e | 1 | 9.1 | 0.0 | 9.1 |
| AUnown | 8 | 0 | 8 | 47.1 | 0.0 | 47.1 | 9 | 0 | 9. | 37.5 | 0.0 | 37.5 | 0 | 0 | 0 | 1.8 | 0.6 | 0.0 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 |
| Sobe! | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 10 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toded | 16 | 1 | 17 | 94.1 | 5.9 | 1100. | 21 | 3 | 24 | 87.5 | 12.5 | 100. | 11 | 5 | 16 | 68.8 | 31.2 | 100 | 10 | 1 | 11 | 90.9 | 9.1 | 100. |


| Evalution | TANUARY |  |  |  |  |  | FABAEARK |  |  |  |  |  | Mapsk |  |  |  |  |  | APFM |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Per Cont |  |  | Humber |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Mumber |  |  | Percent |  |  |
|  | Certan | Doubtitul | Tout | Certan | Doubthi | Totid | Cerbin | Doubthl | Tomal | Cellan | Docibtul | Totà | entain | Doxitul | Tota | Certan |  | Tomi | Cratio | Doubtiol | Tatar | Coutim | Dosatim | Tod |
| O-8aliom |  | 0 | 1 | 6.7 |  | 6.7 |  | 0 | 1 | 5.6 | 0.0 | 5.6 | 3 | 1 | H | 12.5 | 4.2 | 16.7 | 3 | 3 | 6 | 3.3 | 3.3 | 6.6 |
| 1-Astromemal | 4 | 4 |  | 26.7 | 26.7 | 53.4 | 4 | 1 | 5 | 22.2 | 5.6 | 27.8 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | 15 | 0 | 15 | 16.5 | $0!1$ | 16.5 |
| 12.Antiat | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 2 | 2 | 4 | (1.) | $1 / .1$ | 27.2 | 3 | 2 | 5 | 12.5 | 8.3 | 20.8 | 4 | 7 | 20 | 14.3 | 7.7 | 22.0 |
|  |  | 0 | 0 | 0.0 | 0.0 | e.e | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.1 | 0.0 | 1.1 |
| 4 -1uts |  | 0 | 0 | 0.0 | 0.0 | R.e | $c$ | 0 | 0 | 0.1 | 0.0 | 0.0 | 1 | $c$ | 1 | 4.2 | 0.0 | 4. | 3 | 1 | 4 | 3.3 | 1.1 | 4.4 |
| 5 Clouts, Oust el |  | 0 | 0 | 0.0 | 0.0 | 0.8 | 6 | 0 | 0 | 0.0 | 0.8 | 0,0 | 0 | 1 | 1 | 0.0 | 4.2 | 4.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Cinsplyic mb. | 6 | C | 2 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 | 1 | 2 | 1 | 42 | 0.0 | 4.3 | 10 | 0 | 10 | 11.0 | 0.0 | 11.0 |
| 7. Pyproberal | 2 | 0 | 2 | 13.3 | 0.01 | 13.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 1 | 0 |  | 1.1 | 0.0 | 1. |
| Humsom | 2 | 0 | 2 | 13. | 0.0 | 13 | 5 | 0 | 5 | 27.8 | 0.0 | 27.8 | 4 | 0 | 4 | 16.7 | 0.0 | 16.7 | 32 | 0 | 32 | 35.2 | 0.0 | 35.2 |
| 300\% |  | c | 2 | 13.3 | 0.0 | 13.3 | 2 | 0 | 2 | 11.1 | 0.0 | 11 | $\angle$ | 6 | 7 | 4.2 | 25.0 | 19.2 | 2 | 0 |  | 2.2 | 0.0 | 2.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | $1 /$ | 4 | 15 | 73.3 | 26.7 | 108. | 15 | 31 | 18 | 83.3 | 16.7 | 100. | 14 | 10 | 24 | 59.3 | 41.7 | 100. | 80 | 11 | 91 | 87.9 | 12.1 | 100 |


|  | MAC |  |  |  |  |  | TUNE |  |  |  |  |  | Tu¢Y |  |  |  |  |  | Avgust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pescent |  |  | Munber |  |  | Pec cent |  |  | munter |  |  | Percent |  |  | mumbes |  |  | Pet Cent |  |  |
| Evatution | Certan | Doutitul | Total | Cotrin | Dosthul | Tolar | Certain | Doubinol | Tota | Certain | Doubtiol | Tota | Cetrain | Doubltul | Tolal | Cention | Dondtrul | Tota | Cestin | Doubital | Totad | Certain | Davitul | Total |
| O-Ealloon | $1 /$ | 4 | 15 | 12.5 | 4.5 | 17.0 | 21 | 6 | 27 | 13.0 | 3.7 | 16.7 | 80 | 47 | 127 | 12.2 | 7.2 | 19.4 | 36 | 39 | 75 | 123 | 11.2 | 21.5 |
| 1-Astronozical | 14 | 2 | 16 | 15.9 | 2.3 | 18.2 | 24 | 17. | 41 | 14.7 | 10.6 | 25.5 | 96 | 30 | 120 | 13.7 | 4.6 | 18.3 | 41 | 25 | 66 | 11.7 | 7.2 | 18.9 |
| 2-Aicrant | 12 | 12 | 24 | 13.6 | 13.6 | 27.2 | 26 | 12. | 36 | 16.1 | 7.5 | 23.6 | 47 | 73 | 170 | 14.8 | 11.1 | 25.9 | 41 | 34 | 75 | 11.7 | 9.7 | 21.4 |
| 3 Llign Presom. | 3 | $\ell$ | 3 | 3.4 | 0.0 | 3.4 | 4 | 0 | 1 | 0.6 | 0.8 | 6 | 12 | 4 | 16 | 1.8 | 0.6 | 2.4 | 5 | 6 | 11 | 1.4 | 1.7 | 3.1 |
| 4 Biras | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - 0 | 0 | 0 | 0.0 | Q. 0 | 0.0 | 3 | 1 | 4 | 0.5 | 0.2 | 0.7 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 |
| 5 Cloods Dust ex. | 2 | 0 | 1 | 2.3 | 0.0 | 2.3 | 0. | 0 | 0 | Q. 0 | 0.0 | 0.1 | 1 | 1 | 2 | 0.2 | 0.2 | 0.4 | 0. | 1 | 1 | 0.0 | 0.3 | 0.3 |
| Gmatlic. mio. | 6 | $C$ | 6 | 6.8 | 0.0 | 6.8 | 18 | 0 | 18 | 11.2 | 0.0 | 11.2 | 68 | 0 | 68 | 10.4 | 0.8 | 12.4 | 32 | 0 | 31 | 9.2 | 0.0 | 9.2 |
| ${ }^{7}$ Pryctoterical | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 2.5 | 0.0 | 1.5 | 9 | 5 | 14 | 1.4 | 0.8 | 2.2 | 81 | 1 | 9 | 2.3 | 0.3 | 2.6 |
| duncoum | 14 | 0 | 14 | 15.9 | 0.0 | 15.9 | 26 | 0 | 26 | 16.1 | 0.0 | 16.1 | 123 | 0 | 123 | 18.8 | 0.8 | 18.8 | 67 | 0 | 67 | 19.2 | 0.0 | 19.2 |
| Pother | 7 | 1 | 8 | 8.0 | 1.1 | 9.1 | , | 1 | 6 | 3.1 | 0.6 | 3.7 | $1 /$ | 1 | 12 | 1.7 | 0.2 | 1.9 | 9 | 4 | 13 | 2.6 | 1.1 | 3.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 69 | 19 | 88 | 78.4 | 21.6 | 100. | 125 | 36 | 161 | 77.6 | 22.4 | 100. | 494 | 162 | 656 | 75.3 | 24.7 | 110. | 239 | 110 | 349 | 68.5 | 31.5 | 180. |


| Evaluation | SEPTEMEEP |  |  |  |  |  | DETOQEP |  |  |  |  |  | NOVEMOEA |  |  |  |  |  | DECENEEA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maber |  |  | Pacent |  |  | muber |  |  | Percent |  |  | muber |  |  | Per Cont |  |  | munber |  |  | Per Cart |  |  |
|  | Certia | Doathtol | Total | Centia | Douttoll | Tom | Centio | Dobdtal | Toter | Centin | [Dowithth] | Total | Cetrain | Doubtful | Total | Certrin | Dostotad | Tota | Crain | DootbituI | Total | Certrin | Daubta! | Total |
| a-auloon | 4 | 11 | 15 | $2 \cdot 7$ | 7.5 | 10.2 | 3 | 9 | 12 | 4.2 | 12.7 | 16.9 | 2 | 8 | 10 | 3.7 | 14.8 | 18.5 | 0 | 2 | 2 | 0.0 | 4.2 | 4.2 |
| 1-Astrmonical | 22 | 9 | 31 | 15.0 | 6.1 | 21.1 | 10 | 9 | 19 | 14.1 | 17.7 | 26.8 | 5. | 5 | 10 | 9.3 | 9.3 | 18.6 | 9 | 7 | 16 | 18.7 | 14.6 | 33.1 |
| 2-Aicrant | 9 | 31 | 40 | 6.1 | 21.1 | 27.2 | 4 | $1 /$ | 15 | 5.6 | 15.5 | 21.1 | 3 | 3 | 6 | 5.6 | 5.6 | 11.2 | 1 | $1 /$ | 12 | 2.1 | 22.9 | 250 |
| 3 LLimitPm | 1 | 2 | 3 | 0.7 | 1.4 | 2.1 | 0 | 4 | 4 | 0.0 | 5.6 | 5.6 | 2 | 1 | 3 | 3.7 | 1.9 | 5.6 | 1 | 0 | 1 | 2.1 | 0.0 | 2.1 |
| 4 Birts | 1 | 2 | 3 | 0.7 | 1.4 | 2.1 | 1 | 1 | 2 | 1.4 | 1.4 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $5-$ Clowds Dist, at | 8 | 1 | 1 | 0.0 | 0.7 | 0.7 | 0 | 1 | 1 | 0.0 | 1.4 | 1.4 | 0 | 2 | 2 | 0.1 | 3.7 | 3.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Gmasficicino. | 12 | 0 | 13 | 8.2 | 0.0 | 8.2 | 4 | 0 | 4 | 5.6 | 0.0 | 5.6 | 4 | 0 | 4 | 7.4 | 0.0 | 7.4 | 3 | 0 | 3 | 6.2 | 0.0 | 6.2 |
| 1Psyctotesiol |  | 0 | 1 | 07 | 0.0 | 0.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.9 | 0.0 | 1.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8:maxem | 33 | 0 | 33 | 22.4 | 0.0 | 22.4 | 11 | 0 | 11 | 15.5 | 0.0 | 15.5 | 16 | 0 | 16 | 29.6 | 0.0 | 29.6 | $1 /$ | 0 | 11 | 22.9 | 0.0 | 27.9 |
| 90ther | 6 | 2 | 8 | 4.1 | 1.4 | 5.5 | 2 | 1 | - 3 | 2.8 | 1.4 | 4.2 | 2 | 0 | 2 | 3.7 | 0.0 | 3.7 | 3 | 0 | 3 | 6.2 | 0.0 | 6.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 89 | 58 | 147 | 68.5 | 39.5 | 100.1 | 35 | 36 | 71 | 49.3 | 50.7 | 100. | 35 | 19 | 54 | 64.8 | 35.2 | 100. | 28 | 20 | 48 | 58.3 | 41.7 | 100. |

TABG ALR EKAKVATION OF OBNEGT SIGHTINGS BY MONTH OF YEAR, ALL YEARS

| Evalubon | 'Tanvark |  |  |  |  |  | Emapuax |  |  |  |  |  | MARCH |  |  |  |  |  | APP1L |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maber |  |  | Percot |  |  | Mumber |  |  | Peicent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Percent |  |  |
|  | Cortin | Doubliol | Y010 | Cenan | Dovoimi | Tobal | Certan | Douther | Tota | Cutsin | Dowotul | Tot | Certain | Doobtul | Total | Cerlain |  | Total | Certion | Doubtal | Total | Cution | Doublim | Tota |
| a.bation | 3 | 1. | 5 | 43 | 2.9 | 7.2 | 6 | 0 | 6 | 10.9 | 0.0 | 10.9 | K | 2 | 10 | 96 | 2.4 | 12.0 | 7 | 2 | 9 | 5.5 | 1.6 | 7.1 |
| 1-Astomemica | 15 | 16 | 31 | 21.4 | 21.9 | 44.3 | 12 | 12 | 23 | 20.0 | 21.8 | 41.8 | 12 | 10 | 22 | 14.5 | 12.0 | 26.5 | 19 | 3 | 22 | 15.0 | 2.4 | 17.4 |
| 2-Aircat | 6 | 3 | 9 | 8.6 | 4.3 | 12.7 | 5 | 5 | 10 | 9.1 | 9.1 | 18.2 | 8 | 7 | 15 | 9.6 | 8.4 | 18.0 | 10 | 7 | 27 | 15.7 | 5.5 | 21.2 |
| 3-Lidm Prame | 0 | 0 | 0 | 0.0 | 00 | 06 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | , | 2 | 1 | 0.8 | 0 | 0.8 |
| 4 4.Birta | 0 | 0 | 0 | 00 | 8.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 0 | 3 | 3.6 | 00 | 36 | 3 | 1 | 4 | 2.4 | 0.8 | 3.2 |
| 5 Clowdz, Dust et | 0 | 0 | 0 | 02 | el | Le | 0 | $p$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 00 | 12 | 1.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Fruatice me. | 8 | 0 | 8 | 11.4 | 0.0 | 11.4 | 3 | 0 | 3 | 5.5 | 0.0 | 5.5 | 10. | 0 | 10 | 12.0 | a, | 12.0 | 11 | 0 | 21 | 16.5 | 0.0 | 16.5 |
|  | 2 | 0 | 2 | 2.9 | C0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 1.6 | 0.0 | 1.6 |
| 40 deom | 1 | 0 | 9 | 12.9 | 08 | 12.9 | 6 | 0 | 6 | 10.7 | 0.0 | 10.9 | 13 | 0 | 13 | 15.7 | 0.0 | 15.7 | 39 | 0 | 39 | 30.7 | 0.0 | 30.7 |
| Some | 5 | L | 6 | 7.1 | 1.4 | 8.5 | 7 | 0 | 7 | 12.7 | 00 | 12.7 | 4 | 8 | 9 | 1.2 | 9.6 | 10.8 | 2 | 0 | 2 | 16 | 0.0 | 1.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tom | 48 | 22 | 70 | 68.6 | 31.41 | 100. | 38 | 12 | 55 | 69.1 | 30.9 | 180. | 55 | 28 | 83 | 66.3 | 33.7 | 108. | 114 | 13 | 127 | 898 | 10.2 | 180. |


|  | MAY |  |  |  |  |  | TUNE |  |  |  |  |  | $\sqrt{u \angle V}$ |  |  |  |  |  | AvgusT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percemt |  |  | Number |  |  | Percent |  |  | Number |  |  | Pax cont |  |  | number |  |  | Pel $C_{\text {enl }}$ |  |  |
| Evaluation | Ceram | Doubtul | Tolal | Cerdan | Doublud | Total | Certain | Doubitiol | Tolal | Cerlain | Doubtun | Total | Certain | Doubttol | Tolal | Certin | Doubtitul | Tota | Sertan | poultay | Total | Certain | Dabitul | Total |
| a-gallom | 17 | 3 | 20 | 132 | 2.3 | 15.5 | 28 | 5 | 33 | 15.3 | 2.7 | 18.0 | 24 | AI | 115 | 11.6 | 6.4 | 18.0 | 39 | 39 | 78 | 9.6 | 9.6 | 19.2 |
| 1-Astrommical | 22 | 6 | 28 | 17.1 | 4.7 | 11.8 | 22 | 17 | 39 | 12.0 | 9.3 | 21.3 | 58 | 38 | 96 | 9.1 | 6.0 | 15.1 | 43 | 45 | 88 | 10.6 | 11.1 | $2 i .2$ |
| 2-Aitaral | 17. | 13 | 30 | 13.2 | 10.1 | 23.3 | 28 | 12 | 40 | /15.3 | 6.6 | 21.9 | 94 | 72 | 166 | 14.7 | 11.3 | 26.0 | 47 | 35 | 82 | 11.5 | 8.6 | 20.1 |
| 3 Ligat Phenoa. | 3 | 2 | 5 | 2.3 | 1.6 | 3.9 | 1 | 1 | 2 | 0.5 | 0.5 | 1.0 | 13 | 4 | 17 | 2.0 | 0.6 | 2.6 | 6 | 6 | 12 | 1.5 | 1.5 | 3.0 |
| 4 Bints | 0 | 2 | 2 | 6.0 | 1.6 | 1.6 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 3 | 6. | 0.5 | 0.5 | 1.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |
| 5-cloods, Dust Ecc. | $\underline{2}$ | 0 | 2 | 1.6 | 6.0 | 16 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 2 | 0.2 | 0.2 | 0.4 | 0 | 1 | 1 | 0.0 | 0.2 | 0.2 |
| GInsulic, nlo. | 16 | $\sim$ | 16 | 12.4 | 0.0 | 12.9 | 22 | 0 | 22 | 12.0 | 0.0 | 12.0 | 74 | 0 | 74 | 11.6 | 0.0 | 11.6 | 40 | 0 | 40 | 9.8 | 0.0 | 9.8 |
| 7.Psyctulosion | $\ldots$ | $\bigcirc$ | 0 | 20 | 0.0 | 0.0 | 6 | 0 | 6 | 3.3 | 0.0 | 3.3 | 8 | 8. | 16 | 1.3 | 1.3 | 2.6 | 10 | 1 | 11 | 2.5 | 0.2 | 2.7 |
| \%-Unknown | 18 | $C$ | 18 | 14.01 | 0.0 | 14.0 | 33 | 0 | 33 | 18.0 | 0.0 | 18.0 | (2) | 0 | 121 | 19.0 | 0.0 | 19.0 | 79 | 0 | 79 | 19.4 | 2. 0 | 19.4 |
| gotrer | 6 | 2 | 8 | 4.7 | 1.6 | 6.3 | - 7 | 1 | 8 | 3.8 | 0.5 | 4.3 | 24 | 1 | 25 | 3.8 | 0.2 | 4.0 | 11 | 5 | 16 | 2.7 | 1.2 | 3.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 101 | 28 | 129 | 783 | 21.7 | 100. | 147 | 36 | 183 | 80.3 | 19.7 | 120: | 470 | 168 | 638 | 73.7 | 26.3 | 100. | 275 | 132 | 407 | 67.6 | 32.4 | 100. |


| Evaluation | SEPTEMSER |  |  |  |  |  | QTEPER |  |  |  |  |  | NOLEMTET |  |  |  |  |  | DECEMSER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Parcent |  |  | Number |  |  | Pecant |  |  | Number |  |  | Per Cent |  |  | Humber |  |  | Per Cent |  |  |
|  | Certain | Dowbtho | Tolat | Certain | Dabther | Total | Centrin | Doubitul | Total | Centain | Dobition | Tota | Certain | Dawbtull | Tolal | Certain | Doubful | rotal | Certin | Dosutul | Total | Certain | Davbitul | Total |
| a-batioon | 6 | 12 | 18 | 3.6 | 7.2 | 10.8 | 8 | 12 | 20 | 6.4 | 9.6 | 16.0 | 5 | 9 | 14 | 4.7 | 8.5 | 13.2 | 6 | - 5 | 11 | 5.7 | 48 | 10.5 |
| 1-Astronmicas | 18 | 9 | 27 | 10.8 | 5.4 | 16.2 | 15 | 18 | 33 | 12.0 | 14.4 | 26.4 | 21 | 15 | 36 | 19.8 | 142 | 34.9 | 18 | 16. | 34 | 17.1 | 15.2 | 32.3 |
| 2-Aitcratt | 13 | 27 | 40 | 7.8 | 163 | 24.1 | 9 | $1 /$ | 20 | 7.2 | 8.8 | 16.0 | 11 | 6 | 17 | 10.4 | 5.7 | 16.1 | 7 | 11 | 18 | 6.7 | 10.5 | 17.2 |
| 3.LIntit Prexom. | 1 | 2 | 3 | 0.6 | 1.2 | 1.8 | 1 | 2 | 3 | 0.8 | 1.6 | 2.4 | 3 | 1 | 4 | 2.8 | 0.9 | 3.7 | 1 | 0 | 1 | 1.0 | 0.0 | 1.0 |
| ${ }^{4} \mathrm{Bards}$ | 7 | 2 | 3 | 0.6 | 1.2 | 1.8 | 2 | 2 | 4 | 1.6 | 1.6 | 3.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clowds, Dust, etc | 0 | 1 | 1 | 2.0 | 0.6 | 0.6 | 0 | 1 | 1 | 0.0 | 0.8 | 0.8 | 0 | 2 | 2 | 0.0 | 1.9 | 1.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insulicic. mio. | 19 | 0 | 19 | 11.4 | c. 0 | $1 / 4$ | 10 | 0 | 10 | 8.0 | 0.0 | 8.8 | 7 | 0 | 7 | 6.6 | 0.0 | 6.6 | 9 | 0 | 9 | 8.6 | 0.0 | 8.6 |
| 1.Prycholopieal | 3 | 0 | 3 | 1.8 | 0.0 | 1.8 | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | 1 | 0 | 1 | 0.9 | 0.0 | 0.9 | 2 | 0 | 2 | 1.9 | 0.0 | 1.9 |
| B-Unkiom: | 42 | C | 42 | 25.3 | 0.0 | 25.3 | 30 | 0 | 30 | 24.8 | 0.0 | 24.0 | 21 | 0 | 21 | 19.8 | 0.0 | 19.8 | 22 | 0 | 22 | 21.0 | 2.0 | 21.0 |
| 9-0ter | 8 | 2 | 10 | 4.8 | 1.2 | 6.0 | 2 | 1 | 3 | 16 | 0.8 | 2.4 | 4 | 0 | 4 | 3.8 | 0.0 | 3.8 | 8 | 0 | 8 | 7.6 | 0.0 | 7.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tat | 111 | 55 | 166 | 66.9 | 33.11 | 100.1 | 78 | 47 | 125 | 67.4 | 37.6 | 100. | 73 | 33 | 106 | 68.9 | 31.1 | 100. | 73 | 32 | 105 | 69.5 | 30.5 | 100. |



|  | JANUAPK |  |  |  |  |  | EEPRUAPY |  |  |  |  |  | MAPCN |  |  |  |  |  | -APRIL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Peecort |  |  | Number |  |  | Per Cent |  |  | Munber |  |  | Pescont |  |  | number |  |  | Pecemt |  |  |
| Evalution | Certan | Doubtrul | Toba | Centan | Dowothe | Tota | Cerbin | [Dovbl\|u] | Tow | Cetrin | Dasibul | Toile |  |  |  | Centain |  | Totit | Certsin | Doubthol | Tobi | Cormin |  | [tol] |
| Cobalicon |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astomoncal |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2.AAItcian |  |  |  |  | 1 |  |  |  |  |  | $\lambda$ |  |  |  |  | , |  |  |  |  |  |  | 1 |  |
| 3 Lismi Prenom. |  |  |  |  | 1 |  |  |  |  |  |  |  |  |  |  | $\lambda$ |  |  |  |  |  | K |  |  |
| 4-Bras |  |  |  | $\bigcirc$ |  |  |  |  |  |  |  |  |  |  |  | ${ }^{\prime}$ |  |  |  |  |  | $\cdots$ |  |  |
| 5 -Clouds. Dust etc. |  |  |  |  |  |  |  |  |  | $\theta$ |  |  |  |  |  |  |  |  |  |  |  | $\underline{N}$ |  |  |
| Glnsyticic mo. |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  | 0 |  |  |  |  |  |  |  |  |  |
| 7-Paytologian |  |  | N |  |  |  |  |  | $N$ |  |  |  |  |  |  |  |  |  |  | ) | $\bigcirc$ |  |  |  |
| OLunrom |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | N |  |  |  |  |
| 900ner |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | M/AY |  |  |  |  |  | JUNE |  |  |  |  |  | Juar |  |  |  |  |  | Ausust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  | Hunter |  |  | Per Cent |  |  | number |  |  | Per Cat |  |  |
| Evaluation | Cerrain | Dowthil | Total | Certain | Dabithil | Tolal | Celtana | Dousthil | Total | Cetsin | Doubita | Tota | Certain | Daubtrul | Total | Certain | Doustitu | Total | Cetrin | Dowithi | Totel | Centsin | Daulxit | Total |
| [0-8allom |  |  |  |  |  |  | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 6 | 0 | 6 | 15.8 | 0.8 | 15.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 |
| I-Astonomical |  |  |  |  |  |  | 0 | 1 | 1 | 0.0 | 7.7 | 7.7 | 2. | 3 | 5 | 5.0 | 7.5 | 12.5 | 1 | 1 | 2 | 10.0 | 10.0 | 20.0 |
| ?-Aıcuat |  |  |  |  |  |  | 2 | 0 | 2 | 15.4 | 0.0 | 15.4 | 0 | 2 | 2 | 0.0 | 5.0 | 5.0 | 0 | 0 | - | 0.0 | 0.0 | 0.1 |
| 3-LLigli Pherom. |  |  |  |  |  |  | 0 | 0. | 0 | C. 2 | 0.0 | 0.0 | 1 | 0 | 1 | 2.5 | 0.0 | 2.5 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 Brids |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.6 | 0.0 | $0 \cdot$ |
| S-Clouds Dost etc |  |  |  |  |  |  | 2 | 0 | 0 | C. 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0.0 |
| G-ngultic min. |  |  |  |  |  |  | 3 | 2 | 3 | 23. | 0.0 | 23.1 | 6 | U | 6 | 15.0 | 0.0 | 15.0 | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 |
| 1-Pyytrological |  |  |  |  |  |  | 1 | . 0 | 1 | 7.7 | 0.0 | 7.7 | 0 | 2 | 2 | 0.0 | 5.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Is UnM100n |  |  |  |  |  |  | 4 | 0 | 4 | 30.8 | 0.0 | 30.8 | 8 | 0 | 8 | 20.0 | 00 | 20.0 | 6 | 0 | 6 | 60.8 | 0.0 | 60.0 |
| 90 mes |  |  |  |  |  |  | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 10 | 0 | 10 | 25.0 | 0.0 | 25.0 | 0 | 0 | 0 | 0.0 | 0.81 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toded |  |  |  |  |  |  | 12 | 1. | 13 | 92.3 | 7.7 | 100. | 33 | 7 | 40 | 82.5 | 17.5 | 100. | 9 | 1 | 10 | 98.0 | 10.0 | 160 |


|  | SFPTEMEEP |  |  |  |  |  | OcTePEA |  |  |  |  |  | NOVEMRER |  |  |  |  |  | Desemata |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | PaCmt |  |  | Munber |  |  | PaCuol |  |  | mumber |  |  | Pecteat |  |  | Mumber |  |  | Per Cat |  |  |
| Evaluation | Certion | Doubtiol | Tou1 | Certio] | Dabtuly | Tobl | Certbin | Docidtul | Totex | Certin | Doouttol | Potal | Certain | Doubthul | Toti | Cernain | Doobtul | Todal | Certion | Doovitul | Tober | Certain | Doubtive | Total |
| a-8salion | 0 | 2 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | D. 0 | 0 | 0 | 0 | 0.0 | 0.9 | 0.9 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 |
| 1-Astronomical | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 1 | 2 | 3 | 16.7 | 33.3 | 50.9 | 1 | 1 | 2 | 33.3 | 33.3 | 66.6 | 2 | 0 | 2 | 1001 | 0.0 | 1800 |
| 2.aimath | 0 | 0 | 0 | 0.0 | 8.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | -0.0 |
| 3-Ligal Premon. | $\theta$ | 0 | 0 | 0.8 | 0.0 | $0 \cdot 0$ | 0 | 0 | 0 | 0.8 | 2.0 | 0.2 | 1 | 0 | 1 | 33.3 | 00 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Birsts | 0 | 0 | 0 | 0.1 | P. 1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.2 | 0.0 | 0 | 1 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 6.9 | ao | 0.0 |
| 5-Cloons, Oust | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nyulic. mio. | 1 | 0 | 1 | 289 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.6 | 0.0 | 0 | 0. | 0 | ed | 0.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 |
| 1.Psychological | 1 | 0 | 1 | 20.0 | 0.0 | 20. | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 00 | 0.0 | 20 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 8-undmomm | 2 | 0 | 2 | 40.0 | 0.0 | 40.0 | 2 | 0 | 2 | 33.3 | cop | 33.3 | 0 | 0 | 0 | ad | 000 | 0.0 | 0 | 0 | 0 | 00 | $0 \cdot$ | 0.0 |
| 90mee | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5 | 0 | 5 | 100.0 | 0.0 | 100 | 4 | 2 | 6 | 166.7 | 33.3 | 100 | 2 | 1 | 3 | 66.71 | 333 | 100. | 2 | 0 | 2 | 100.01 | 0.0 | 1180. |




| Erimation | JANVARK |  |  |  |  |  | EESAUARK |  |  |  |  |  | MAEAL |  |  |  |  |  | Appik |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | merber |  |  | PaCent |  |  | Humber |  |  | Per Cat |  |  | muber |  |  | Percme |  |  | Munber |  |  | Paceat |  |  |
|  | Cention | Dovibthi | Tout | Certain | Dosbothit | Totar | Ceram | Dowital | Tobi | ${ }^{\text {Cortain }}$ | Doubitul | Tola | Sertin | Doobltur | Tobl | Certin | Dowicim | Tota | Cortin | Doubx ${ }^{\text {d }}$ | Toter | Ceatio | Doswtal | rax |
| 18Basloon | 0 | 1 | 1 | 0.0 | 6.2 | 6.2 | 2 | 0 | $\lambda$ | 18.2 | 0.0 | 18.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 |
| 1-Astmomal | $\cdots$ | 5 | 7 | 115 | 31.2 | 43.7 | 2 | 4 | 6 | 18.2 | 36.4 | 54.6 | 4 | 9 | 13 | 21.1 | 47.4 | 68.5 | 6 | 1 | 7 | 33.3 | 5.6 | 38.9 |
| 2-Auctid | 4 | 1 | 5 | 25.0 | 62 | 31.2 | 1 | 0 | 1 | 9.1 | $0 \cdot 0$ | 9.1 | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 2 | 0 | 3 | 11.1 | 0.0 | 11.1 |
| HLig Phenem | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0. | $0 \cdot 1$ | 10 | 0.0 | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 4. Binds | 0 |  | 0 | 0.0 | 00 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5. Clouts Dust etc: | 0 | 0 | 0 | Q 2 | 20 | Re. | 0 | 0 | 0 | 0. | 0.0 | 100 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 |
| 6 Insonic mo. | $?$ | 0 | 0 | 0.0 | 08 | 0.0 | 1 | 0 | 1 | \% 11 | 0.0 | 9.11 | 1 | 0 | 1 | 5.3 | 00 | 5.3 | 5 | 0 | 5 | 27.8 | 40 | 272 |
| 7. Pyydorional | e | 0 | 0 | 0.9 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.9 | $\theta$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | a, | 0.0 |
| 8 Suakome | 2 | 0 | 2 | 12.5 | 00 | 12.5 | 0 | 0 | 0 | 0.0 | 2, 0 | 0.0 | 1 | 0 | 1 | 5.3 | 20 | 53 | 3 | 0 | $J$ | 16.7 | 0.0 | 16.7 |
| 90\%er | 1 | 0. | 1 | 6.9 | 0.0 | 6.2 | 1 | 0 | 1 | 2.1 | 0.0 | 9.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toul | 9 | 7 | 16 | 56.2 | 438 | 100. | 7 | 4 | 11 | 63.6 | 36.4 | 108. | 10 | 9 | 19 | 52.6 | 47.4 | 100. | 17 | 1 | 18 | 94.4 | 5.6 | 100. |


|  | Mar. |  |  |  |  |  | TuNE |  |  |  |  |  | 2046 |  |  |  |  |  | AvGust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Pet Cent |  |  | Mumber |  |  | Per Cent |  |  | munter |  |  | Pex cent |  |  | monber |  |  | Pex Cont |  |  |
| Evalualion. | Certion | Douthoil | Tobal | Cetrain | Dowithin | Total | Certain | Dowithor | Total | Certain | Doub(tol | Total | Certin | Doubtela | Total | Certion | Dosdoral | Total | Cortin | Doobtob | Tobal | Centin | Dautiol | Total |
| O-Basiloca | 4 | 0 | 4 | 13.8 | 0.0 | 13.8 | 1 | 2 | 1 | 8.3 | 0.0 | 8.3 | 1 | 0 | 1. | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astromaical | 6 | 2 | 8 | 20.7 | 6.9 | 27.6 | 1 | 3 | 4 | 8.3 | 25.0 | 33.3 | 0 | 4 | 4 | 0.0 | 26.7 | 26.7 | 1 | 16 | 17 | 4.0 | 64.0 | 68.0 |
| 2-Airam | 4 | 3 | 7 | 13.8 | 10.3 | 14.1 | , | 1 | 2 | 8.3 | 8.3 | 16.6 | 0 | 3 | 3 | 0.0 | 20.0 | 20.0 | 1 | 2 | 3 | 4.0 | 80 | 12.0 |
| 3 Limit Phemene | 0 | 0 | 0 | 0.0 | $0 \cdot 0$ | , | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | R | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birss | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 |  | 0.0 | 6.7 | 6.7 | 0 | 0 | 0 | 0. | 00 | 0.0 |
| SClowas Dest | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 안 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gmatic. mat. | 5 | 0 | 5 | 17.2 | Q2l | 17 | , | 0 | 2 | 16.7 | 00 | 16.7 | 3 | 0 | 3 | 20.0 | 00 | 20.0 | 2 | 0 | 2 | 8.0 | 00 | 8.0 |
| 7PPydologiad | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 2 | 0 | $\theta$ | 60 | 0.0 | 0.0 | 2 | 0 | 2 | 8.0 | 0.0 | 9.0 |
| 61mbumm | 5 | 0 | 5 | 17.2 | 0.0 | 17. | 1 | 0 | 1 | 8.3 | 0.1 | 8.3 | 2 | 0 | 1 | 13.3 | 00 | 13.3 | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 |
| roter | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 8.3 | 0.0 | 8. 3 | 1 | 0. | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0. 0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toul | 24 | 5 | 27 | 82.8 | 17.1 | 100. | 8 | 4 | 12 | 66.7 | 33.3 | 100. | 7 | 8 | 15 | 46.7 | 53.3 | 100. | 7 | 18 | 25 | 28.0 | 720 | 100. |


|  | SEPTEMREA |  |  |  |  |  | Dotepep |  |  |  |  |  | NovFMEFA |  |  |  |  |  | PEcEuァER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mabee |  |  | Pricent |  |  | mumber |  |  | Percont |  |  | mubler |  |  | Puctent |  |  | Munber |  |  | Percont |  |  |
| Evaluation | Certin | Daustul | Tow | Certia | Damblin | Tomal | Centain | $D^{\text {Dosetitul }}$ | Total | Cetrin | Dabititu | Tola | Centrin | Doubitua] | Totat | Centin | Dosoltal | Toud | Cortion | Doibtiou | Total | Certhin | Doublikl | Tota |
| O日asloon | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 6.3 | 8.3 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 |
| 1-Astrocatical | 0 | 1 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | 11.1 | 33.3 | 44.4 | 4 | 4 | 8 | 33.3 | 33.3 | 46.6 | 2 | 4 | 6 | 13.3 | 26.6 | 39.7 |
| 2-Aiscapt | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | $1 / 1.1$ | 11.1 | 27.2 | 0 | 1 | 1 | 0.0 | 8.3 | B. 3 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 |
| 3-ipit Pbemom. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 |
| 4 Birss | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | O. | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5ctionds, oust, eta | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |
| 6 Gmonic ma. | 2 | 0 | 2 | 66.7 | 0.0 | 66.7 | 2 | 0 | 2 | 22.2 | Q 0 | 22.2 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 |
| 7PParelolotice | 0 | 0 | 0 | 0.0 | 0.0 | 0.9 | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 Unimova | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 3 | 0 | 3 | 28.0 | 20 | 20.0 |
| $9-0.0$ | 0 | 0 | 0 | 0.0 | 0.0 | P. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tad | 3 | 0 | 3 | 100.0 | 0.0 | 100 | 5 | 4 | 9 | 55.6 | 44.4 | 100. | 6 | 6 | 12 | 50.0 | 50.0 | 100. | 11 | 4 | 15 | 73.3 | 26.7 | 180. |



| Evalualion | crar |  |  |  |  |  | TưE |  |  |  |  |  | $\sqrt{1} \leq x$ |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per Cent |  |  | Number |  |  | Pacat |  |  | nurber |  |  | Per cent |  |  | memear |  |  | Percmi |  |  |
|  | Certain | Dovotutul | Tobi | Centain | Dobitul | Total | Certain | Doubitiol | Total | Centin | Dabbtul | rota | Eention | Doobltul | Total | Cetrain | Doubitivil | Tota | Cettin | Doudtul | Tolas | Certain | Doultal | Tody |
| OBaxilom |  | C | 1 | 14.3 | 0.0 | 14.3 | 4 | 0 | 4 | 66.7 | 0.0 | 67.1 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 2 | 0 | 2 | 10.0 | 0.0 | 18.0 |
| I-Astomanical | 1 | 1 | 2 | 143 | 143 | 28.6 | 0 | 0 | 1 | 0.0 | 0.01 | 0.0 | 1 | D | 1 | 6.7 | 0.0 | 6.7 | 1 | 4 | 5 | 5.0 | 20.0 | 25.0 |
| 2-Aitran | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 5 | 26.7 | 67 | 33.4 | 4 | 1 | 5 | 20.1 | 5.0 | 25.0 |
| 3 Limit Pmeom. | R | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | l | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4-Cloods Dust exc. | 0 | 3 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GIInsifice mia | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 26.7 | 0.0 | 267 | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 |
| I.Paychotapien | 0 | c | 0 | 00 | 0.0) | es | 0 | 0 | e | 0.2 | 0.0 | Q.l | 2 | 0 | 0 | 0.9 | 0.0 | 0.0 | 0 | 0 | 0 | 0.1 | 0.0 | 0.2 |
| -Undromm | $i$ | 0 | 1 | 14.3 | 0.0 | 14.3 | 2 | 0 | 2 | 33:3 | 0.0 | 33.3 | 4 | 0 | 4 | 26.7 | ele | 26.7 | 5 | 0 | 5 | 25.0 | 0.0 | 25.0 |
| 9-0.eer | 0 | 1 | 1 | 0.0 | 14.3 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | Q | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5 | 2 | 7 | 71.4 | 28.6 | 108 | 6 | 0 | 6 | 100.0 | 0.1 | 100. | 14 | , | 15 | 93.3 | 67 | 100. | 15 | 5 | 20 | 75.0 | 250 | - |


| Evatuation | SERTEMEEA |  |  |  |  |  | Qctefer |  |  |  |  |  | NONEMEER |  |  |  |  |  | DECEMEER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humbes |  |  | Pactant |  |  | mumber |  |  | PaCcot |  |  | Mumer |  |  | Paccorl |  |  | Runber |  |  | Peg Cont |  |  |
|  | Cortin | Dooubtry] | Tobl | Certain | Dowiltu\| | Total | Cembin | Dowibij | Tola | Cetrial | Doubthan | Total | Cerbin | Doubiful] | Tobi | Certin | Doubltul | Tolal | Cotain | Douthis | Total | Certrin | Daubthil | Toita |
| Q basilon | 0 | 0 | 0 | A0 | 0.0 | 0.8 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 2 | 0 | 2 | /6.7 | 0.0 | 16.7 | 2 | 3 | 5 | 11.8 | 17.6 | 29.4 |
| 1-Astronomical | 5 | c | 5 | 38.5 | 0.0 | 38.5 | 1 | 1 | 2 | 10.0 | 10.8 | 20.1 | 0 | 0 | 0 | 0.0 | 0.01 | 0.1 | 4 | 2 | 6 | 23.5 | 11.8 | 353 |
| 2-Aicciath | ? | 0 | 2 | 15.4 | 0.0 | 15.4 | 0 | 1 | 1 | 0.1 | 11.0 | 10.0 | 2 | 2 | 4 | 16.7 | 16.7 | 33.4 | 1 | 12 | 1 | 5.9 | 0.0 | 59 |
| 3 Lemen Preme |  | 0 | $\checkmark$ | 2.) | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 Bints | 0 | 0 | 1 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.01 | 1.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 |
| Sclouds, Oust etc | C | ) | ${ }^{2}$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | , | 0 | 0.0 | 0.0 | 0.0 |
| 6-1asylic. int. | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 0 | 0 | 0 | Qe | 0.0 | 0.0 | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 |
| 7.Psychatotiol | 0 | 0 | 0 | 0.0 | D. 0 | 0.0 | 0 | 0 | 0 | 00 | e. 0 | 0.8 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1. | 0 | 1 | 5.9 | 0.0 | 5.9 |
| BUnknom | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 6 | e | 6 | 60.0 | Q0 | 60.0 | 4 | 0 | 4 | 33.3 | LD | 33.3 | 3 | R | 1 | 11.8 | 0.0 | 118 |
| gotree | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 2 | , | 0.0 | 0.0 | 0.0 | , | 0 | - | 8.3 | 0.0 | 8.3 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tat | 13 | 0 | 13 | 700.0 | 0.0 | 100. | 8 | 2 | 10 | 80.0 | 20.01 | 102 | 10 | 2 | 12 | 833 | 1671 | 100. | 12 | 5 | 17 | 70.6 | 27.4 | 100 |



| Evilution | Janvapr |  |  |  |  |  | EERRUARY |  |  |  |  |  | MAMCH |  |  |  |  |  | A PRIL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mener |  |  | Pracon |  |  | Mumber |  |  | Percmin |  |  | Number |  |  | Percent |  |  | munen |  |  | Percemt |  |  |
|  | Certan | [Dowticl | Tolal | Certan | Douxtu: | Toli | Cetain | Dowilitu | Toter | Cetain | [Dosbltul | Total | Ceftrin | Doubtiol | Total | Certain | Doustek | Toter | Certain | Doubtion | Total | Certim | Doublim | Tatal |
| O8alloon | 2 | 1 | 3 | $1 / 1$ | 5.6 | 16.7 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | V | $\bigcirc$ | 0 | 1.0 | 0.0 | 20 |
| 1 -Astomanical |  | 2 | 3 | 5.6 | 11.1 | 16.7 | 0 | 2 | 2 | 0.0 | 22.2 | 22.2 | 1 | 1 | 2 | 16.7 | 16.7 | 33.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Anciat |  | 2 | 2 | 36 | H1 | 11.1 | 0 | 3 | 3 | 0.8 | 33.3 | 3 | 0 | 1 | 1 | 0.0 | 16.7 | 16.7 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 |
| 3 Lintil Pheora |  | - | C | 0. | 02 | 02 | 0 | 0 | 0 | $6: 0$ | 0.0 | 00 | - | 0 | 0 | 0.0 | 0 | 00 | 0 | 0 | 0 | $0 \cdot$ | 00 | . 0 |
| 4 - Burs | 0 | 0 | 6 | 0.0 | 10 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 80 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| -Clowas Oust elc | $c$ |  | 0 | \% | G.14 | 0.2 | 0 | Q | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.8 |
| $G_{6}$ msaftic mo. | 5 | C | 5 | 27.8 | 0.01 | 278 | - | 0 | 0 | 0.2 | 0.0 | 1.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 2 | 0 | 2 | 6.7 | 20 | 66.7 |
| 7.Pyyderogial | 0 | 0 | 0 | 0.0 | 6.0 | Sis | 0 | 0 | 0 | 0.0 | 0.5 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Lumbemm | 4 | 0 | 4 | 23.2 | C.D | 22 | 1 | 0 | 1 | 111 | 0.0 | 11.1 | 3 | 0 | 3 | 50.0 | 0.0 | 520 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| ? Oter | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 | 2 | 0 | 2 | 22.2 | 0.0 | - | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | Q | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | , 3 | 5 | 18 | 72.2 | 27.8 | 100. | 4 | 5 | 9 | 44.4 | 55.6 | 100. | 4 | 2 | 6 | 66.71 | 33.3 | 100. | 3 | 0 | 3 | 101.0 | 0.0 | 109 |


|  | May |  |  |  |  |  | Tune |  |  |  |  |  | $\sqrt{1} \in x$ |  |  |  |  |  | Abcusz |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Percme |  |  | Hunber |  |  | Percort |  |  | Munber |  |  | Pascent |  |  | Muaber |  |  | Percat |  |  |
| Evaluation | Certain | Dowbtul | Tobal | Certain | [Dabthul] | Tolat | Certain | [Dosittui] | Total | Cerdin | Doubthol | Tota | Centin | Dosbtul | Total | Certain | Doobtitur | Total | Certion | Dowtity | Total | Ceatria | Doultiol | Total |
| O-balloon | 1 | 0 | 1 | 25.0 | a0 | 25.0 | $\bigcirc$ | c | 0 | 0.0 | R0: | 0.0 | 0 | 0 | $\bigcirc$ | 9.0 | D. 0 | 0.0 | 1 | 1 | 2 | 6.2 | 6.2 | 12.4 |
| 1-Astrenomice |  | 0 | 0 | 0.0 | 0.0 | 0.0 | $\cdots$ | 0 | 0 | 0.0 | 1.0 | 0.0 | 1 | 2 | 3 | 12.5 | 25.0 | 32.5 | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aictith | 7 | 0 | 1 | 25.0 | 0.0 | 25.0 | 1 | 0 | 1 | 108.0 | 0.0 | 100.0 | 1 | 0 | 1 | 125 | 0.0 | 12.5 | 1 | 0 | 1 | 6.2 | 0.0 | 6.2 |
| 13-Light Pheram. | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 01 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 6.2 | 6.2 | 124 |
| 4-Burs | 0 | 1 | 1 | 6.0 | 25.0 | 25.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 0 | 0 | 0 | ap | 0. | 00 |
| 5-Clows, oust etc. | 6 | $\varepsilon$ | 0 | 0.0 | 0.0 | 0.0 | 0 | $c$ | 0 | 00. | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 |
| 5 Ginsafic mo. | 0 | 0 | 0 | 0.0 | 6.1 | 0.0 | 0 | $\square$ | 0 | 0.0 | 02 | 0.0 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 3 | 0 | 3 | 18.8 | 0.0 | /8.1 |
| 7.Pyytrological |  | $\cdots$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Suntroun | 1 | 6 | - | 25.0 | aid | 25.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 25.0 | 00 | 250 | 7 | 0 | 7 | 43. 8 | 00 | 43.8 |
| 900wer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.1 | 0.0 | 1 | a | 1 | 12,5 | 0.0 | 12.5 | 4 | 0 | 1 | 6.2 | 0.0 | 6.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 3 | 1 | 4 | 75.0 | 25.0 | 100 | 1 | 0 | 1 | lecol | 0.0 | 100. | 5 | 3 | 8 | 625 | 37,511 | 180 | 14 | 2 | 16 | 87.5 | 12.5 | 100 |


| Evaluation | SERTEMBER |  |  |  |  |  | Qliesta |  |  |  |  |  | NOUEMOES |  |  |  |  |  | DECFMEEA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | Humber |  |  | Per cent |  |  | Number |  |  | Per Cent |  |  | Nunber |  |  | Pet Cat |  |  |
|  | Certion | Doubthal | Total | Certain | Dubtivil | Tolat | Certain | [Dobilthi] | Total | Cention | Dowbtu | Tolad | Cetain | Doovetal] | Total | Certain | Doubtita | Toxal | Cetrain | Dootital | Tota | Certain | Doubtuil | Total |
| 1-Balloon | 1 | $c$ | 1 | 6.7 | 0.0 | 67 | 1 | 0 | 1. | 5.3 | 0.9 | 5.3 | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 1 | 9 | 1 | 10.0 | 0.0 | 10.0 |
| 1-Astrommical | 2 | 1 | 3 | 13.3 | 6.7 | 20.0 | 5 | 1 | 6 | 26.3 | 5.3 | 31.6 | 4 | 4 | 8 | 33.3 | 33.3 | 66.6 | 2 | 1 | 3 | 20.0 | 11.0 | 300 |
| 2-Aicrath | 1 | c | 1 | 6.7 | 0.0 | 6.7 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 | 2 | 0 | 2 | 16.7 | 0.0 | 76.7 | 3 | 0 | 3 | 30.0 | 0.0 | 30.0 |
| 3-Light Phemom. | c | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | C | 0.0 | 0.0 | 0.0 |
| 4 Birts | 0. | c | c | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 9.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 3-Clouds Dost et | 0 | C | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 02 | 0.0 | 0.0 | 0 | 0 | 0 | a, | 0.0 | 00 | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 20 |
| G-Insylfic, mino. | 2 | 0 | 2 | 13.3 | 2.0 | 13.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 |
| 1.Psyctionoical | c | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 |
| 88 Unknom | 6 | C | 6 | 40.0 | 00 | 40.0 | 8 | 0 | 8 | $4 \lambda .1$ | 0.0 | 4.2 .1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 |
| Trother | < | 0 | 2 | 13.3 | 0.0 | 13.3 | 0 | 0 | 0 | 0.0 | D. 1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 10,0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 14 | 1 | 15 | 93.3 | 6.7 | 100. | 18 | 1 | 19 | 947 | 5.3 | 100. | 7 | 5 | /2 | 58.3 | 41.7 | $100:$ | 9 | 1 | 10 | 900 | 10.0 | 100. |

TGREE ARY ELRLUATON OE OBJECT SLGHTINGS BY MONTH OE YEAR, 19 SZ

| Evalullian | Jinutry |  |  |  |  |  | EERRUAKK |  |  |  |  |  | MAACH |  |  |  |  |  | AEM |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | sumber |  |  | Percoml |  |  | Number |  |  | Per Cent |  |  | Munber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  |
|  | Certan: | Doubmi | tal | Cetarn | Doubitu | Total | Certan | Dovothe | Total | Certan | Doubtiol | Total | Certan | Dowithin | Total | Certain | Doubtion | Total | Certain | Doubthil | Total | Crition | Doubltai | Todal |
| To-ballon | 1 | $c$ | 1 | 7.7 | 0.0 | 7.7 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 3 | 1 | 4 | 13.0 | 4.3 | 17.3 | 3 | 2 | 5 | 3.7 | 2.4 | 6.1 |
| 1-Astonomial | 3 | 3 | 6 | 23.1 | 23.1 | 46.2 | 4 | 1 | 5 | 23.5 | 4.9 | 29.4 | 1 | $\square$ | 1 | 4.3 | 0.0 | 4.3 | 12 | 0 | 12 | 14.6 | 0.0 | 14.6 |
| 2-Alicial | 0 | $\theta$ | 0 | 0.0 | 0.0 | 0.0 | 2 | 2 | 4 | $1 / 8$ | 11.8 | 23.6 | 3 | 2 | 5 | 13.0 | 8.7 | 21.7 | 12 | 7 | 19 | 14.6 | 8.5 | 23.1 |
| 3 LumtP Phexam | 0 | 0 | 0 | 6. | 0.0 | 00 | 0 | Q | c | 8.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0. | 1 | 1.2 | 0.0 | 1.2 |
| 10 Buds | c | O | $c$ | 08 | 0.0 | 0,7 |  | 0 | $\bigcirc$ | 0.0 | 0.0 | lo | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 2 | 1 | 3 | 2.4 | 1.2 | 3.6 |
| 5-Cloods, Dust elc | $c$ | ' |  | 60 | 0.0 | a, | - 0 | 0 | . | 00 | 0.8 | 0.0 | 2 | 1 | 1 | 0.0 | 4.3 | 4.3 | 0 | 0 | 0 | 40 | 0.0 | 0.0 |
| 6-1nsultic mo. | 0 | c | 0 | 0. | 0.0 | 0.0 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 1 | 0 | 1 | 4.3 | 0.0 | 43 | 10 | 0 | 10 | 12.2 | 0.0 | 12.2 |
| 7. Psydiolonal | $\because$ | 1 | 2 | 15.4 | C.C | 154 | 2 | 0 |  | 40 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  | 0.0 | 1 | 0 | 1 | 1.2 | 60 | 1.2 |
| 8-Undrom | 2. | 0 | 3 | 154 | 0.0 | 15.4 | 4 | 0 | 4 | 215 | 0.0 | 23.5 | 4 | 0 | 4 | 17.4 | 0.0 | 17.4 | 29 | 0 | 29 | 35.4 | 0.0 | 35.4 |
| 90ther | 2 | 0 | 2 | 154 | 0.0 | 154 | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 | 1 | 5 | 6 | 4.3 | 21.7 | 26.0 | 2 | 0 | 2 | 2.4 | 0. 0 | 24 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10 | 3 | 13 | 76.9 | 23.1 | 100. | 14 | 3 | 17 | 824 | 17.6 | 110 | 14 | 9 | 23 | 60.9 | 39.1 | 101. | 72 | 10 | 82 | 87.8 | 12.2 | 180 |


| Evalualion | $1 / 4$ |  |  |  |  |  | TUN |  |  |  |  |  | $\sqrt{\text { ent }}$ |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humbees |  |  | Pet Cent |  |  | Number |  |  | Per Cort |  |  | Munter |  |  | Per Cent |  |  | Mumber |  |  | Pertent |  |  |
|  | Cerrain | Doubtiol | Total | Certain | Doubtiol | Total | Certain | Douthit | Total | Certain | Daubtul | Tota | Certin | Doubtifl | Total | Centin | Doubtrit | Total | artin | Doubthil | Total | Certain! | Dowbtfol | Total |
| a-Balloon | 1! | 3 | 14 | 13.9 | 38 | 17.7 | 20 | 5 | 25 | 13.5 | 3.4 | 16.9 | 64 | 40 | 104 | 11.9 | 75 | 17.4 | 36 | 36 | 72 | 11.01 | 11.0 | 220 |
| 1-A Atronomical | 4 | 2 | 16 | 17.7 | 2.5 | 202 | 21 | 13 | 34 | 14.2 | 8.8 | 23.0 | 51 | 25 | 76 | 9.5 | 4.7 | 14.2 | 38 | 22 | 60 | 11.7 | 6.7 | 184 |
| [2-Aiclath | 11 | 12 | 21 | 13.9 | 12.7 | 26.6 | 24 | 11. | 35 | 16.2 | 7.4 | 23.6 | 85 | 64 | 149 | 15.9 | 11.9 | 27.8 | 48 | 31 | 71 | 12.3 | 9.5 | 21.8 |
| 3-Ligul Pienom | 3 | $?$ | 3 | 3.8 | 0.0 | 3.8 | 1 | 0 | 1 | Q 7 | 0.0 | 0.7 | 11 | 4 | 15 | 2.1 | 0.7 | 2.8 | 5 | 5 | 10 | 1.5 | 1.5 | 3.0 |
| ${ }^{4}$ - Brass |  | 9 | 0 | 6.0 | 0.0 | 0.0 | 2 | 0 | 0 | 00 | 0.0 | 02 | 3 | $L$ | 4 | 0.6 | 0.2 | 0.8 | 0 | 0 | 0 | Pd | 0.0 | 0.0 |
| 5-Clowds Doust etc. | 2 | - | 2 | 2.5 | 00 | 35 | 0 | 0 | 2 | 0.15 | 2.0 | 0.0 | 1 | 1 | 2 | 0.2 | 0.2 | 0.4 | 0 | 1 | 1 | 00 | 0.3 | 0.3 |
| 'Ginsultic. Into. | 61 | 2 | 6 | 7.6 | 0.2 | 7.6 | 17 | 0 | 17. | 11.5 | 0.0 | 11:5 | 61 | 0 | 61 | 11.4 | 0.0 | 11.4 | 30 | 0 | 30 | 9.2 | D. 0. | 9.2 |
| 7, Pgytmogical |  |  |  | 20 | 0.0 | 60 | 4 | 0 | 4 | 2.7 | 0.0 | 2.7 | 8 | 5 | 13 | 1.5 | 0.9 | 2.4 | 8 | 1 | 9 | 2.5 | 0.3 | 2.8 |
| B-Unkrom | 10 | 0 | 16 | 12.7 | 0 | 12.7 | 26 | 0 | 26 | 17.6 | 0.0 | 17.6 | 120 | 0 | 100 | 18.7 | 0.0 | 18.7 | 60 | 0 | 60 | 18.4 | 0.0 | 18.4 |
| 9-0her | 6 | 1 | 7 | 7.6 | 1.3 | 8.9 | 5 | , | 6 | 3.4 | 0.7 | 4. | 11. | 1 | 12 | 2.1 | 0.2 | 2.3 | 9 | 4 | 13 | 2.8 | 1.2 | 4.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 63 | 16 | 79 | 71.7 | 20.3 | 100. | $1 / 8$ | 30 | 148 | 79.7 | 20.3 | 188. | 395 | 141 | 536 | 73.7 | 26.3 | 100. | 226 | 100 | 326 | 69.3 | 30.7 | 100. |


| Evaluation | SEPTEMQEP |  |  |  |  |  | Dcterap |  |  |  |  |  | - NevEMEEA |  |  |  |  |  | DECEHRER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Numbes |  |  | Pen Cem |  |  | Mumber |  |  | Pexent |  |  | Number |  |  | Per Cont |  |  | Number |  |  | Percont |  |  |
|  | Certain | Dowittol | Total | Cettain | Dasithul | Tout | Cerbin | Doobtivil | Toter | Certain | Dowbitul | Tola | Certion | Doubtrol | Total | Cendx | Doubtul | Toxal | Cerrin | Doulitid | Tola | Certain | Dabthol | Tolat |
| O-Balloon | 4 | 10 | 14 | 3.21 | 8.1 | $1 / 3$ | 3 | 9 | 12 | 4.9 | 14.8 | 19.7 | 2 | 5 | 7 | 4.0 | 10.0 | 14.0 | 0 | 2 | 2 | 0.0 | 4.8 | 4.8 |
| 1-Astroxamical | 0 | 7 | 17 | 8.1 | 5.6 | 13.7 | 6 | 8 | 14 | 9.8 | 13.1 | 22.9 | 5 | 5 | 10 | 11.0 | 10.0 | 20.0 | 6 | 5 | 11 | 14.3 | 11.9 | 76.3 |
| 2-Aiclath | 9 | 27 | 31 | 7.3 | $2 / .8$ | 29.1 | 3 | 9 | 12 | 4.2 | 14.8 | 19.7 | 3 | 3 | 6 | 6.0 | 60 | 12.0 | 1 | 10 | 11 | 2.4 | 23.8 | 26.2 |
| 3-Limal Phemon | 1 | 3 | 3 | 0.8 | 1.6 | 2.4 | 0 | 2 | 8 | Q. 0 | 3.3 | 3.3 | 2 | 1 | 3 | 4.0 | 2.0 | 6.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 |
| 4 Brics | 1 | 2 | 3 | 0.8 | 1.6 | 2.4 | 1 | 1 | 2 | 16 | 1.6 | 3.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0 D |
| 5-Clouds, Dust etc | 3 | 2 | 1 | 0.0 | 0.8 | 0.8 | 0 | - 1 | 1 | 0.0 | 1.6 | 1.6 | 0 | 2 | 2 | $0: 0$ | 4.0 | 4.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-msultic mio. | 11 | $\theta$ | 11. | 8.91 | R.e | 8.9 | 4 | 0 | 4 | 6.6 | 0.0 | 6.6 | 4 | 0 | 4 | 8.0 | 0.0 | 8.e | 3 | 0 | 3 | 7.1 | 0.0 | 7.1 |
| 7.Psycmolotica | 1 | 0 | 1 | 0.81 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| B-Untrown | 31 | 0 | 31 | 25.0 | Cil | 25.0 | 11 | 0 | 11 | 18.0 | 0.0 | [B.0] | 15 | 0 | 15 | 30.0 | 0.0 | 30.0 | $1 /$ | 0 | 11 | 26.2 | 0.0 | 26.2 |
| P-0ther | 6 | 1 | 7 | 4.8 | 0.8 | $5: 6$ | 2 | 1 | 3 | 3.3 | 1.6 | 49 | 2 | 0 | 2 | 4.0 | 2.0. | 4.0 | 3 | 0 | 3 | 7.1 | 0.0 | 7.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 74 | 50 | 174 | 59,7 | 40.3 | 190 | 30 | 31 | 61 | 49.2 | 50.8 | 108. | 34 | 16 | 50 | 68.0 | 3201 | 100. | 25 | 17 | 42 | 59.5 | 40.5 | 100. |



| Evaluaton | FEMESENT GROUPS GOOR YEARS |  |  |  |  |  |  |  |  |  |  | DOUBTEVS |  |  |  |  |  | POR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  | Number |  |  | Perceml |  |  | Huaber |  |  | Percent |  |  | mmber |  |  | Perceml |  |  |
|  | Cotan | Doubthil total | Centan | Oouvitu |  | Serian | D0ubltui | Total | Centan | [Dasitul | Tota | Ceriain | Doutitiol | Tobal | ero | Dombiol | Tow | Certin | Dovbitu | Totai | Cetain | Dostail |  |
| ?-8allown | 1 | 13. 32 |  | 4.21 | 10. 4 | 100 | 63 | 163 | 4.3 | 5.9 | 15.2 | 100 | 90 | 180 | 27 | 6.2 | 13.9 | 51 | 24 | 75. | 9.7 | 4.6 | 14.3 |
| 1. As:manamal | 45 | 30.25 | 14.6 | 9.7 | 243 | 166 | 110 | 276 | 13.5 | 10.3 | 25.8 | 202 | 138 | 340 | 15.6 | 10.6 | 2 2 | 63. | 63 | 126 | 12.8 | 12.0 | 210 |
| 2-Ancist | 4 | 12.60 | 13 | 6.2 | 195 | 105 | 198 | 2/9 | 9.8 | 10.1 | 19.9 | 152 | 135 | 292 | 12.1 | 10.4 | 225 | 51 | 16 | 77 | 9.7 | 510 | 14.2 |
| 3 Layl Pheom. |  | 0 | 0.6 | 0.01 | 0.6 | 10 | 9 | 19 | 0.9 | 0.1 | 1.7 | 15 | 15 | 30 | 1.2 | 12 | 2.4 | 5 | 0 | 5 | 1.1 | 0.0 | 1.0 |
| 4 - Birs |  | 22 | 0. | 0.6 | 0.6 | 5 | 1 | 9 | 05 | 0.4 | 0.9 | 12. | 3 | 15 | 0.9 | 0.2 | 1.1 | 2 | $L$ | 3 | 04 | 0.2 | 0.6 |
| 5 Clouts, Oust elc |  | 0 | 0.0 | 0.0 | 0.0 | 2 | 10 | 18 | 0.7 | 0.9 | 1.6 | 4 | 3 | 7 | 0.3 | 12 | 0.4 | 0 | 0 | 0 | Q 0 | 0.0 | 0.0 |
| GInsylic mo. | 12 | 0.12 | 3.9 | 0.01 | 39 | 33 | $D$ | 33 | 3.1 | 0.01 | 3.1 | 150 | 0 | 150 | 11.6 | 2.6 | 11.6 | 103 | 1 | 103 | 19.6 | 0.0 | 19.6 |
| 7. Psydotorial |  | 0.0 | 00 | $20!$ | 0.0 | 3 | 1 | 4 | 0.3 | 0.1 | 0.4 | 21. | 6 | 27 | 1.6 | 0.5 | 2.1 | 14 | 3 | 17 | 2.7 | 0.6 | 3.3 |
| Alutsom. | 108 | o 100 | 151! | 0.01 | 35.4 | 282 | 0 | 282 | 264 | 0.0 | 264 | $2 \cdot 3$ | 0. | 203 | 15.6 | 0.0 | 15.6 | 96 | 1 | 96 | 18.3 | 0.0 | 18.3 |
| Yotse | 12 | a. 12 | 55 | 0.0 | 5.5 | 42 | 11 | 53 | 3.9 | 1.0 | 4.9 | 42 | 12 | 54 | 3.2 | 0.2 | 4.1 | II | 12 | 33 | 2.4 | 2.3 | 4.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 2441 | 64308 | 72.2 | 20.1 | 100. | 254 | $3 / 6$ | 1070 | 70.5 | 29.5 | 100. | 906 | 392 |  | 69.8 | 30.2 | 120. | 396 | 129 | 525 | 25.4 | 28.6 | 0. |



| Evaluation | EXCECENT |  |  |  |  |  | GPOD |  |  |  |  |  | DQUETEUL |  |  |  |  |  | EROR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  |  |  |  | Peccomt |  |  | Anmber |  |  | Pecent |  |  | Monemer |  |  | Patcont |  |  |
|  | Ceram | Dovithol | Total | Critan | Doasthy | Tolat |  |  |  | Certain | Doubthul | Tola | Certain | Doubtiou | Tota | Certin | Doublitiol | Total |  |  |  | Cortain | Dauthel | Tota |
| [0-Balloon | 1 | 0 | 1 | 5.3 | Le ${ }^{\text {d }}$ | 5.3 | -1 | e | 1 | 2.8 | 0.01 | 2.8 | 3 | 0 | 3. | 67 | D0 | 6.7 | 2 | 0 | 2 | 11.8 | 0.0 | 118 |
| 1-Astronomical | 3 | 0 | 3 | 15.8 | 0.0 | 15.8 | 2 | 4 | 11 | 194 | 11. | 305 | 16 | 4 | 20 | 35.6 | 8.9 | 54/5 | 6 | 0 | 6 | 35.3 | 00 | 35.3 |
| 2-Aitcrath | 1 | 1 | 2 | 53 | 5.3 | 10.6 | $\angle$ | 1 | 2 | 2.8 | 2.8 | 5.6 | 0 | $\ell$ | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3 Limat Pherom. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | , | 2.8 | 0.01 | 2.8 | 1 | 1 | 1 | 22 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 - ${ }^{\text {ards }}$ | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust, etc | 0. | 0 | 0 | 0.0 | 0.01 | 0.0 | e | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | ed | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 l |
| G-Insultic mplo. | 4 | 0 | 4 | 21.0 | be | 21.0 | 2 | 0 | 2. | 5.6 | 0.0 | 5.6 | 2 | 0 | 2 | 4.4 | 0.0 | 4.4 | 6 | -a | 6 | 35.3 | 0.0 | 35.3 |
| 7.Psjionogical | 0 | 0 | 0 | 0.8 | 0.0 | e. 2 | 0 | 1 | 1. | 0.0 | 2.2 | 2.8 | 2 | 1 | 3 | 4.4 | 2.2 | 66 | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 |
| B-Unkeom | 6 | 0 | 6 | 31.6 | 40.8 | 31.6 | 11 | 1. | 11 | 30.5 | 0.0 | 305 | 9 | 0 | 2 | 20.0 | 0.0 | 20.0 | 2 | 0 | 2 | 118 | 00 | 11.8 |
| $9-0 \mathrm{nes}$ | 3. | 0 | 3 | 15:8 | 0.0 | 16.8 | 1 | 0 | 7 | 19.4 | en | 19,4 | 7 | 0 | 2 | 15.5 | 0.8 | 155 | 0 | 0 | 0 | e: 0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 18 | 1 | 12 | 94.8 | 5.3 | 100.1 | 30 | 6 | 36 | 83.3 | 16.1 | 100. | yo | 5 | 45 | 8891 | 11.1 | 100.1 | 17 | 0 | 17 | 100. | 0.0 | 100. |

TARLE ART EVALLATION OF ALL SIGHTZNGS BL SLGNTING RELIABILITY

| Evaluation | $E \times C E \angle E N T$ |  |  |  |  |  | Go00 |  |  |  |  |  | DOUBTEU |  |  |  |  |  | Poog |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pescent |  |  | Number |  |  | Percent |  |  | Munber |  |  | $\mathrm{PaHCOL}^{\text {col }}$ |  |  | mumbee |  |  | Peemerit |  |  |
|  | Cratio | Dowtetal | Total | Certain | Doabtiol | Tolat | Curabin | Dobiltu | Total | Cettain | Doubttoy | Total | Cerlain | Douthtul | Total | Centrin | Doubthol | Toxal | Certin | Dostavel | Total | Certain | Doxititul | Total |
| --balion | 2 | 2 | 4 | 8.3 | 2.3 | 16.6 | 9 | 8 | 17 | 132 | 11.8 | 250 | 6 | 10 | 16 | 5.8 | 97 | 15.5 | 1 | 0 | 0 | 0.0 | 8.0 | 0.0 |
| 1-Astronomica: | 7 | 5 | 12 | 29.7 | 20.8 | Se0 | 13 | 7 | 20 | 19.1 | 10.3 | 29.4 | 15 | 26 | 4 | 14.6 | 253 | 39.9 | 1 | 1 | 2 | 10.0 | 10.0 | 200 |
| 2-Aicran | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 | 3 | 0 | 3 | 4.9 | 0.0 | 4.4 | 9 | 5 | 14 | 8.7 | 4.9 | 13.6 | -2 | 0. | 2 | 200 | 0.0 | 200 |
| 3-Ligl Phenos. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 2.9 | 1.5 | 44 | 0 | 5 | 5 | 0.0 | 4.9 | 4.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 -8inds | 0 | 1 | 1 | 0.0 | 4.2 | 4.2 | 1 | 2 | 3 | 15 | 2.9 | 4.4 | 1 | 0. | 1 | 10 | 0.0 | 1.0 | 0 | 0 | 0 | 0) | 0.0 | 0.0 |
| 5-Clouds, Dust ex. | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| G-mssticic mob. | 0 | 0. | 0 | 00 | 0.0. | ed | 2 | $\sigma$ | 2 | 2.9 | 0.0 | 3.9 | 14 | 0. | 14 | 136 | 0.0 | 13.6 | 3 | 0 | 3 | 30,0 | 0.0 | 30.0 |
| XPryctalogical | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 0 | 1 | 1.5 | 0.0 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 00 |
| Aumpoe | 5 | 0 | 5 | 20.8 | 0.0 | 20.8 | 14 | 0 | 14 | 306 | 02 | 206 | 6 | 0 | 6 | 5.8 | 2. 2 | 5.8 | 2 | 0 | 2 | 20.0 | 0.0 | 12.0 |
| 9-0tire | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3. | 2 | 5 | 4.4 | 2.9 | 7.3 | 0 | 6 | 6 | 0.0 | 5.8 | 5.8 | 1 | 0. | 1 | 10.0 | 0.0 | 120 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 16 | 8 | 24 | 66.7 | 33.3 | 110. | 48 | 20 | 68 | 70.6 | 19.4 | 100. | 51 | 52 | 103 | 48.5 | 50.5 | 100. | 91 | 1 | 10 | 920 | 10. | 100 |



|  | EXCELLENT |  |  |  |  |  | G00D |  |  |  |  |  | POUSTEUL |  |  |  |  |  | Poog |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | manber |  |  | Percot |  |  | Number |  |  | Percent |  |  | Nunber' |  |  | Pec Cml |  |  | Nunters |  |  | Per Cent |  |  |
| Evaluation | Centina | Doubtrol | Total | centain | Doubtur | Total | Cerbin | Doubltal | Total | Certrin | Dambu] | Tota | Cetrain | Dosittul | Total | Certain | Doouthol | Total | Certain | Doubth1 | Total | Cernin | Doobtul | Toda |
| OBalloca | 0 | $\theta$ | 0 | 08. | 0.0 | 0.0 | $\checkmark$ | 2 | 7 | 6.8 | 2.7 | 9.5 | 10 | 3 | 13 | 4.9 | 15 | 64 |  | 0 | 1 | 1.2 | 0.0 | 1.2 |
| 1-Astronomical | 8 | 8 | 16 | 22.8 | 22.5 | 456 | 3 | 36 | 59 | 4.1 | 48.7 | 52.8 | 47 | 59 | 106 | 23.3 | 24.2 | 5.25 | 16 | 29 | 45 | 19.0 | 345 | 53.5 |
| 2-Aitrath | 4 | 0 | 4 | 11.4 | 0. | 11.4 | 6. | 8 | 14 | 8.1 | 10.8 | 18.9 | 17 | 17 | 34 | 8.4 | 8.4 | 16.8 | \% | 1 | 5 | 42 | - 2 | 6.0 |
| 3 Ligh Prape | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 20 | 0.0. | -0.0 | 0 | 0 | 0 | 6.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {inds }}$ | 0 | $L$ | 1 | 0.0 | 2.9 | 2.9 | 0 | 0 | 0 | 00 | 00 | 0.0 | 4 | 0 | 4 | 20 | 0.0 | 2.0 | 0 | 0 | 0 | -0 0 | 0.0 | 00 |
| 5Cloonts, Dust, etc. | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gmanlic imb. | 0 | 0 | 0 | 20 | 00 | 00 | 6 | 0 | 6 | 8.1 | 0.0 | 8.1 | 21 | 0 | 21 | 10.4 | 0.0 | 10.4 | 9 | 0 | 9 | 10.7 | 0.0 | 10.7 |
| 7-pycterogial | 0 | 0 | $\bigcirc$ | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 3.6 | 0.0 | 3.6 |
| L-4mane | 9 | 0 | 9 | 252 | 0.0 | 25.7 | 8 | 0 | 8 | 108 | 50 | 10.8 | 21 | 0 | 21 | 10.4 | 80 | 10.4 | 18 | 0 | 18 | 21.4 | 0.0 | 214 |
| 5010 | 5 | 0 | 5 | 14.3 | 0.0 | $1 \times 3$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | $1 \cdot 5$ | 0.0 | 1.5 | 3 | 0 | 3 | 3.6 | 0.0 | 3.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tous | 26 | 9 | 35 | 743 | 25.7 | 100. | 28 | 46 | 74 | 329 | 63.2 | 100. | 173 | 29 | 202 | 60.9 | 39.1 | 100. | 54 | 30 | 84 | $64 \times 3$ | 35.7 | 100 |






| Evalution | GROUP, ALS YEARS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ErcELENT |  |  |  |  |  | 6000 |  |  |  |  |  | Davarfuc |  |  |  |  |  | Puor |  |  |  |  |  |
|  | number |  |  | $\mathrm{P}_{\text {er }} \mathrm{COOH}$ |  |  | Aumber |  |  | Per Cent |  |  | Number |  |  | Pencent |  |  | Number |  |  | Per Coml |  |  |
|  | Cerlan | Doubther | Tola | Cenan] | Doubther | Total | Certar | Doubth | Tobi | Ceran | Docetiol | Total | Cerian | Doatitul\| | Tolat | Centain | Dooustan | Toun | Certin | Doubxtul | Total | Cataim | Doublail | Total |
| ORatlom | 19. | 11 | 30 | 28 | 4.5 | 123 | 86 | 51 | 137 | 49 | 5.9 | 15.8 | 76 | 64 | 140 | 84 | 12 | 15,5 | 47 | 25 | 42 | 88 | 4.7 | 13.5 |
| 1-Astionemical | 4 | 25 | 61 | 162 | 10.7 | 276 | (4) | 86 | 230 | 16.5 | 44 | 26.4 | 123 | 80 | $20 \%$ | 13.6 | 8.8 | 12.4 | 75 | 64 | 139 | 14.0 | 119 | 15.4 |
| 2-Autcradt | 25 | 18 | 43 | 103 | 14 | 112 | 24 | 85 | 172 | 10.8 | 28 | 20.6 | 115 | 49 | 214 | 12.7 | 11.0 | 237 | 58 | 33 | 91 | 10.8 | 6.2 | 17.0 |
| $3 \mathrm{Light} \mathrm{Phenom}$. | 2. | 0 | 2 | 0.8 | 0.0 | 08 | 10 | 9 | 19 | 11 | 1.0 | 2.1 | 15 | 12 | 27 | 1.7 | 1.3 | 30 | 5 | 0 | 5 | 0.9 | 0. | 0.9 |
| $4 \cdot \mathrm{Br}$ cs | 0 | 2 | 2 | 0.0 | 08 | 0.8 | 5 | 4 | 9 | 0.6 | 0.5 | 11 | 6 | 3 | 2 | 01 | 0.5 | 1.0 | 2 | 1 | 3 | 0.4 | 0.2 | 0.6 |
| 5 Clouds, Dust etc. |  |  | 0 | 0.0 | 0.0 | 0.0 | 2 | 5 | 1 | 0.2 | 0.6 | 0.8 | 1 | 2 | 3 | 01 | -2 | 0.3 | 0 | $a$ | 0 | 0.0 | 0.2 | 0.0 |
| EInsayfic mo. | 10. | 0 | 10 | 41 | 0.0 | 4.1 | 29 | -0. | 29 | 3.3 | 0.0 | 23 | 119 | 0 | 119 | 132 | 0.0 | 13.2 | 103 | 0 | 103 | 19.2 | 0.e | 19.2 |
| 7.Psydropgial | e | 2. | 0 | 00. | 00 | 0.0 | 3 | 1 | 4 | 0.31 | 0.1 | 14 | 21 | 6 | 27 | 23 | 0.1 | 30 | 12 | 2 | 14 | 2.2 | a,4 | 2.6 |
| AUntrown | 76 | 0. | 16 | 313. | 0.0 | 313 | 212 | 0 | 212 | 24.3 | 0.0 | 24.3 | 126 | 0 | 126 | 13.9 | 0.0 | 13.9 | 83 | 0 | 83 | 15.5 | 0.0 | 15.5 |
| 9.0her | 13 | 0. | 13 | 53 | 00 | 53 | 36 | 2 | 45 | 41 | 1.0 | 51 | 21 | 9 | 36 | 3.0 | 1.0 | -4.0 | 16 | 10 | 26 | 30 | 19 | 4.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 186 | 57 | 243 | \%6. 5 | 23.5 | 100 | 621 | 2501 | 811 | 41.3 | 28.1 | 100. | 629 | 275 | 904 | 69.6 | 30.4 | 100 | 401 | 135 | 536 | 78.8 | 15.2 | 100. |


|  | TABLE A33 |  |  |  |  |  |  |  |  |  |  |  | S164TENGS |  |  |  |  | SIGATINC |  |  |  | $\underline{E} \leq 1 A B 1 \leq 1 T Y$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | GROUPS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  | 60 |  |  |  | DOUBTFUL |  |  |  |  |  | Poor |  |  |  |  |  |
|  | Humber |  |  | Percemt |  |  | Mumber |  |  | Percot |  |  | Aurber |  |  | Paccent |  |  | number |  |  | Pericat |  |  |
|  | Certain | Doubthil | Tozal | Certain | Doubthi | Total | Certa:n | Dowtitul | Tolal | Cettion |  | Tolal | Eertrin | Dosbtul | Total | Certsin | Doutht | Toxal | Centin | Doaditiol | rotal | Ceattin | Doabthil | Total |
| O-Basloon | 1 | 0 | 1 | 5.9 | 0.0 | 5.9 | 1 | , | 1 | 3.4 | 0.0 | 3.4 | 3 | e | 3 | 8.6 | 0.0 | 8.6 | 2 | 0 | 2 | 12.5 | 00 | 2. |
| 1-Astromamical | 3 | 0 | 3 | 176 | a0 | 17.6 | 5 | 4 | 9 | 12.2 | 13.8 | 11.0 | 9 | 4 | 13 | 25.1 | 11.4 | 37.4 | 2 | 0 | 2 | 12.5 | Le | 2.5 |
| 2-Aitcratt | 1 | 1 | 2 | 5.9 | 5.9 | 118 | 1 | 1 | 2 | 3.4 | 3.4 | 6.9 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 3 LLimt Pheroa. | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 34 | 0.0 | 3.4 | 1 | 0 | 1 | 29 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Bints | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | a | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 5-Clows, Dust, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 00 | 0.0 | ! | 0 | 0 | 00 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| Elasitice, hno. | 2 | 0 | 2 | 11.8 | 0.2 | 11.8 | 2 | 0 | 2 | 6.9 | 2.0 | 4.9 | 2 | 0 | 2 | 5.2 | 0.0 | - 5.7 | 6 | 0 | 6 | 37.5 | 0.0 | 375 |
| JPsycratogiex | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 3.4 | 3.4 | 2 | 1 | 1 | 5.7 | 2.9 | 8.6 | 1 | 0 | 1 | 6.2 | 2. 0 | k. 2 |
| 8 Suknown | 6 | 0 | 6 | 35.3 | 0.0 | 353 | 1 | 0 | 7 | 2411 | 0.0 | 24.1 | 9 | 0 | 4 | 25.1 | 0.0 | 25.1 | 2 | 0 | 2 | 12,5 | 00 | 12.5 |
| 90thee | 3 | 0 | 3 | 17.6 | 0.0 | 126 | 6 | 0 | 6 | 207 | 0.0 | 20.7 | 4 | 0 | 4 | 11.4 | 00 | 11.4 | 3 | 0 | 3 | 16.7 | 0.0 | 18.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 16 | 2 | 17 | 94.1 | 5.9 | 108 | 23 | 6 | 29 | 17931 | 20.1 | 100. | 30 | 5 | 35 | 85.7 | 14. 3 | 100. | 16 | 0 | 16 | 100.0 | 20 | 100. |

TABLG ASY - EVALUATION RE UNI SIGHTINGS BU SIGNTING RELIABILITY

| Evaluation | EXCELSENT |  |  |  |  |  | 6000 |  |  |  |  |  | - DovetFUL |  |  |  |  |  | PoR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbe |  |  | Percmit |  |  | mumber |  |  | Pr Cent |  |  | Aumber |  |  | Pex Cent |  |  | *Wubler |  |  | Per cont |  |  |
|  | Cetrain | Doubtul | Total | Centain | 0abtivi | Total | Cerlain | Dovioth | Total | Certain | Doubtid | Tolal | Certain | Doubtul | Toul | Certain | Dosibital | Todal | certion | Dooution | Tota | - | Dabthul | Tota |
| O-Basloon | 2 | 1 | 3 | 0.0 | 5.0 | 15.0 | 6 | 5 | $1 /$ | 11.8 | 98 | 21.6 | 6 | 4 | 10 | 8.1 | 5.4 | 13.5 | 0 | 0 | 0. | 0.0 | 0.0 | 0.0 |
| 1-Astronomical | 7 | 4 | 11 | 35.0 | 20.0 | 55.0 | 12 | 5 | 15 | 19.6 | 9.8 | 29.4 | 10 | 16 | 26 | 13.5 | 21.6 | 351 | 1 | 2 | 3 | 12.5 | 75.0 | 31.5 |
| 2-Aitcart | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 | 3 | d | 3 | 5.4 | 0.0 | 5.4 | 9 | 4 | 13 | 12.2 | 5.4 | 17.6 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 |
| 3LLimit Phemat | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 2 | 1 | 3 | 39 | 2.0 | 5.9 | 0 | 2 | 2 | 0.0 | 2.7 | 1.7 | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 |
| 4 Birts | 0 | 1 | 1 | 2.0. | 50 | 5.0 | 1 | 2. | 3 | 2.0 | 29 | 5.9 | 1 | 0 | 1 | 1.4 | 0.0 | 14 | 0 | 0 | 0 | 2. 0 | 00 | a0 |
| 5 Clowos, Dust \#c | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 02 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| GInsunfice mat. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 3.9 | 0.0 | 1.9 | 13 | 0 | 13 | 17.6 | 0.0 | 17.6 | 2 | 0 | 2 | 35.0 | 0.0 | 25.0 |
| 7.Psycmolotical | 0 | 0 | 0 | 0.0 | 0.0 | e.e | , | 0 | 1 | 2.0 | 0. 0 | 2.0 | 0 | 0 | 0 | 12.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 8unbemm | 3 | 0 | 3 | 15.0 | 0.0 | 15.0 | 7 | 0 | 9 | 176 | 0.0 | 176 | 3 | 0 | ? | 4.1 | 0.0 | 41 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 |
| 906mer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 1 | 4 | 5.9 | 20 | 19 | 0 | 6 | 6 | a.l | 8.1 | 81 | 1 | 0 | $\angle$ | 12.5 | 0.0 | 12.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toul | 14 | 6 | 20 | 10.01 | 30.0 | 100. | 37 | 14 | 51 | 12.6 | 27.4 | 100. | 42 | 32 | 24 | 56.8 | 43.2 | 100. | 6 | 2 | 8 | 15.0 | 25.0 | 100 |



| Erajation | EXCELSENT |  |  |  |  |  | 6000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | DOVBTFU | Poor |  |  |  |  |  |
|  | tumber |  |  | Percot |  |  |  |  |  |  |  |  | munter |  |  | Percomt |  |  | Muaber |  |  | Percent |  |  | Mumber |  |  | Per Comt |  |  |
|  |  |  |  |  |  |  |  |  | Tota | Certain | Dosoltiol | Tota | Certan | Oocitina | Total | Certain | Douteiol | Total | Certion | Doubtiol | Tobl | Corbin | Doubtitul | Tox |
| Ballom | 4 | 2 | 4 | 11.4 | 0.0 | 11.4 | 3 | 0 | 2 | 5.6 | 0.0 | 5.6 | 6 | 2 | 8 | 16.2 | 5.4 | 21.6 | 9 | 3 | 12 | 10.8 | 36 | 144 |
| Astomomial | 6 | 5 | 1 | 17.1 | 143 | 314 | 18 | 8 | 26 | 33.3 | 14.8 | 48.1 | 6 | 4 | 10 | 16.2 | 10.8 | 21.0 | C2 | 1 | 13 | 14.4 | 12 | 15.6 |
| Altrat | 2 | 1 | 3 | 5.7 | 29 | 8.6 | 6 | 4 | 10 | 11. 1 | 1.4 | 18.5 | 5 | 2 | 7 | 185 | 5.4 | 18.9 | 17 | 4 | 21 | 20.5 | 4.8 | 153 |
| Limit Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | a) | 0. | 0 | 0.0 | 0.8 | 0.0 |
| -rics | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | e. 0 | 0 | 0 | 0 | 00 | 0.0 | 10 | 0 | Q | 0 | 0.0 | 0.0 | Qb |
| Clouds, Dust elc: | 0 | 2. | $a$ | 0.8 | 0.0: | 0.0 | 0 | 0 | 0 | 0. | el | e0 | 0 | 0 | e | 20 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 02 | Q0 |
| Insarfic into. | 4 | 2 | 4 | 11.4 | 20 | 11.4 | 1 | e | 1 | 19 | 0.0 | 1.2 | 4 | 0 | 4 | 10.8 | el | 10.8 | 17 | 0 | 17 | 20.5 | 00 | 20.5 |
| Psycrioniai | 0 | 2. | 2 | 0.0 | 0.d | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 2.4 | 0.0 | 2.4 |
| Undnown | 12 | 0 | 12 | 34.3 | 0.0 | 34,3 | 10 | 0 | 10 | 18.5 | ae | 18.5 | 6 | 0 | 4 | 16.2 | 0.0 | 16.2 | 4 | 0 | 14 | 16.9 | 0.0 | 16.9 |
| Ooter | 1 | 2 | 4 | 29 | 0.0 | 2.9 | 1 | $?$ | 4 | 1.9 | 5.6 | 25 | 1 | 1 | 2 | 27 | 2.7 | 5.4 | 3 | 1 | 4 | 3.6 | 12 | 4:8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 29 | 6 | 35 | 82.9 | 17.1 | 100 | 39 | 15 | 54 | 12.2 | 24.8 | 100 | 28 | 9 | 37 | 15.7 | 24.3 | 100. | 74 | 91 | 83 | 892 | 10.8 | 100. |



TABLE ASB EVALUATION RF UNIT SLGMTINGS QU SIGATING RELIABLLITY

| Evaluation | EXCEKLENT |  |  |  |  |  |  |  |  |  |  |  | Dougteul |  |  |  |  |  | Poop |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | PraCm |  |  | Minmer |  |  | Pacmi |  |  | number |  |  | Pacmit |  |  | Aumber |  |  | Pefat |  |  |
|  | Cetbin | Dubbus | Toun | Centin | Dasolim | - |  |  | - | Dowbly | Tobl | Serain | Dabobtur | Toba | cerrin | Dowituil | Toal | Cethin | Doubto | Total | Centrin | Cabiful | rota |
| Cabaloon | $1 /$ | 10 | 21 | 8.2 | 15 | 15.1 | 68 | 43 |  | (11) | 10.5 | 6.6 | 17.1 | 55 | 56 | 11 | 8.1 | 8.8 | 175 | 31 | 2 | 52 | 10. | 62 | 170 |
| 1-Astramatal | 17 | 8 | 25 | 12.2 | . 0 | 181 | 98 | 43 | 4 4 | 15. | 66 | 21.7 | 78 | 32 | 110 | 12.3 | 5.1 | 17.4 | 46 | 26 | 72 | 15. | 8.5 | 3.5 |
| 2-Aicrant | 16 | 15 | 31 | 11.9 | 42 | 23.1 | 12 | 14 | 146 | 11 | 11.4 | 22.5 | 12 | 88 | 18 | 14.5 | 13.9 | 28.4 | 3 | 21 | 52 | 10. | 6.9 | 70 |
| mif Pemenas | 2 | - 0 | 2 | 15 | 0.1 | 1.5 | 7 | 8 | 15 | 4 | 1.2 | 2.3 | 2 | 2 | 21 | 1.9 | 1.4 | 3.3 | 5 | e | 5 | 1.6 | 0.0 | 16 |
| 4 Bins | 2 | 0 | 0 | 28 | 0.0 | 0.0 | 4 | , | 5 | 06 | 02 | 0.8 | 3 | 3 | 6 | 0.5 | 0.5 | 1.0 | 2 | 1 | 3 | 27 | 0.3 | 1.0 |
| 5 clows arse ec | 0 | - | 0 | 0, | 0.0 | 0.0 | 2 | 5 | 1 | 0.3 | 0.8 | 1.1 | , | 2 | 3 | 0.2 | 0.3 | e. 5 | 0 | 0 | e | 0.0 | 0.0 | 0.0 |
| Granemitic. mio. | 4 | 0 | 4 | 32 | 0.0 | 3.0 | 20 | 0 | 10 | 31 | 0.0 | 3.1 | 44 | - | 44 | 117 | 0.0 | 4.1 | 61 | e | 61 | 19.9 | 0.0 | 9.9 |
| 17.8 grctoonaral | 0 | e | 0 | $0 \cdot 1$ | 0.0 | 20. | 2 | 0 | 2 | 03 | 2.0 | 03 | 18 | 4 | 22 | 2.8 | 0.6 | 3.4 | 6 | 2 | 8 | 2.0 | 0.7 | 2.7 |
| Bunmom | 44 | - | 44 | 12.8 | 0.0 | 12.8 | 171 | 0 | 111 | 26.3 | 0.0 | 12.3 | 86 | 0 | 86 | 13.6 | 0.0 | 13.6 | 43 | 0 | 43 | 14.1 | 0.0 | 14.1 |
| 2omer |  | 0 | -1 | 5.2 | 0. | 5.2 | 26 | 5 | 31 | 4.0 | 0.8 | 4.8 | 19 | 2 | 21 | 30 | 0.3 | 3.3 | 0 | 2 | 9 | 0.0 | 1.9 | 2.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tow | 101 | 33 |  |  | 24.6 |  |  |  | 649 |  | 27.6 | 100 | 438 | 196 |  |  |  |  | 125 | 80 |  |  |  |  |




|  | EXCELSENT |  |  |  |  |  | 6000 |  |  |  |  |  | DOUBIAUL |  |  |  |  |  | POOR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Pacent |  |  | Number |  |  | Percoml |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percent |  |  |
| Evaluaton | Certan | Doubitul | Toul | Cedan | Dooubitul | Toter | Cetbin | Doutcotur | Tota | Cetrain | [Dasibitul | Total | Eertain | Doubthol | Total | Cerain | Doubtiol | Total | Cerain | Douvthil | Total | Centin | Doubital | Total |
| Qasllion | 0 | 0 | 0 | 10.0 | 0.0 | 0.0 | 4 | . | 5 | 10.8 | 2.7 | 13.5 | 4 | 0 | 4 | 6.9 | 0.0 | 6.9 | 3 | 1 | 4 | 41 | 1.4 | 5.5 |
| 1 -Astromatial | 5 | 4 | 9 | 29.4 | 235 | 12.9 | 1 | 13 | 17 | 27 | 35.1 | 37.8 | <2 | 15 | 27 | 20.2 | 25.9 | 46.6 | 11 | 23 | 34 | 14.9 | $31 /$ | 96.0 |
| 2-Alucath | 1 | 0 | 1 | 59 | 0.0 | 5.9 | $\checkmark$ | 6 | 11 | 13.3 | 1628 | 29.2 | 7 | 1 | 8 | 12.1 | 1.7 | 13.8 | 5 | 5 | 10 | 6.8 | 6.8 | 13.6 |
| 3-Lyt Phenom: | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | Q |  | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - iris | 0 | 1 | 1 | 00 | 5.9 | 6.9 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 2 | $\delta$ | 2 | 3.4 | 0.0 | 3.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds, Dust, elt | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 0 | $\theta$ | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.6 | 0.0 |
| Gresuric mo. | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 3 | 0 | 3 | 81 | 0.0 | 8.1 | 13 | 0 | 13 | 22.4 | 0.0 | 22.4 | 9 | 0 | 9 | 122 | 0.1 | 12.2 |
| 7.8 Prydiogica | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 4.1 | 0.0 | 4.1 |
| 8 Unimem | 5 | 0 | 5 | 29.4 | 0.0 | 29.4 | 4 | 0 | 4 | 10.8 | 0.0 | 10.8 | 3 | 0 | 3 | 52 | 0.0 | 5.2 | 10 | 0 | 10 | 13.5 | 0.0 | 13.5 |
| 900, | 4 | 0 | I | 5.9 | 0.0 | 5,9 | 1 | 0 | 0 | 0.0 | 0.2 | 0.0 | 1 | 0 | 1 | 1.7 | 0.0 | 1.7 | 4 | 0 | 4 | 5.4 | 0.0 | 5.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12 |  | 17 | 70.6 | 294 | /10 | 17 | 20 | 37 | 45.9 | 54.1 | 100 | 42 | 16 | 58 | 72.4 | 27.6 | 100. | 45 | 29 | 74 | 60.8 | 39.2 | 100. |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evaruation | EXCECRENT |  |  |  |  |  | -1950 |  |  |  |  |  | Doustruc |  |  |  |  |  | POOR |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Wmber |  |  | Percent |  |  | Aumber |  |  | Per Cort |  |  | Mumber |  |  | Percmi |  |  | Number |  |  | Percent |  |  |
|  | Certan | Doobttul | Totar | Ceriam | Doubitic | Toial | Certan | Ooustad | Toat | Cotar | Doobitur] | Toted | ertan |  | Total | Certain | Doubtrol | TOTA1 | Ceram | Doubtiol | Total | Cutam | [Daubind | Tday |
| Ta, Ballicon | 4 | 0 | 4 | 12.5 | 0.0 | 12.5 | 3 | 0 | 3 | 7.9 | 0.0 | 7.9 | 5 | 1 | 6 | 16.7 | 3.3 | 20.8 | 9 | 3 | 12 | 13.0 | 4.3 | 17.4 |
| 1-Astionomial | 3 | 5 | 8 | 9.4 | 15.6 | 25.0 | 9 | 4 | 13 | 23.7 | 10.5 | 1342 | 4 | 4 | 8 | 13.3 | 13.3 | 266 | 9 | 1 | 10 | 13.0 | 1.4 | 14.5 |
| 12.Aucrat | 2 | 1 | 3 | 6.2 | 3.1 | 9.3 | 6 | 4 | 10 | 15.8 | 10.5 | 26.3 | 5 | 0 | 5 | 16.7 | 0.0 | 16.3 | 9 | 4 | 13 | 13.0 | 5.8 | 18.8 |
| 13 Lm Prano. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| A-Binte | 0 | 0 | 0 | 0.0 | 2, 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 clootas, Dust elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0. | 0.0 |  | 0.0 | 2 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 Gmartic min. | 4 | 0 | 4 | 12.5 | 0.0 | 12.5 | 1 | 0 | 1 | 2.6 | 0 | 2.6 | 4 | 0 | 4 | 13.3 | 0.0 | 13.3 | 15 | 0 | 1.5 | 21.7 | 0.0 | 21.7 |
| 2.Psytalorial | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 2.9 | 0.0 | 2.9 |
| Sunnom | 12 | 0 | 12 | 31.5 | 0.0 | 37.5 | 9 | 0 | 9 | 23.7 | 0.0 | 23.7 | 5 | 0 | 5 | 16.7 | 0.0 | 16.7 | 13 | 0 | 13 | 18.8 | 0.0 | 18.8 |
| rotur | 1 | 0 | 1 | 31 | 0.0 | 3.1 | 1 | 1 | 2 | 2.6 | 2.6 | 5.2 | 1 | 1 | 2 | 3.3 | 3:3 | 6.6 | 3 | 1 | 4 | 4.3 | 1.4 | 5.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 26 | 6 | 32 | 81.2 | 18.8 | 100. | 29 | 9 | 38 | 76.3 | 23.7 | 100. | 24 | 6 | 30. | 80.9 | 20.0 | 100. | 601 | 9 | 69 | 87.0 | 13.0 | 100. |




|  | EXCELLENY |  |  |  |  |  | 6000 |  |  |  |  |  | DOUBTEUL |  |  |  |  |  | POOR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Peacont |  |  | Mumber |  |  | Peecent |  |  | Nunter |  |  | Pes Cent |  |  | Humber |  |  | Per Cot/ |  |  |
| Evaluation | Corrain | Ooubtrou | Tobit | Certain | Dasithl | Totai | Centain | Dositul | Totar | Cestain | [Dowith] | Tola | Certain | Doubtiol | Total | Certain | Doubtiol | Tolal | Certan | Doubtal | Tota | Certrin |  | Total |
| O-Balloon | 10 | 7 | 17 | 8.3 | 5.8 | 14.1 | 65 | 37 | 102 | 11.2 | 6.4 | 17.6 | 54 | 51 | 105 | 9.5 | 9.0 | 18.5 | 19 | 18 | 37 | 8.1 | 7.7 | 15.8 |
| 1-Astronomical | 14 | 6 | 20 | 11.7 | 5.0 | 16.7 | 77 | 37 | 114 | 13.3 | 6.4 | 19.7 | 59 | 26 | 85 | 10.4 | 4.6 | 15.0 | 21 | 22 | 43 | 8.9 | 9.4 | 18.3 |
| 2-Arctaft | 16 | 13 | 29 | 13.3 | 10.8 | 24.1 | 68 | 66 | 134 | 11.7 | 11.4 | 23.4 | 86 | 81 | 167 | 15.2 | 14.3 | 29.5 | 23 | 16 | 49 | 9.8 | 6.8 | 16.6 |
| 3-Light Pranos. | 2 | 0 | 2 | 1.7 | 0.0 | 17 | 6 | 8 | 14 | 1.0 | 1.4 | 2.4 | 12 | 6 | 18 | 2.1 | 1.1 | 3.2 | 5 | 0 | 5 | 2.1 | 0.0 | 1. |
| 4 - | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 1 | 4 | 0.5 | 0.2 | . 7 | 3 | 3 | 6 | 0.5 | 0.5 | 1.0 | 2 | 1 | 3 | 0.9 | 0.4 | 13 |
| 5-Clouds Oust ex | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 5 | 7 | e, 3 | 0.9 | 1.2 | 1 | 2 | 3 | 0.2 | 0.4 | 6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-nsuitit. mio. | 3 | 0 | 3 | 2.5 | 0.0 | 2.5 | 19 | 0 | 19 | 3.3 | 0.0 | 3.3 | 71 | 0 | 71 | 12.5 | 0.0 | 12.5 | 55 | 0 | 55 | 23.4 | 0.0 | 23.4 |
| 1-Psychelogical | 0 | 0 | $Q$ | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | Q. 3 | 0.0 | 0.3 | 17 | 4 | 21 | 3.0 | 0.7 | 3.7 | 6 | 2 | 8 | 2.6 | 0.9 | 3.5 |
| 8 Uninom | 42 | 0 | 42 | 35.0 | 0.0 | 35.0 | 154 | 0 | 154 | 26.6 | 0.0 | 26.6 | 69 | 0 | 69 | 12.2 | 0.0 | 12.2 | 38 | 0 | 38 | 16.2 | 0.0 | 16.2 |
| 9-Other | 7 | 0 | 7 | 5.8 | 0.0 | 5.8 | 25 | 5 | 30 | 4.3 | 0.9 | 5.2 | 19 | 2 | 21 | 3.4 | 0.4 | 3.8 | 0 | 7 | 7 | 0.0 | 3.9 | 3.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TodA | 94 | 26 | 120 | 78.3 | 2/.7 | 160. | 421 | 159 | 580 | 72.6 | 27.4 | 100. | 391 | 175 | 566 | 69.1 | 30.9 | 100. | 169 | 66 | 235 | 71.9 | 28.1 | 100. |



| Evsuation | $E K: E \subseteq E N T$ |  |  |  |  |  | GROUPS M |  |  |  |  |  | MLTARY |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Nunber |  |  | Per Cenl |  |  | Number |  |  |  |  |  | Numbet |  |  | Percent |  |  |
|  | wimber |  |  |  | Per Cont |  |  |  |  | Percent |  |  |  |  |  |  |  |  |  |
|  | Cerden | Doubthir | Tota | centan | Doülitu: | - Total | Celain | T Doobital | Toba |  |  |  | Cellan | [Dobuthil | Toiza | Enan | [Doubtau] | Totat | Cerian | Doubitiol | Tous | Sertain | Ooubful | Tolal | Cattin | Doubtivi | OTI |
| - Eallloon | 3. | 8. | 2 | 64 | 39: | 10.3 | 49 | 34 | 89 | 85 | 4.6 | 16.1 | 38 | 23 | 61 | 10.4 | 6.9 | H:7 | 15 | 10 | 25 | 10.5 | 7.0. | 175 |
| 1.Asimnomial | 28 | 15 | 47 | 13.2 |  | 130 | 23 | 57 | 148 | K.1 | 11.1 | 272 | 13 | 43 | 116 | 20.0 | 11.8 | 128 | 18 | 21. | 34 | 12.6 | 14.7 | 213 |
| 2.antind | 21 | 13 | to. | 132 | 6 | 146 | 22 | 35 | 67 | 42 | 6.8 | 13.0 | 16 | 22 | 48 | 1.1 | 60 | $11: 1$ | 11 | 6 | 11 | 21 | 4.2 | 11.9 |
| 32 Lighl Phenom. | 0 | 0. | 0 | 0.0 | 0.0 | 00 | 6 | 2 | 8 | 12 | 04 | 1.6 | 1 | 2 | 3 | 0.9 | 0.5 | 08 | 2 | 0 | 2 | 14 | 0.0 | 1.4 |
| 4 - Buds | 0 | 2 | 2 | 0.0 | 1.0 | 1.0 | 4 | 2 | 6 | 08 | 0 | 1.2 | 5 | 0 | 2 | 14 | 0.0 | 14 | 0 | 0 | 0 | 0.0 | 0.0 | 10 |
| 5 Clouts, Dust el | 0 | 0 | 2 | 0.0 | 00 | 0.2 | 1 | 1 | 8 | 14 | 02 | 1.6 | 2 | 1 | 3 | 0.5 | 0.3 | 08 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |
| GInsullic mo. | 3 | 0 | 3 | 1.5 | 0.0 | 1.5 | 14 | 0. | 14 | 27 | 00. | 27 | 16 | 0 | 18 | 49 | 0.0 | 4.9 | 15 | 0 | 15 | 10.5 | 0.0 | 10.5 |
| 7. Psydroloyal | 0 | 0 | 0 | 0.0 | 0. | 00 | 0 | 0 | 0 | al | 00 | 0e | 0. | 1 | 4 | 0.0 | 031 | 23 | 0 | 2 | 2 | 0.0 | 1.4 | 1.4 |
| 8 Unekem | 21 | 0 | 72 | 121 | 0.01 | 1377 | 155 | 0 | 15.2 | 321 | 0.0 | 302 | 90 | 0 | 90 | 247 | 00 | 24.7 | 30 | 0 | 30 | 21.0 | 0.0 | 21.0 |
| 900the | 14 | 0 | 14 | 6.9 | 0.0 | 6.9 | 28 | 5 | 33 | 54 | 10 | 6.4 | 11 | 3 | 20 | 47 | 08 | 5.5 | 3 | 10 | 13. | 21 | to | 9.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 162 | 42 | 204 | 18.4 | 206 | 100. | 3781 | 136 | 514 | 13,51 | 1265 | 100. | 210 | 95 | 365 | 14.0 | 26.0 | 100. | 94 | 49 | 143 | 5.7 | 34.3 | 100. |

TROLE HYZ EVALUATION DE ALS SIGHTINGS FOR ALL YEARS BU SIGUTING


TABLE AUB EHALURTIQN OE ALL SIGHTINGS FOR $194 Z$ BY SIGATING A

|  |  |  |  |  |  | ELA | BlLITY GRQups |  |  |  |  |  | MILITARY ORS |  |  |  |  |  | Door |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $E X C E \angle L E N T$ |  |  |  |  |  | Nunber |  |  | Percoml |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Humber |  |  | Pencent |  |  |  |  |  | Nunter | Per Cent |  |  | Nurber |  |  | Per cent |  |  |
| Evaluation | Certain | Doubtal | Total | Certan | Dauthel | Tolal | Certain | Doobtiu! | Toial |  |  |  | Certain | Docolful | Tola | Certain | Doustue | Total | Certain | Doobittul | Total | Certan | Doobtifu | Total | Certain | Doubtivi | Total |
| O-Balcon | , | 0 |  | 11 | 0.0 | II/ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 25.0 | 80 | 250 | 2 | 0 | 2 | 50.0 | 0.0 | 520 |
| 1-A stronomial | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 | -1 | 0 | 1 | 21 | 0.0 | 9.1 | 0 | 1 | 1 | 0.0 | 25.0 | 250 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aictar | , | 1 | 2 | 11.1 | 1.1 | 222 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-LIgti Phenoa | 2 | 0 | 0 | e0 | 0.0 | 0.0 | 1 | 0 | 1 | 91 | 0.0 | 91 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 2 | 00 | 00 |
| 4 Bros | 0 | 0 | 0 | -20 | 0.0 | 0.0 | 0 | 0 | 0 | 8 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 00 | 0 | 0 | 2 | 00 | 0.0 | 0.0 |
| S-Clouds, Doust el | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Ginsutic. mit. | 0 | 0 | 0 | 0. | 00 | 0.0 | 1 | 0 | 1 | 91 | a0 | 8.2 | 0 | 0 | 0 | 00 | 0.0 | 0.2 | 2 | 0 | 2 | 50.0 | 00 | 50.2 |
| 7.Psyctiologas | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 00 | 0.0 | 0 | 1 | 1 | e. 0 | 25.0 | 250 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 8 Uninom | 3 | 0 | 5 | 333 | 0.0 | 33.3 | 5 | 0 | 5 | 455 | 00 | 455 | 1 | 0 | 1 | 250 | 0.0 | 250 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 9-0thet | 1 | 0 | 1 | III | 00 | 11.1 | 3 | 0 | 3 | 273 | 0.0 | 27.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8 | 1 | 9 | 88.9 | II. 1 | 100 | $1 /$ | 0 | 11 | $1100 . d$ | 0.0 | vos. | 2 | 2 | 4 | 500 | 50.0 | 100. | 4 | 0 | 4 | 108.0 | 0.0 | 100. |

FABLE AHG EVALUATION OF ALL SIGHTINGS FOR 1947 BY SIGNTING.

|  |  |  |  |  |  | E $\angle 1 A$ | ABILITY GROUPS |  |  |  |  |  | CIVILIAN OBSERUERS |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ExEELSENT |  |  |  |  |  |  |  | 6 | 00 |  |  | DovgtEut |  |  |  |  |  | - Poop |  |  |  |  |  |
|  | Mumber |  |  | Perconl |  |  | Number |  |  | Per Coil |  |  | Humber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  |
| Evaiution | Certan | Dovoltul | Total | Cetain | Doubthil | Toual | Certan | Doublful | Total | Centian | [oubution] | Total | Certã | Doubtiol | Totat |  |  |  | Certain | Dovitiol | Total | Catain | Doubtiol | Total |
| O-Bation | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -1 |  |  | 40 | 00 | Le | 2 | 0 | 2 | 49 | 120 | 4.9 | 0 | 0 | 0 | 40 | 0.0 | 0.0 |
| 1 -Astromonia | 1 | 0 | 1 | 10.01 | 0.0 | 10.0 | -6 | 4 | 10 | 24,0 | 16.0 | 40.0 | 16 | 3 | 19 | 34.0 | 1 | 46.3 | 6 | 0 | 6 | 46.2 | 0.0 | 46.2 |
| 2. Aicart | 0 | 0 | 0 | 0.01 | 8.0 | -00 | -1 |  |  | 40 | 4 | 81 | 0 | 0 | 0 | 2.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 3 List Preno | 0 | 0 | 0 | 20 | 0. | Qe |  | 0 | - | 0.0 | 0.0 | 00 | 1 | 0 | 2 | 2.4 | 00 | 2.4 | 0 | 0 | 0 | 20 | 0.0 | 0.0 |
| 4 -Buds | 2 | 0 | . 0 | 00. | 00 | 2.0 | 0 | 0 | 0. | 20 | 20 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 2 | 0.0 | a0 | 00 |
| 5 -Clouds, Oust e | 4 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | 20 | 00 | 0.0 | 2 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GTasulic mat. | 4 | 0 | 4 | 400 | 0.0 | 40 | -1 | 0 | 1 | 40 | 0.0 | 40 | 2 | 0 | 2 | 49 | 0.0 | 49 | 4 | 0 | 4 | 30.7 | 100 | 30.1 |
| 7. Prydoligican | 2 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | -1 | 1 | 00 | 4.0 | 4.0 | 2 | 0 | 2 | 49 | 00 | 4.9 | 1 | 0 | 1 | 17 | 00 | 77 |
| 2Unanow | 3 | 0 | 3 | 300 | 02 | 306 | 6. | 0 | 6 | 240 | 00 | 24.0 | 8 | 0 | 8 | 195 | 0.05 | 495 | 2 | 0 | 2 | 15.4 | 00 | 5.4 |
| Yothe | 2 | 0 | 2 | 20.0 | 2.0 | 20.0 | 4 | 0 | 4 | 16. | 020 | 16.0 | 1 | 0 | 7 | 171 | 0.0 | 121 | 0 | 0 | 0 | 0.0 | 00 | 20 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10 | 0 | 10 | 1100.0 | 0.01 | 100. | 19 | 6 | 25 | 16 |  | 100 | 38 | 3 | 41 | 92.7 |  | $1 \infty$ | 13 | 0 | 13 | 100.0 | 0.0 | 100. |



| Evalation | OBSERVERS |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | E |  |  |  |  |  | God |  |  |  |  |  | Do |  |  |  |  |  | peor |  |  |  |  |  |
|  |  |  |  |  | Petcemt |  |  | Nunber |  |  | Pacomt |  |  | Numb |  |  | Patcomt |  |  | Number |  |  | Percomt |  |
|  |  | Oobitul |  | Cenam | Dowobe | Toial | cenam | Doubitil | Tola | Certan | Doublion | Total | Certain | boul | Toun | Centain | Douttul | cod | Cation | Dowitit | Tote | cration | Daubut |  |
| aballoan | 2 |  |  | 22.21 | Mil | 33.3 |  | 5 | \% | 2.5 | 12.5 | 15. | 4 | 1 | 11 | 48 | 83 | 13.4 | 0 |  | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astormmal |  | 2 |  | 14.1 | 22.2 | 33.3 | 5 | 6. | 11 | 12.5 | 15.0 | 275 | 3 | 24 | 32 | (5.5) | 286 | 44:C |  | 1 | , | 16.7 | 16.7 | 33.4 |
| 2-Acrata | $a$ | 0 |  | a. | 0.0 | , | 2 | 0 | 2 | 50. | . | 5.2 | 4 | 4 | 8 | 4.8 | 4.8 | 9.6 |  | 0 | 1 | 16.7 | 0.0 | 16.7 |
| 3.4 .4 mat Prom | 8 | 0 | 0 | 0.0 | Q. 2. | 00 | e. | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 4 | 4 | 0.0 | 4.8 | 48 | 0. | 0. | 0 | 0.0 | 0.0 | 0.0 |
| : Anus | 2 | 2 | 0 | 00 | 02 | 0.0 | 0. | 1 | 1 | 0.0 | 2.5 | 25 | 0. | 0 | 0 | 8.0 | 0. | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| ${ }^{\text {is.clouss Dost ect }}$ | 2 | e | e | 0.0 | 20 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GInstitic. mb. | 2. | 0 | e | 0.0 | 0.2 | 0.1 | 1 | 0 | 2 | 5.0 | 0.0 | 5.0 | 12 | 0 | 12 | 4.3 | 0.0 | 14.3 | 1 | 0. | 1 | 16.7 | 0.0 | 16.7 |
| P-Pspemoleal | 0. | e | 0 | 00. | 20 | 0.0 | 1 | 0. | 1 | 35. | 0.0 | 25 | 0 | 0. | 0 | $0 \cdot 1$ | 00 | 00 | 0 | 0. | 0 | 0.0 | 0.0 | 00 |
| Uunkom | 3. | 0 | 3 | 33, 3. | 0.0 | 133.3 | 14 | 0. | 14 | 35.0 | 00 | 35.0 | -6 | 0 | 6 | 1.1 | 20 | 11 | , | 0 | 1 | 16:7 | 0.0 | 16.1 |
| gomer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 2 | 3 | 2.5 | 5.0 | 15 | $\rho$ | 6 | 6 | 0.0 | 71 | 4 | $\angle$ | 2 | 1 | 16.7 | 0.0 | 14.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 6 | 3 | 9 | k. 7 | 33.3 | 100 | 261 | 14 | 40 | 65. | 35.0 | 100. | 39 | 45 | S4 | 14.4 | 63.61 | 100. | 5 | 1 | 6 | 83.31 | 16.7 | 100 |



| Evaluation | EXCELSENT |  |  |  |  |  | G000 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aumber |  |  | Pactan |  |  | Nunter |  |  | Pectat |  |  | Mumber |  |  | Pecomt |  |  |  |  |  | Percmit |  |  |
|  | Cerrain | Dawbul | Toal | Cention | Dowtul | 1 Tom | Centin | Dabitim | Toun | Cman | Dasitul | Total | Certain | Doabiful | Tobi | Cetain | Dobthlul | Tकtal |  |  |  | Centain | Demblul | Total |
| -8aztion | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 50 | 2.5 | 1.5 | 4 | 0 | 4 | 49 | 0.0 | 49 |  | 0 | 1 | 3.3 | 0.0 | 33 |
| 1, Astonomal | 2 | 3 | 5 | 11.8 | 177 | 295 | 2 | 26 | 28 | 50 | 65.0 | 70.0 | 24. | $3)$ | 55 | 223 | 378 | 61.1 |  | 18 | 21 | 10.0 | 6.0 | 10.0 |
| 2-Ancrath | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 3 | 3 | $0 \cdot$ | 75 | 25 | 2 | 6 | 8 | 2.4 | 183 | 4.1 |  | O | 3 | 10. | 0.0 | 10.0 |
| 3. LTat Promer | $\varepsilon$ | 0 | $a$ | 0.0 | 0. | e 0 | 0 | 0. | $\bigcirc$ | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | e | 0. | 0 | 0.0 | 0.0 | 0.0 |
| + Bras | 0 | $L$ | 1 | 00 | 5.9 | 5.2 | 0 | 0 | e | 0.0 | 0.01 | $0 \cdot$ | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 |  | 2 | 0 | 20 | 0.0 | e. 0 |
| C-Clouss aste | 0 | 0 | 0 | 0.0 | e.0 | 0.0 | 2 | Q | 0 | 0.0 | e. 0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0. | 0 | 0.0 | 0.0 | 0.0 |
| Ganestic: mat | 0 | 0 | 1 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 10.0 | 0.0 | 109 | 4 | e | 4 | 49. | 0.0. | 4.9 | e | 0 | 0 | ea | 0.0 | 0.0 |
| $\underline{4}$ Psytrabiorical | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | el | 0.1 | 0.0 | 0 | 0 | 0 | 0.01 | 0.0 | e. 0 | e | 0 | 0 | 0.0 | e. | 0.0 |
| OUCumom | 6 | 0 | 6 | 353 | 0.0 | 35.3 | 2 | 0 | 2. | 5.0 | 0.0 | 50 | 9 | e | 1 | 110 | 0.0 | 11.0 | 5 | 0 | 5 | 4.7 | 0.0 | 16.7 |
| \%oter | 5 | 0 | 5 | 29.4 | -0 | 29.4 | 0 | 2 | e | 0.0 | 0.0. | 0.0 | 2 | 0 | 2 | 2.4 | 0.0 | 2.4 |  | 0. | e. | ae | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rax | 13 | 4 | 17 | \% 5 | 23.5 | 120 | 10 | 30 | 40 | 25.0 | 15.0 | 100. | 45. | 37 | 82 | 54.9 | 45.1 | + | 12 | 18 | 30 | 40.0 | 0 | 100 |

TABLE A5S EVALUATION OF ALL SIGHTINGS FOR 1949 BY $51 G A T I N G$

| Eraubon | ExCEELENT |  |  |  |  |  | G000 |  |  |  |  |  | - Deusteul |  |  |  |  |  | Poor |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | maser |  |  |  |  |  | Number |  |  | Percmin |  |  | Number |  |  | Percomt |  |  | Number |  |  | Percomt |  |  |
|  | Coman | Dosodtay | Tobi | Cerna | Doabtur | T Tobat | Cemin | Doouther | Tout | Cetan | Dasobltad | Tout | Eetàn |  | Tolat | Certian | bovekit | Tout | Ceman | ocobsfor | Tota | Catain | Doutbet | 1ad |
| \%abalom |  | 0 |  | 20 | 0.0 | 00.0 | 3 | / | 4 | 8.8 | 2.9 | 11.7 | 6 |  | 9 | 5. | 2.5 | 7.5 | 0 | 0 | ef | 0.0 | 0. | 0.0 |
| I-Astimmat |  | 5 | 1 | cs, | 278 | 161 |  | 12. | II | 1.9 | 29.4 | 323 | 23 | 28. | 51 | 19.2 | 23.3 | 42.5 | 13 | 11 | 24 | 24: | 10.4 | 44.5 |
| 2:Alcert | 4 | 0 | 4 | 222 | 10 0 | 12.2 | 6 | 5 | 12 | 176 | 44.7 | 32.3 | 5 | K | 26 | 12.5 | 9.2 | 21.7 | 1 | 1 | 2 | 18 | 1.8 | ? 3 |
| 3 L Let Preose | 2 | 0 | e | 0.0 | el | 129 | - 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 2 | 0. | 0 | -0 | 0.0 | 0.0 |
|  | - | 0 | 0 | $0 \cdot$ | Ql! | 0.0 | - | 2 | 0 | 0.0 | 0.0 | 0.0 | 4 | e | 4 | 33 | 0.6 | 3. | 0 | 0 | Q | 0.0 | 0.0 |  |
| sclous, Dust ect | 2 | 2 | 0 | 08 | 0.0 | 0.0 | l | 2. | 0 | 0.0. | e0 | 0.0 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | $\ell$ | 0 | 2 | e. 0 | . 2 | 0.0 |
| tinsulicic mo. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | e | 2. | 5.9 | 0.0 | 5.9 | 17 | 2 | 11 | 14.2 | 0.0 | 14.2 | 9. | 0 | 2 | 16.7 | 0.0 | \%. |
| 7.9 Pramopan | 2 | d | 0 | 2.0 | 20. | 0.0 | 0 | e | 0 | la | e. 0 | e. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3. | 5.6 | 0.0 | 5.6 |
| 2utrom | 3 | 0 |  | 16.7 | 20. | 珑 | 6 | 2. | 6. | $1 z 1$ | 20 | 172 | 12 | 0 | 12 |  | 0.0 | 10.0 | 13 | 0 | <3 | 28.2 | 10.0 | 34 |
| romer | 2 | 0 | e | el | 0.0 | 0.0 | 0 | a | E. | e.0 | 0.0 | 0.0 | - | - | 1 | 0.8 | 0.0 | , | S | 0 | - | 5.4 | 0.0 | 5. |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 13 | 5 | Lk | 12 | 27.8 | cos. | 18 | 16 | 34 | 5301 | 41.0 | 1001 | 18 | 42 | 120 | 65.0 | 35.0 | 100. | 42 | 12 | 54 | 728 | 22. | 108. |

TABE ASY EKALKATIDN OE ALL SLGATINGS EOR 1950 BY SIGMTNNG



TABLE A5L EVALVATION DF ALL SLGETINGS FOE 1951 BY S/GATNG

| Evaluation | EXSELLENT |  |  |  |  |  | G000 |  |  |  |  |  |  |  |  |  |  |  | Pooe |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pectent |  |  | Humbes |  |  | Pacart |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percont |  |  |
|  | Certain | Doubthy | Tous | Cenain | Doubtivy | Trobis | Centain | [Domithi] | Totar | Cutain | Daublua | Tola | Centain | Doubluri | Total | Cerrain | Doubtrul | Total | Cerdain | Doutitu | fota | Certain | [oublicu | Told |
| 10.Balioon | , | - | 1 | 71 | 0.0 | 7.1 | 4 | 1 | 5 | 11.4 | 4.3 | 21.7 | / | 1 | 2 | 43 | 4.3 | 8.6 | 1 | 1 | 2 | 4.8 | 4.8 | 8.6 |
| 1.Astronomical | 1 | 1 | 2 | 171 | 1.1 | 14.2 |  | 2 | 11 | 392 | 87 | 419 | 1 | 1 | 2 | 43 | 4.3 | 86 | 2 | 1 | 3 | 85 | 4.8 | 14.3 |
| 2. Anctant | 3 | 0 | 3 | $2 i .4$ | 0.0 | 21.4 |  | 0 | 4 | 17.4 | 0.0 | 178 | - | 1 | 2 | 43 | 4.3 | 8.6 | 2 | 3 | 5 | 45 | 14.3 | 23.1 |
| 3.LIght Pherom. | 0. | 0 | 0 | Ql | 10.0 | 0.0 | 0 | 0 | 0 | ne | 0.0 | 02 | 0 | 1 | 1 | 0.0 | 4.3 | 43 | 2. | 0 | 0 | 0.0 | 2. 2 | 0.0 |
| 4 Buds | 0 | 2 | 4 | 0.0 | 10.0 | 00 | 0 | 1 | 1 | 0.0 | 43 | 43 | 0 | 0 | 0 | 0.0 | 00 | 20 | 0 | 2 | 0 | e. 2 | 20 | 0.0 |
| 5 Clouds, Dust etc | 0. | 0. | 2 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 20. | 0.0 | 00 | 12 | 0 | 0. | 0.0 | 12.0 | 0.0 |
| G-Insiltici into. | 2 | 0 | 2 | 0.0 | 0.0 | a0 | 0 | 0 | e | 0.0 | 20 | 0.0 | 2 | 0 | 2 | 81 | 0.0 | 87 | 2 | 0 | e | 20 | a0 | 0.0 |
| 7.Psychologicar | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 00 | 0.0 |
| 8unknom | 7 | 0 | 1 | 264 | 0.0 | 21.4 | 2 | 0 | 2 | 8.7 | 0.0 | 8.1 | 12. | 0 | 12 | 52.2 | 0.0 | 52.2 | 2 | 0 | $\mathcal{L}$ | 42.9 | 00 | 42.7 |
| Ormer | i | 0. | 1 | 171 | 0.0 | \%1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 2 | 0 | 2 | 8.7 | 0.0 | 8.7 | 2. | 0 | 2 | 2.5 | 0.0 | 95 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toual | 13 | 1 | 14 | 92.9 | 11 | 10 | 19 | 4 | 23 | 82.6 | 24 | 100. | 19 | 4 | 23 | 82.6 | 4 |  | 16 | 5 | 21 | 16.1 | 13.8 |  |





| TRBLE A6L | REPORTED COLORS O |  |  |  | OF EBJECTS |  | S16HTED |  |  | BY YEARS |  |  | - |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | HTIN | GS |  |  |  |  |  |  |  |  |  |  |
|  | ALL yepas |  | 1947 |  | 1448 |  | 1949 |  | 1.1950 |  | 195 |  | -1952 |  |
|  | wumer | Prelewt | Nun | Peiden | Numse | fercur | Numese | Precger | AuMBEC | REelent | Lucrsee | Peelen | Numer | felent |
| Hote in Geowne whut. | 610 | 23.9 | 21 | 278 | 26 | 110 | 57. | 24.2 | 50 | 23.9 | 33 | 24.1 | 417 | 24.2 |
| Metalble | 422 | 16.5 | 22 | 22.7 | 30 | 19.6 | 37 | 15.7 | 40 | 12.1 | 25 | 18.2 | 268 | 15. 6 |
| Covee not Staten | 325 | 12.7 | 22 | 22.7 | 23 | 15.0 | 26 | 11.0 | 42 | 20.1 | 23 | 16.8 | 189 | 11.0 |
| Repeque Gromuna Deange | 253 | 9.9 | 3 | 3.1 | 16 | 0. 5 | 18 | 7.6 | 6 | 2.9 | 14 | 10.2 | 196 | 11.4 |
| bee de Guming REo | 203 | 19 | 4 | 4.1 | 2 | 5.9 | 23 | 9.7 | 21 | 10.0. | 6 | 4.4 | 140 | 8.1 |
| Green er Genuing Gresw | 175 | 6.9 | 1 | $1 \cdot 0$ | 15 | 98 | 26 | 11.0 | 10 | 48 | 1 | 5.1 | 116 | 6.7 |
| ulum Gum, Conocnor Kown | 178 | 2.0 | 4 | 4.1 | 10 | 6.5 | 13 | 5.5 | 11 | 5.3 | 7 | 5.1 | 133 | 7.7 |
| Yecsow ve Glowinc lewar | 85 | 12 | 7 | 12 | 10 | 6.5 | 16 | 6.8 | 9 | 4.3 | 8 | 5.8 | 135 | 18 |
|  | 121 | 4. | 3 | 3.1 | 6 | 39 | 11 | 4.7 | $1 /$ | 5.3 | 8 | 5.8 | 82 | 48 |
| BLACK ac Gxewurke BLACK | 59 | 2.3 | 4 | 4.1 | 6 | 3.9 | 6 | 2. | 6 | 2.9 | 4 | 2.9 | 33 | 1.9 |
|  | 10 | 0.4 | 0 | 2e | 2 | 1.3 | 2 | 0.8 | 0 | 0.0 | 1 | 0.7 | 5 | 0.3 |
| Whier ee Gumunc Vouer | 7 | 03 | 0 | 20 | 0 | 0.0 | 0 | 0.0 | 2 | 10 | < | az | 4 | 02 |
| Glowinc Gegy | 6 | 0.2 | 0 | e. | 0 | 0.0 | 1 | 0.4 | 1 | 05 | 0 | 0.0 | 4 | 0.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2554 | 100 | 47 | 100. |  |  | 236 |  | 209 | O0 | 137 |  |  |  |


| TABLE A62 | PEPDRTEO |  | COLORS |  | OF OBSECTS |  |  | S16HTED |  | BY YEARS |  |  | , |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ORIE |  | S16 HTINGS |  |  |  |  |  |  |  | - 1951 |  | 1952 |  |
|  | All lever |  |  |  | 1948 |  | 1949 |  | 11550 |  |  |  |  |  |
|  | Lumber | Prelent | aumage | Pex lenn | Auyser | Eel can | Lumese | Peecent | Vurace | Peelenit | UMBEE | Prelent | Nurrece | Pselent |
|  | 5.1 | 23.5 | 12 | 218 | 25 | 17.5 | 43 | 23.1 | 44 | 26.0 | 27 | 22.3 | 356 | 23.7 |
| M, | 389 | 17 | 20 | 25.3 | 29 | 20.3 | 34 | 183 | 36 | 21.3 | 22 | 18.2 | 248 | 16-5 |
| Cuan ner Srares | 271 | 12.3 | i 8 | 238 | 21 | 14.7 | 19 | 10.2 | 31 | 18.3 | 22 | 18.2 | 160 | 10.7 |
| Denocre de Gramuco Deprose | 221 | 10.0 | 3 | 3.8 | 16 | 11.2 | L2 | 81 | 5 | 3.0 | 12 | 9.9 | 170 | 11.3 |
| Ste er Glowing Pleo | 79 | 51 | 3 | 3.8 | 8 | 5.6 | 2 | 10.2 | 16 | 9.5 | 6 | 5.0 | 127 | 85 |
| GReEn or Glowing Gegen | 144 | 6.6 | 0 | 0.0 | 12 | 8.4 | 21 | 11.3 | 8 | 47 | 2 | 5.8 | 96 | 6.4 |
| Ligut blomj Cocor not known | 152 | 6.9 | 4 | 5.1 | 10 | to | 12 | 6.5 | 8 | 4.7 | 5 | 41 | 113 | 1.5 |
| LEnow or Glewinc Yeuow | 159 | 7.2 | 3 | 3.8 | 9 | 6.3 | 12 | 6.5 | 8 | 47 | 7 | 5.8 | 120 | 8.0 |
| Bune or Glowinc BuE | 93. | 42 | 2 | 2.5 | 5 | ? 5 | 5 | 2.7 | 6 | 3.6 | $z$ | 5.8 | 68. | 4.5 |
| SiAck al Growing black | 57 | 2.6 | 4 | 5.1 | 6 | 42 | 5 | 2.7 | 5 | 3.0 | 4 | 3.3 | 33 | 2.2 |
| Lent Glow /wperegrimare Coued | 7 | 0.3 | 0 | 0.0 | 2 | 1.4 | 0 | 00 | 0 | 0.0 |  | 0.8 | 4 | 0.3 |
|  | 5. | e2 | 0 | en | 0 | 0.0 | 0 | 0.0 | 1 | 06 | 1 | 0.8 | 3 | 0.2 |
| Glowinc Goyy | 5 | 0.2 | 0 | 0.0 | 0 | 0.0 | $\angle$ | 05 | 1 | 0.6 | 0 | 0.0 | 3 | 0.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Torac | 2199 | 120 | 19 | 100. | 143 | 100. | 186 | 100 | 169 | 100 | 121 | 100. | 1501 | 100. |

TABLEAKS EVQLUATION OF ALL SIGHTINGS FQR ALL VEARS RY

| Evalution |  |  |  |  |  | WHITE LR GLUHING WHITE |  |  |  |  |  | METALL |  |  |  |  |  | COLOR NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | Number |  |  | Percent |  |  | - Mumber |  |  | Pencent |  |  | Number |  |  | $\mathrm{Patan}_{\text {ctent }}$ |  |  |
|  | Certan |  | olal | Centan | D00 |  | Doütrio | Hobl | -tan | Doubitul | Total | man | Doutstive | Total | Cettain | Doubutul | Total | Čerain | Dowblici | rotal | Certan | Doustul |  |
| Quallon | 27 |  | 150 |  | 5.6.14.0 |  | 63 | 140 | . 4 | 2.0 | 4.4 | 79 | 39 | 118 | 2.5 | 12 | 3.7 | 32 | 25 | 5. | 1. | 0.8 | 1.8 |
| 1.Asionomica | 47 | 34 | 817 | 14. | -k, | 116 | 83 | 199 | 3.6 | 7.6 | 6.2 | 11 | $1 /$ | 22 | 0.3 | 0. | 0.6 | 41 | 15 | 59 | 1.3 | 0.6 | . 9 |
| 2.Ancort | 35 | 288 | 642 |  | 9.0.7a | 66 | 69 | 134 | 3.0 | 2.2 | 4.2 | 101 | 75 | 126 | 3.2 | $\underline{2}$ | 55 | 42 | 33 | 65 | 1.3 | 0.7 | 7.0 |
| I 3 Limi Phene | 3 | 24 | 56 | 1. | 0.8. 1.8 | 3 | 8 | 11 | 0.1 | 0.3 | 0.4 | 3 | 5 | - | 0.1 | 0.2 | 0.3 | 0 |  | 1 | 0.0 | 0.1 | Dal |
| ds | 19 | 10 | 29 | 0. | , | 6 | 12 | 2 8 | 0.2 | 0.1 | 0.3 | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 | 7 |  | 8 | 0.2 | 0.1 | 0.3 |
| ccloous, Oust | 12 | 13 | 25 | 0. | 0.4 | 3 | 4 | 7 | 0. | 0.1 | 0.2 | 3 | 0 | 3 | 0.1 | 0.0 | 0.1 | 4 | 0 | 4 | 0.1 | 0.0 | 0.1 |
| Glaselicic mo. | 218. | 0 | 348 | 9.3 | 0.09 .9 | 58 |  | 58 | 1.5 | 0.0 | 1.8 | 58 | 0 | 58 | 1.7 | 0.0 | 1.8 | 78 | 0 | 78 | 2.4 | 0.0 | 2.4 |
| 2. Psydeliona | 38 | 12 | 48 | 1.2 | 0.31 .5 | 11. | 0 | 11 | 0.3 | 0.0 | 0.3 | 9 | 0 | 9 | 0.3 | 0.0 | 8.3 | 8 | 0 | $\sigma$ | 0.3 | 0.0 | 0.3 |
| 4 Ulaknoun | 6891 | 0 | 689 | 21.5 | 0.021 .5 | 177 | 0 | 177 | 5.5 | 0.0 | 5.5 | 126 | 0 | 136 | 3.9 | 0.0 | 3.9 | 113 | 0 | 113 | 3.5 | 0.0 | 3,5 |
| , | 118 | 35 | 147 | 3,5 | 1.14 .6 | 28 | 0 | 38 | 0.9 | 1.0 | 0.9 | 25 | 0 | 25 | 0.8 | 0.0 | 0.8 | 43 | 0 | 43 | 1.3 | 0. | 1.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 23 |  |  | 71 | 28.1 | 544 | 229 | 1773 | 17.0 | 7.2 | 2 | 418 | 131 | 549 | 13.1 | 4.1 | 17.2 | 368 | 68 | 436 |  |  | 13.6 |


|  | CPAMGERGGDNG LIRANGE |  |  |  |  |  | REO OR GLINJNG RED |  |  |  |  |  | GREEN OR GLUWING GPEEN |  |  |  |  |  | Light Gum, CoLLR NOT KNOWN |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | sumber |  |  | Per Cent |  |  | Number |  |  | Perciont |  |  | Nunter |  |  | Pectent |  |  | Nunber |  |  | Percest |  |  |
| Evalualion | Certa | Ooubitul | Tobi | Cerain | Doubthl | Tolal | Cenain | Doubtroil | Tolat | Centan | Dovotiv! | Total | Sertain | Doubthu | Total | Cetrain | Doubtit | Total | Cotian | Dosuditu | Total | Certain | Daubtul | Total |
| O-Bation | 18. | 1 | 29 | 0.6 | 0.3 | e. 9 | 16 | 10 | 36 | d. 5 | 0.3 | 0.8 | 3 | 0 | 3 | 0.1 | 0.0 | 0.1 | 15 | 14 | 29 | 0.5 | 0.4 | 0.9 |
| $1 \cdot \mathrm{Astronomic}$ | 49 | 31 | 80 | 1.5 | 1.0 | 2.5 | 164 | 79 | 93 | 2, 0 | 0.9 | 29 | 58 | 99 | 157 | 18 | 3.1 | 4.9 | 48 | 16 | 64 | $1{ }^{1} 5$ | d, 2 | 1.0 |
| 2-AAicriat | 33 | 31 | 64 | 1.0 | 1.0 | 2.0 | 26 | 18 | 44 | 0.8 | 0.6 | 1.4 | 7 | 9 | 16 | 0.2 | 0.3 | 0.5 | 26 | 26 | $\leq 2$ | 1.8 | 1.8 | 1.6 |
|  | 10 | 0 | 10 | 0.31 | 0.0 | 0.3 | 1 | 2 | 3 | 0. | 0.1 | 0.2 | 2 | 0 | 2 | 0. | 0.0 | 0.1 | 4. | 4 | 8 | 0.1 | 0.1 | 0.3 |
| 4 Brids |  | d | 3 | 0.1 | 0.1 | 0.2 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0. | 0.0 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 |
| Sclowds Doust et | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | , | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 2 | 1 | 3 | 0.1 | 0.1 | 0.2 |
| Grinsuptic. into. | 20 | 0 | 20 | 0.6 | 0.0 | 0.6 | 17 | 0 | 17 | 0.5 | 0.0 | 0.5 | 12 | 0 | 12 | 0.4 | 00 | 0.4 | 35 | 0 | 25 | 0.8 | 0.0 | 0.7 |
| IP Psycratopial |  | 0 | 7 | 0.3 | 0.0 | 0.3 | 3 | 0 | 3 | 0.1 | 1.0 | 0.1 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | - | 1 | 0.1 | 0.0 | 0.1 |
| IB Unknoum | 66 | 0 | 66 | 2.1 | 0.0 | 2.1 | 51 | 0 | 51 | 1.6 | 0.0 | 1.6 | 30 | 0 | 30 | 0.9 | 00 | 0.9 | 31 | 0 | 31 | 1.0 | 0.0 | 1.0 |
| s-omer | 18 | 0 | 18 | 0.6 | 0.0 | Q6 | 15 | 0 | 15 | 0.5 | 0.0 | 0.5 | 4 | 0 | 4 | 0.1 | 0.0 | 0.1 | 5 | 0 | 5 | 0.2 | 0.0 | 0.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 219 | 74 | 2 | 7.1 | 2.3 | 9.3 | 193 | 60 | 253 | 6.0 | 1.9 | 7.9 | 116 | 105 | 224 | 3.6 | 34 | 7.0 | 157 | 62 | 219 | 4.9 | 1.9 | 6.8 |


| Evaluzitan | YELWN OR GLOWING YELLOW |  |  |  | BLVE OR GLONINS ELVE. |  |  |  |  |  | GLAGA OR GLOWING BLACA |  |  |  |  |  | Light GLow, TNOETEPMingTe Cacep |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Percont |  | Mumber |  |  | Percoril |  |  | Nunter |  |  | Per Cenl |  |  | Number |  |  | Per cent |  |  |
|  | Cenan Doubthit robi | Ceran! | Doubtor | T061] | Cetam | Doubthi] | Total | Cembin | Doubthol | TYO12 | Certain | Doubthl | Total | Cerain | Doubitul | Tola | Centain | Doubtuy | Total | Certain | Doubtroi] | Total |
| O-Basloon | 16927 | 0.6 | 0.3 | 0.9 | 5 | 1 | 6 | 0.2 | 0.1 | 0.3 | 5 | 7 | 12 | 0.2 | 0.2 | 0.4 | 1 | 0 | 1 | 0.1 | 0.01 | 0.1 |
| 1. Astronomical | 392160 | 1.2 | 0.7 | 1.9 | 48 | 25 | 23 | 15 | 0.8 | 2.3 | 1 | 2. | 3 | 0.1 | 0.1 | 0.2 | 0. | 5 | 5 | 0.0 | 0.3 | 0.2 |
| 1-A.Arcath | 351742 | 0.8 | 0.5 | 1.3 | 10 | 10 | 20 | 1.3 | 0.3 | 0.6 | 12 | 8 | 20 | 0.4 | 0.2 | 4.6 | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 |
| 3.Ligt Pranom. | 72.9 | 0.2 | 0.1 | 2.3 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.1 | 0.1 | 0.2 |
| 4 Buds | 23 | 0.1 | 0.1 | 0.2 | 0 | D | 0 | 0.0 | 0.0 | 0.0 | 0 | 1. | 1 | 0.0 | 0.4 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S.Clouds. Dust enc. | 011 | 0.0 | 0.1 | 0.1 | 0 | 3 | 3 | 0.0 | 0.1 | 0.1 | 0 | 3 | 3 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Inselfic. mo. | 16 O 16 | 0.5 | 0.0 | 0.5 | 4 | 0 | 4 | 0.1 | 0.0 | 0.1 | 10 | 0 | 10 | 0.3 | 0.0 | 0.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| I P Pstmological | 202 | 0.1 | 0.0 | 0.1 | 2 | 2 | 2 | 0.1 | 0.0 | 0.1 | 4 | 0 | 4 | 0.1 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Bunisom | $43-43$ | 1.3 | 0.0 | 1.3 | 34 | 0 | 34 | 1.1 | 0.0 | 1.1 | 12 | 0 | 12 | 0.4 | 0.0 | 0.4 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |
| Yoter | 105 | 0.2 | 0.0 | 0.2 | 2 | 0 | 2 | 0.1 | 0.0 | d. 1 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tola | 156 52218 | 4.91 | 1.6 | 6.31 | 1061 | 39 | 145 | 3.3 | 1.2 | 45 | 46 | 21 | 67 | [4 | 0.7 | 2.11 | 61 | 7 | 13 | 0.21 | 0.1 | 0.4 |


|  | VIOLET OR GMOWING VICLET |  |  |  |  |  | GLOWINE GBAK |  |  |  |  |  | Number |  |  | Percent |  |  | Humbel |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | momber |  |  | Percent |  |  | Munber |  |  | Per Cont |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Evaluation | Cent | Dosobly] | Toilal | Certan | [Douthi]: | Total | Certain | Doubltu | Total | Cetain | Dowitus | Tota | Seftan | Doubtui | Total | Certain | Doublu] | Total | Certain | Dovidtul | Total | Certin | Doubitul | Total |
| Coballion | 0 | 1 | 1 | 00 | 0.1 | 0.1 | 1 | 0 | 1 | 0.11 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Astonomial | 1 | 0 | 1 | 0.1 | 0.01 | 0.1 | 0. | 1 | 1 | 0.0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 12-Ancrat | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 | 1 | 0 | 1 | 0.1 | 10.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3LLgot Prenom, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | e. 0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4.81105 | 0 | 1 | 1 | 0.01 | 10.0 | 0.0 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sclouts, Dost elc. | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | -0 | 0 | 10 | 0.0 | O 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6-mulica nio. | 0 | 0 |  | 00 | - 0.0 | 0.9 | 0 | 0 | 0 | ad | 020 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. P9yctavemial | 0 | 0 | 0 | 0.0 |  | OD | 0. | 0 | 0 | 0.0 | 0.0 | D. 0 |  |  |  |  |  |  |  |  |  |  |  |  |
| Suturom | 1 | 0 | 1 | 0.1 | 0.0: | 0.1 | 4 | 0 | 4 | Q. 1 | - 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| Solver | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 | 0 | 0. | 0 | Q. 0 | 0.0 | 0.6 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toty | 5 | 3. | 8 | 0.3 | 0.11 | 13 | 6 | 2 | 18 | 10.2 | 10.1 | 0.3 |  |  |  |  |  |  |  |  |  |  |  |  |



| Evatuaton | Tot |  |  |  |  |  | WNITE OR GEOMING WHITE |  |  |  |  |  | METAL 12 |  |  |  |  |  | Coler not Stateo |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percont |  |  | Mumber |  |  | Percenl |  |  | number |  |  | Per Cent |  |  | Nunber |  |  | Per Cemt |  |  |
|  | Ceftuin | Doubthe | Total | Centin | Doubthi | 10tal | Cextan | Doultha | Totat | Centan | Dovothil | Total | Centin |  | Total | Centain | Doubimil | Tolal | Cortain | Dowter | Tot | Cerbia | Doubtul | Tota |
| abaltom | 228 | 151 | 372 | 8.9 | 5.9 | 14 | 61 | 50 | 111 | 2.4 | 2.1 | 4.5 | 65 | 32 | 97 | 2.5 | 1.3 | 38 | 28 | 21 | 45 | 1.1 | 0.8 | 1.9 |
| 1-Astonoma | 983 | 256 | 639 | 15.0 | 10.0 | 25.0 | 13 | 67 | 160 | 3.6 | 2.6 | 6.2 | 8 | 9 | 17 | 0.3 | 0.4 | 0.7 | 23 | 16 | 39 | 0.9 | 0.6 | 1.5 |
| 2.Ancinh | 297 | 235 | 527 | 11.4 | 9,2 | 20.6 | 49 | 54 | 103 | 1.9 | 2.1 | 4.0 | 88 | 54 | 142 | 3.4 | 2.1 | 5.5 | 32 | 16 | 48 | 1.3 | 0.6 | d |
| 3-Lugl Phen | 32 | 21 | 53 | $1 / 3$ | 0.8 | 2.1 | 3 | 1 | 11 | f1 | 0.3 | 0.4 | 3 | 4 | 7 | 4.1 | 0.2 | 0.3 | 0 | - | 1 | 0.0 | 0.1 | 0.1 |
| 1 -Bircs | 13 | 10 | 29 | 0,5 | 0.4 | 0.9 | 4 | 2 | 6 | 0.2 | 0.1 | 03 | 3 | 1 | 4 | 0.1 | 0,1 | 0.2 | 4 | 1 | 5 | 0.2 | 0.1 | 0.3 |
| f-Clowes, Dust e | 3 | 7 | 10 | 0.1 | 0.3 | 0.4 | 1 | 3 | 4 | 0.1 | 0.1 | 0.2 | 1 | 0 |  | 0.1 | 0.0 | 0.1 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |
| Ginsufic mb. | 261 | 0 | 261 | 10.2 | 0.0 | 10.2 | 54 | 0 | 54 | 2.1 | 0.0 | 2.1 | 40 | 0 | 40 | 1.6 | 0.0 | 1.6 | 70. | 0 | 70 | 2.7 | 0.0 | 2. |
| 7. Pisctologican | 36 | 9 | 45 | 1.4 | 0.4 | 1.8 | 8 | 2 | 10 | 0,3 | 0.1 | 0.4 | 8 | 1 | 9 | 0.3 | CII | 0.4 | , | 0 | 6 | 0.2 | 0.0 | 0.2 |
| 6 Untaom | 497 | 0 | 497 | 19.5 | 0.0 | 19.5 | 131 | 0 | 131 | 5.1 | 0.0 | 5.1 | 84 | 0 | 8.4 | 3.3 | 0.0 | 3.3 | 71 | 0 | 71 | 28 | 0.0 | 2.8 |
| 90ther | 92 | 28 |  | 3.6 | 1.1 | 4.7 | 19 | 1 | 20 | 0.7 | 0.1 | 0.8 | 15 | 6 | 21 | 0.6 | 02 | 0.8 | 29 | 6 | 35 | 1.1 | 0.2 | 1.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totul | 1537 | 717 | 2554 | 71.9 | 28.1 | 100. | 23 | 187 | 610 | 16.6 | 73 | 23.9 | 315 | 107 | 22 | 12.3 | 4.2 | 16.5 | 264 | 61 | 325 | 103 | 2.4 | 17 |


|  | DRINGE AR GCOWNG DIANGE] |  |  |  |  |  | REP ORGLOWING RED |  |  |  |  |  | GREEN ARGLOWIT GREEN |  |  |  |  |  | 164T Gfow, Colernertwewn |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percent |  |  | Nunber |  |  | per Cent |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percant |  |  |
| Evalualion | Cotrin | Doustou] | Toba | ain | Doubtul | Total | Certain | Dosottou | Total | tsin | [Doubtrul] | ota | Eetbin | Dovidruy | Tot | entain | Doubttul | Total | Certain | Doutita | Tota | Centrin | Daubtai |  |
| --Barloon | 16 | 10 | 26 |  | 0.4 | 1.0 |  | 10 | 23 | 0.5 | 0.4 | 8 | 3 | 0 | 3 | a) | 0. | 0.1 | 14 |  | 24 | 0.5 |  | 0.9 |
| 1-Astronalic | HP | 28 | 68 | 16 | 1. | 2.7 | 50 | 21 |  | 2.0 | 0.8 | 2.8 | 52 | 20 | 122 | 2.0 | 2.7 | 4.7 | 32 | 9 | 46 | 2. |  | 1.8 |
| 2-Aircaft | 22 | 26 | 48 | 0.9 | 1.0 | 1.9 | 23 |  | - | 0.9 | 0.7 | 16 |  | 9 | 1 | 0.3 | 4 | 0.7 | 21 | 25 | 46 | 0. |  | 18 |
| th Phe | 10 | 0 | 10 | c. | , | 0.4 | 1 | 2 | 3 | 0 | 6 | 0.2 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 | - 4 | 2 | 6 | 0.2 |  | 0.3 |
| cts | 2 | 1 | 3 | al | 0.1 |  | 0 | 0 | 0 | 0.0 | 0.0 | . 0 | 0 | 0 | 0 | 2 | 0.0 | $0 D$ | 0 | 1 | 1 | 0.0 |  | 0.1 |
| 5-Clouds , oust | 8 | 0 | 0 |  | 0.1 | 0.0 | 0 | 1 | 1 | 0 | 91 | 0.1 | 0 | 0 | 0 | 0.0 | 0 | D, 1 | 0 | 1 | 1 | 0.0 | 0.1 | 0.8 |
| suthic, mio. |  | < | 18 | 0. | 0.0 | 0.7 | 8 | 0 | $\underline{1}$ | 0.7 | Q D | 0.7 | 9. | 0 | 9 | 0.4 | 0.0 | 0.4 | 24 | 0 | 24 | 0.9 | 0.0 | 0.9 |
| chiologic |  | 3 | 8 | 0.2 | 01 | 0.3 | 3 | 0 | 3 | 1 | 0.0 |  | 0 | 0 | 0 | , | 0 | 0.0 | 0 | Q | 1 | 0.0 | 0.1 | 0.1 |
| Hoay | 55 | V | 55 |  | 0.0 | 2.2 | 35 | 0 | 35 | 1.4 | 0.0 | - | 19 | 0 | 19 | 0.7 | . 0 | 0.7 | 24 | 0 | 24 | 0.9 | 0.0 | 0.9 |
| 9 -ther | 9 | $\square$ | 1 | 0.4 | 0.3 | 0.7 | 7 | 2 | 9 | 03 | 0.1 | 0.4 | 3 | 1 | 4 | 0.1 | 01 | 0.1 | 5 | 0 | - | 0.2 | 0.8 | 0.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| roud | 177 | 76 | 253 | 6.9 | 3.0 | 9.9 | 150 | 53 | 20 | 5.9 | 2.1 | 7.9 | 95 | 80 | 17 | 3.7 | 3.1 | 6.9 | 129 | 4 |  | 5.1 | 9 | 7.0 |


| Evaluation | YeLCW AR GEPWUR TEURW |  |  |  |  |  | BLUE AR GYOWNG BEUE |  |  |  |  |  | BLACH SR GYEWING DSACK |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per cent |  |  | Number |  |  | Pectent |  |  |  |  |  |  |  |  | Humber |  |  | Per cent |  |  |
|  | Certain | Doubtel | Tobt | Certain | Dosobtal | Total | Certain | Dousthil | Total | Certim | Doubthil | Tota | Certbin | Doustull | Tolal | Centin | Doubthal | Total | Cerrain | Doutituy | Total | Cetbit | Doubtul | Total |
| O-Balloon | 17 | 9 | 26 | 0.7 | 0.4 | 1.1 | 4 | 1 | 5 | 0.2 | 0.1 | 0.3 | 5 | 7 | 12 | 0.2 | 0.3 | 0.5 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |
| 1.Astronomical | 34 | 17 | 51 | 1.3 | 0.7 | 2.0 | 44 | 16 | 60 | 1.7 | 0.6 | 2.3 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 | 0 | 2 | 2 | 0.0 | 0.1 | 0.1 |
| 2-Aitrath | 22 | 16 | 38 | 0.9 | 0.6 | 1.5 | 10 | 9 | 19 | 0.4 | 0.4 | 0.8 | 12 | 7 | 19 | 0.5 | 0.3 | 0.8 | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 |
| 3-LLegt Phenom. | 7 | 2 | 9 | 0.3 | 6.1 | 0.4 | 1 | 0 | 1 | 0.11 | $0 \cdot 0$ | 0.1 | 0 | C | 0 | 0,0 | 00 | 0.0 | 1 | 1 | 2 | 0.1 | 0.1 | 0.2 |
| 4 - ${ }^{\text {coses }}$ | 0 | 2 | 2 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | C. 0 | 0 | 1 | 1 | 00 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| ScCiouds Wust etc. | 0 | 1 | L | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | O. 0. | 0.0 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nsithc, mb. | 15 | 0 | 15 | 0.6 | 0.0 | 0.6 | 3 | 0 | 3 | 0.1 | 02 | 0.1 | 10 | 0 | 10 | C. 4 | COL | 0.4 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psycrological | 2 | 0 | 2 | 0.1 | 0.01 | a. | 1 | 1 | 2 | 0.1 | 61 | 0.2 | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 | $\checkmark$ | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 -Unksown | 36 | $c$ | 36 | 1.4 | 0.0 | 1.4 | 29 | 0 | 29 | 1.1 | 0.0 | 1.1 | 9 | 0 | 9 | 0.4 | 0.0 | 0.4 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |
| 9 9-0ther | 3 | 2 | 5 | 6.1 | 0.1 | 02 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 | 0 | 2 | 2 | 0.0 | 0.1 | 0.7 | C | 0 | 0 | 00 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 136 | 49 | 185 | 5.3 | 1.9 | 7.2 | 94 | 27 | 121 | 3.71 | 1.1 | 4.7 | 40 | 19 | 59 | 1.6 | 0.7 | 2.3 | 6 | 4 | 10 | 0,2 | 0.2 | 0.4 |


|  | VIOLET CRGLOWUNGVEL |  |  |  |  |  | GEOWINS GRAY |  |  |  |  |  |  |  |  | Per Cenl |  |  | Munber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percmit |  |  | Number |  |  | Petcent |  |  |  |  |  | Per Cent |  |  |  |
| Evaluation | Coman | Doobth! | Tolal | Certain | Doubithij | Tobl | Certain | Doublitul | Total | Certion | Docotitul | Total | Cerian ${ }^{\text {Number }}$ |  | Total |  |  |  | Certain | [Doubitivi] | Total | Certain | Doutitul | Total | Cetbin | Doubtul | Total |
| a- Ealloon | $C$ | $\angle$ | 1 | 0.9 | 0.1 | 0.1 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astionomical | 1 | 0 | 1 | 61 | 0.01 | 0.1 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Ancratt | 2 | 1 | 3 | 0.1 | C. 1 | 0.2 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 LLatt Phenom. | $C$ | 0 | 0 | 0.0 | 0.0 | 0.0 | $\bigcirc$ | 1 | 1 | 0.0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 -1ines | $C$ | 1 | 1 | 0.0 | 0.1 | 0.1 | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Cloods, Dust elc | $C$ | 0 | 2 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| G-1asulic Mr. | $C$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7-Pryctoogal | C | 0 | 0 | 0.0 | 0 C | 00 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| C.Unkroum | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| Sovier | 0 | $E$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 2.0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toter | 4 | 3 | 7 | 0.2 | 0.1 | 0.3 | 4 | 2 | 6 | 0.2 | 0.11 | 0.71 |  |  |  |  |  |  |  |  |  |  |  |  |



|  | CEANGE IR GMWUNGLRANGE |  |  |  |  |  | AER RR GLUNTG RIED |  |  |  |  |  | REEN OR GLOWING GREEN |  |  |  |  |  | LIGHT GLOW COLOR NOT WNOWA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Per Ceml |  |  | mumber |  |  | PaCat |  |  | Mumber |  |  | Per Coml |  |  | Wonber |  |  | Petcant |  |  |
| Evaluation | Ceran | Doubtuol | Total | Certan | Doathol | Tobl | Certan | Dasethol | Total | Certion | Doubsher | Tota | rain | Doubtiol | Tobi | Centrin | Doutitul | Tota | Certin | Dowith | Total | certiol | Doubtiod |  |
| O-ayllon | 15 | 16 |  | 6.7 | 05 | 1.2 | 13 | 9 | 22 | $\underline{6} .6$ | 4 | 1.0 | 3 | 0 | 3 | 0 | 0.0 | 0.1 | 14 | 8 | 22 | 0.6 | 0.4 | , |
| 1-Astromaci | 36 | 25 | 55 | 1.4 | , | 2.5 | 38 | 16 | 54 | 1.7 | 0.7 | 2.4 | 43 | 55 | 8 | 2.0 | 2.5 | 45 | 2 | 9 | 34 | 1.1 | 0. 4 | , 5 |
| 2-Aircam |  | 22 | $4 C$ | 0.8 | 1.0 |  | 22 | 14 | - | 1.0 | 0.6 |  | 7 | 7 | 14 | 0.3 | 0.3 | 0.6 | 18 | 22 | 40 | 0.8 | , | , 8 |
| $3-\mathrm{Light}$ | 10 |  | 1 | 1.5 | 0.0 |  | 1 | 2 | 3 | 0.1 | 6.1 | 0.7 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 | 4 | 2. | 6 | 0.2 | 01 | 0.3 |
| 4 - Brict | 1 |  | 2 | l. 1 | 6.1 |  | 0 | 0 | 0 | 0.0 | 0.0 |  | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 |  | 0.0 | 0.1 | 0.1 |
| 5-clouns 0 |  | $\varepsilon$ | 0 | 6. | 1.0 | 0.0 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | , | 0.0 | 0.0 | 0 |  | 1 | 0.0 | 0.1 | 0.1 |
| Gmaytic mic | 17 | 5 | 17 | 6.8 | 0.0 | 0.8 |  |  | 2 | 0,8 | 0.0 | 0 | 9 | 0 | 9 | 0.4 | 0.0 | 0.4 | 21 | 0 | 21 | 1.0 | 0.0 | 1.0 |
| ydongie | 4 | 3 | 7 | 0 | 0.1 | 0. | 3 | 0 | 3 | Q. 1 | 00 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 1 | 1 | 0.0 | 0.1 | 0.1 |
| A-undoun | 49 | E | 49 | 2.2 | 0.0 |  | 33 | 0 | 33 | 1.5 | 0.0 | 1.5 | 14 | 0 | 14 | 0.6 | 0.0 | 0.6 | 21 | 0 | 21 | 1.0 | 0.0 | 1.0 |
| 9 Preet | 9 | 7 | 16 | 0.4 | 0.3 | 0. | 7 | 2 | 9 | 0.3 | 0.1 | 04 | 3 | I | 4 | 0.1 | 0.1 | 0.2 | 5 | 0 | 5 | 0.2 | 0.0 | 0. |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | (15) | 68 | 221 | 7.0 | 3.1 | 10 | 135 | 44 | 179 | 6.1 | 2.0 | 8.1 | 81 | 63 | 144 | 3.7 | 2.9 | 6,5 | 108 | 44 | 152 | 4.9 | 2.0 | 6.9 |


| Evalusion | WELOW OR CLOWING ELLOW |  |  |  |  |  | BUERE GLQWINS RLVE |  |  |  |  |  | BLACR ORGLDWINE BLACK |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | PaCmo |  |  | muber |  |  | Putent |  |  | mumber. |  |  | Pes cont |  |  | munber |  |  | Percmit - |  |  |
|  | Cembin | Doubtal | Total | Cemtrin | Dastuil | Total | Cetrio | Dodetal | Total | Cattin | Dowibthed | Totai | Certian | Dostetul | Tobal | Centrin | Dosithul |  | Centin | Dosuta | Total | Certion | Davithil |  |
| -ayslom | 16 | 8 | 2 | 0.7 | 14 | 1.1 | 3 | 1 | 4 | Q1 | 0.1 | 0.2 | S | 7 | 12 | 0.2 | 43 | 0.5 | 1 | 0 | 1 | 0.1 | 00 | 0.7 |
| 1-Astonomical | 24 | 14 | 38 | 11 | 0.6 | 1.7 | 28 | 1 | 38 | 1,3 | 0.5 | 1.8 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 12-Aictiath | 22 | 14 | 36 | 1.0 | 0.6 | 1.6 | 8 | 9 | 17 | 0.4 | 0.4 | 0.8 | 12 | 7 | 14 | 0.5 | 0.3 | 0.8 | 2 | 1 | 3 | 0.1 | 0.1 | 0.2 |
|  | \% | 1 | 6 | 0.2 | 0.1 | 0.3 | 1 | 0 | 1 | 0.1 | 00 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 1 | 2 | 0.1 | 0.1 | 0.2 |
| 4 Emints | 0 | 2 | 2 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 00 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| -Cliows Dust t | 0 | , | 1 | 0.0 | 01 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| GE:Asyofice mo. | 14 | 0 | 14 | 0.6 | 0.0 | 0.6 | 3 | 0 | 3 | Q1 | 00 | 0.1 | 10 | 0 | 10 | 0.5 | 00 | 0.5 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| I2Psycholesial | 2 | 0 | 2 | 0.1 |  | 0. 1 |  | 1 | 2 | 0.1 | 0.1 | 0.2 | 3 | 1 | 4 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| B-UAkrom | 31 | 0 | 31 | 1.4 | 0.0 | 1.4 | 26 | 0 | 26 | 1.2 | 0.0 | 1.2 | 7 | 0 | 7 | 0.3 | 0.0 | 1.3 | 1 | 0 | 1 | 0.1 | Q0 | 0.1 |
| \%other | 3 | 2 | 5 | 0.1 | 0.1 | 0.2 | 2 | 0 | 2 | 0.1 | 0.0 | 0.1 | 0 | 2 | 2 | 0.0 | 0.1 | 0.7 | 0 | 0 | 0 | 0,0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toual | 112 | 42 | 159 | 5.31 | 1.9 | 7,21 | 22 | 21 | 93 | 3.3 | 1.0 | 4.2 | 38 | 191 | 57 | 1.7 | 0.9 | 2.6 | 5 | 2 | 7 | 0.2 | 0.1 | 0.3 |


|  | V10LET OR GLOwING VIRLET |  |  |  |  |  | Glewldg Gray |  |  |  |  |  |  |  |  | Per Cent |  |  | mumber |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Hember |  |  | PaComt |  |  | Humber |  |  | Per cont |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Evaration | Cotrin | [Doubthil | Total | Centan | Doutionit | Total | Certain | Doubtor | Total | Centrin | [Doustur | Total | Eetrain | Doinctur | Total | Cerain | Dowitul | Total | Certain | Doulx ${ }^{\text {a }}$ | Total | Cotsin | Douktor | Tवda |
| '0.8allion | $C$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astionomical | 1 | $c$ | 1 | 01 | 00 | 0.1 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Alcrat | 1 | 1 | 2 | 0.1 | 0.1 | 0.2 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Lut Preman. | 4 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 0.1 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 4-Butas | 6 | 1 | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-clouds, Duss, etc. | $C$ | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| GInsulfic mio. | c | 0 | 0 | QO | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7-Pyyctogion | - C | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | $1: 0$ |  |  |  |  |  |  |  |  |  |  |  |  |
| 2uncom | 1 | 6 | 1 | 0.7 | 00 | 0.7 | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 200mer | $C$ | 0 | 0 | 0.0 | D. 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |
| Toter | 3 | 2 | 5 | 0.1 | 0.1 | 0,2 | 3 | 2 | 5 | 0.71 | 0.1 | 0.2 |  |  |  |  |  |  |  |  |  |  |  |  |

TRKE RGG FKALUATION RE RLL SGKTINGS: FOR RLL SEARS BY

| Evaluthon | dLE YE,QRS |  |  |  |  |  | 1947 |  |  |  |  |  | 1948 |  |  |  |  |  | 1949 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mameer |  |  | Pencot |  |  | Nuntel |  |  | Percont |  |  | Number |  | Total | Percent |  |  | Mumbel |  |  | Pracmt |  |  |
|  | Cortan | Doaubtiol | Total | Certan | Doubtul | Total | Certun | Doubtisis | Totis | Cetan | [Dositiv] | Total |  |  | Cerrain | Dountiou | Toux | Centain | Dowbtion | Total | Corain | Dowbor | Tota |
| O-Balloon | 228 | 147 | 375 | 95 | 6.1 | 15.6 | 5 | 0 | 5 | 7.0 | 0.0 | 7.0 | 15 | 19 |  | 34 | 9.0 | 11.4 | 20 | 14 | 5 | $\rightarrow$ | 4.3 | 1.5 | 5.8 |
| 1-Astorosmial | 436. | $3 / 1$ | 747 | 18.1 | 12.9 | 31.0 | 29 | 6 | 35 | 40.8 | 8.4 | $\times 9.2$ | 34 | 34 | 68 | $2 C 3$ | 20.3 | 406 | 64 | 128 | 192 | 19.7 | 39.4 | 59. |
| 1-AIncram | 227 | 197 | $4{ }^{4}$ | 9.4 | 8.2 | 17.6 | 0 | 2 | 2 | 0.0. | 2.8 | 2.8 | 9 | 5 | 14 | 5.4 | 3.0 | B. 4 | 28 | 12 | 40 | 8.6 | 3.7 |  |
|  | 19 | 11 | 30 | 0.8 | 0.5 | 1.3 | 2 | 0 | 2 | 2.8 | 0.0 | 2.8 | , | 1 | 2 | 0.6 | 0.6 | 1.2 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| - Buas | 1 | 1 | 2 | 0.1 | 0.1 | 0.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.6 | 0.6 | 1.2 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |
| Sclowds, Doust elc | 9 | 12 | 21 | 0.4 | 0.5 | 0.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 |
| $G$ Gmufic mo. | 215 | $\bigcirc$ | 215 | 8.9 | 0.0 | 8.9 | 5 | 0 | 5 | 7.0 | 0.0 | 7.0 | 16 | 0 | 16 | 9.6 | 0.0 | 8.6 | 22 | 0 | 22 | 6.8 | 0.0 | 6.8 |
|  | 34 | 0 | 34 | 1.4 | 0.0 | 1.4 | 2 | 0 | 2 | 2.8 | 0.0 | 2.8 | 0 | a | - | 0.0 | 0.0 | 0.0 | , | 0 | 1 | 0.3 | 0.0 | 0.3 |
| 4 Ondeosm | 463 | 0 | $\underline{4}$ | 19.2 | 00 | 19.2 | 12 | $\bigcirc$ | 12 | 16.9 | 0.0 | 16.9 | 23 | 0 | 23 | 13.8 | 0.0 | 128 | 40 | 0 | 40 | 12.3 | 0.0 | 12.3 |
| Former | 99 | 0 | 99 | 4.1 | 0.0 | 4.1 | 8. | 0 | 8 | 11.3 | 0.0 | 11.3 | 8 | 0 | 8 | 48 | 0.0 | 48 | 10 | 0 | 10 | 3.1 | 0.0 | 3. |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1731 | 679 | 2410 | 71.8 | 28.2 | 100. | 63 | 8 | 71 | 188.7 | $1 / 1.3$ | 100 | 107 | 60 | 167 | 64.1 | 35.9 | 100 | 179 | 145 | 324 | 55.3 | 44.7 | 100 |



TABLE AGY EVALUATION AE ALL SIGATINGS FOR ALL UEARS


| Evaution | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1852 |  |  |  |  |  | Munber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Per Cort |  |  | Aumber |  |  | Per Cort |  |  | Nunber |  |  | Per Cent |  |  |  |  |  | Pert cent |  |  |
|  | Certain | Doobitul | Total | Cetan | Doustou | Total | Certain | Douthor | Tota | Cetrin | Dabituld | Toly | Sentin | Dastifal | Tolal | Certain | Doublibl | Total | Certain | Doultki | Tobl | Catain | Douthtui | Tलवत |
| Q-altion | 1 | 0 | 1 | 5.3 | 0.0 | 5.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 18 | 20 | 38 | 8.7 | 9.7 | 18.4 |  |  |  |  |  |  |
| 1.Astronomical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 6 | 8 | 1.0 | 2.9 | 3.9 |  |  |  |  |  |  |
| 2. Aircatt | 6 | 1 | 7 | 31.6 | 5.3 | 36.9 | 0 | 0 | $\bigcirc$ | 00 | 00 | 0.0 | 41 | 38 | 79 | 19.8 | 18.4 | 38.2 |  |  |  |  |  |  |
| 3 Lidit Pheron. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 3 | 2 | 5 | 1.4 | 10 | 24 |  |  |  |  |  |  |
| 4 - Bids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |
| 3 SClouds, Dust enc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 90 | 0.0 | 0.0 | 2 | 1 | 3 | 10 | 0.5 | 1.5 |  |  |  |  |  |  |
| Gmantic min. | 1 | 0 | 1 | 5.3 | 00 | 5.3 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 18 | 0 | 18 | 8.7 | 0.0 | 8.7 |  |  |  |  |  |  |
| 1-Pyparalojor | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 4 | 0 | 4 | 1.9 | 0.0 | 1.9 |  |  |  |  |  |  |
| 2unkom | 9 | 0 | 9 | 47.4 | 0.0 | 47.4 | 4 | 0 | 4 | 800 | Q0 | 800 | 45 | 0 | 45 | 21.7 | 0.0 | 21.7 |  |  |  |  |  |  |
| Potre | 1 | 0 | 1 | 5.3 | 00 | 5.3 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 7 | 0 | 7 | 3.4 | 0.0 | 3.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 18 | / | 19 | 947 | 5.3 | 100. | 5 | 0 | 5 | 100.9 | 0.0 | 100. | 140 | 67 | 207 | 67.6 | 32.4 | 100. |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Peteme |  |  | Mumber |  |  | PaCmt |  |  | Mumbet |  |  | Paccemt |  |  | nums |  |  | Pectant |  |  |
| Evaluation | cram | Dacothu | Tobil | eman |  | 10131 | Ceramin | Doubtul | Toter | Cettion |  | Total | Cetain | Davibut | Total | Cettin | Doobetal | Toan | Cention | Dostru | Tom | Centim | Doatk | Tod |
| O-Bayloan | 2 | 0 | 2 | 11 | 0.0 | 11 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 11 | 10 | 21 | 4.4 | 4.0 | 8.4 |  |  |  |  |  |  |
| $1 \cdot \mathrm{~A}$ Stomamial | 0 | 0 | 0 | 120 | al | a0 | 2 | 3 | 5 | 182 | 273 | 45.5 | 3 | 7 | 10 | 12 | 28 | 4.0 |  |  |  |  |  |  |
| 2.Anicart | 11 | 1 | 12 | 39.3 | 3.6 | 42.4 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 50 | 28 | 78 | 19.8 | U1, | 30.9 |  |  |  |  |  |  |
| 3.Lipin Pmoxa | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 4 | 6 | 10 | 16 | 2.4 | 40 |  |  |  |  |  |  |
| 48 mos | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 5 | 10 | 1.0 | 2.0 | 4.0 |  |  |  |  |  |  |
| S-Clouss Dust ete | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | O | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Granelicic. mio. | 4 | 0 | 4 | 14.3 | 0.0 | 14.3 | 1 | 0. | 1 | 9.1 | 0.0 | 9.1 | 23 | 0 | 23 | 9.1 | 0.0 | 21 |  |  |  |  |  |  |
| 2.PPspatalogiar | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | Q. 0 | 00 | 0 | 3 | 3 | 0.0 | 12. | 1.2 |  |  |  |  |  |  |
|  | 8 | 0 | 8 | 28.6 | 0.0 | 28.6 | 3 | $\bigcirc$ | 3 | 273 | 0.0 | 21.3 | 81 | 0 | 81 | 32.1 | 0.0 | 12, |  |  |  |  |  |  |
| 200em | , | , | 2 | 36 | 3.6 | 72 | 1 | 0 | 1 | 91 | 0.0 | 9.1 | 15 | 1 | 16 | 5.9 | 0.4 | 6.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toal | 26 | 2 | 28 | 41.9 | 7.1 | 100 | 8 | 3 | 11 | 12.7 | 273 | 100. | 192 | 60 | 252 | 16.2 | 23.8 | 100. |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Numbei |  |  | Pacmo |  |  | Aumer |  |  | Pacama |  |  | Number |  |  | Peticent |  |  |  |  |  |  |  |  |
| Evalution | Cotrin | Doubtan | Tobl | Cetan | Doubthi | 061 | Cetain | Doubtuil | Obla | ctain | Doasthed | Total | Cetran | Dosibual | Total | canio | Doubtol | Total | Cetain |  | Total | Cebin | Doubtur | Todel |
| aballem | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | O | 0.0 | 0.0 | 0. | 1 | 1 | 2 | 1.7 | 1.7 | 39 |  |  |  |  |  |  |
| 12.asionemal | 1 | 0 | , | 50.0 | 0.0 | 50.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 3 | 9 | 16.3 | 52 | 15.5 |  |  |  |  |  |  |
| 2-Ancat | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 5 | 7 | 3.4 | 8.6 | 12.0 |  |  |  |  |  |  |
| 3 Liot Preme | 0 | 0 | 0 | 0.0 | Qo | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 5.2 | 0.0 | 5.2 |  |  |  |  |  |  |
| 6 - 6 ind | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 20. | 200 | 2 | 0 | 2 | 3.4 | e. 0 | 3.4 |  |  |  |  |  |  |
| 5 clouss. Ouss tec | 0 | O | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Gtinumic mbe. | 01 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 1 | 200 | 0.0 | 20.0 | 4 | 0 | 4 | 69 | 0.0 | 6.8 |  |  |  |  |  |  |
| 7.fyymopioal | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |
| 3 Buncom | 7 | 0 | 1 | 50.0 | 0.0 | 500 | 2 | 0 | $z$ | 4 ag | 0.0 | 40.0 | 28 | 0 | 28 | 48.3 | 0.0 | 48.3 |  |  |  |  |  |  |
| Some | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 20.0 | 0.0 | 200 | 2 | -1 | 3 | 3.4 | 1.7 | 5.1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tom | 2 | 0 | 2 | 1000 |  | 104 | 4 | 1 | 5 | 80.0 | 20.0 | 100. | 48 | 10 | 58 | 82.8 | 2 |  |  |  |  |  |  |  |



| Evaluation | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  |  |  |  | Mumber |  |  | Pacme |  |  | Aumber |  |  | Pex Cont |  |  | Mimber |  |  | Percomt |  |  |
|  |  |  |  | cerain | Dasther | Total | Combin | Oexilfitu | Tolat | Eentio | Dowothal | Tobal | Cent | Doubtul | Total | Cerain | Doultay | Tota | Cenain |  | Tola |
| O-Baloon | 0 | 0 | 0 |  |  |  | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 1 | 4 | 7.0 | 2.3 | 9.3 |  |  |  |  |  |  |
| 1-Astomatica | 2 | 0 | 2 | 66.7 | 0.0 | 66.7 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 9 | 0 | 9 | 20.9 | 0.0 | 20.9 |  |  |  |  |  |  |
| 2-Aicrath | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 33.3 | 333 | 4 | 3 | 7 | 9.3 | 7.0 | 16.3 |  |  |  |  |  |  |
| 3-Lidt Phena | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 4.7 | 0.0 | 4 |  |  |  |  |  |  |
| 4 Bins | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | . | 6 | 0 | 6 | 14.0 | 0.0 | 14.0 |  |  |  |  |  |  |
| 5 -clowns Oust, tic | 0 | 0 | 0 | 0 | 00 | 0. | 0 | - | 0 | 0.0 | 0.0 | a | , | 0 | 1 | 23 | 0.0 | 2.3 |  |  |  |  |  |  |
| S-hnoflicicint. | 0 | 0 | O | 0.0 | $0 \cdot$ | a | 2 | 0 | 2 | 66.7 | 0.0 | 66.7 | 3 | 0 | 3 | 7.0 | 0.0 | 7.0 |  |  |  |  |  |  |
| גPrytaogical | 0 | 0 | 0 | 00 | $0 \cdot$ | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 2.3 | 0.0 | 2.3 |  |  |  |  |  |  |
| 8Uundom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0. | 9 | 0 | 9 | 20.9 | 0.0 | 20.9 |  |  |  |  |  |  |
| Yorner | 1 | 0 | 1 | 33.3 | 0.0 | 333 | 0 | 0 | $\bigcirc$ | 0.0 | $0 \cdot$ | 0.0 | 1 | 0 | 1 | 2.3 | 0.0 | 2.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 3 | 0 | 3 | read | 0.0 | 100. | 2 | 1 | 3 | 6.7 | 333 | 100. | 39 | 4 | 43 | 90.7 | 9.3 | 100. |  |  |  |  |  |  |



|  | 1850 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cenl |  |  | Mumber |  |  | Percent |  |  | Aumber |  |  | Pac cont |  |  | Homber |  |  | Percat |  |  |
| Eviluation | Centrin | Doovithl | Tob1 | Cemain | Doubitul | Tolat | Certa | Doabtivi] | Toba | Certxin | Dowbthu] | Total | Cetrio | Dovobthil | Tomit | Certain | Doustitul | Total | Cortain | DoutituI | Tober | Catein | Dablab | Total |
| Obanloent | 19 | 5 | 24 | 11.0 | 6.9 | 13.9 | 9 | 3 | 12 | 1.7 | 2.6 | 12.3 | 135 | 102 | 131 | 10.7 | 81 | 188 |  |  |  |  |  |  |
| 1-Astionocical | 39 | 18 | 57 | 22.7 | 10.5 | 33.2 | 12 | $\cdots$ | 31 | 17.1 | 2.4 | 16.5 | 222 | 23 | 315 | 176 | 74 | 250 |  |  |  |  |  |  |
| 2-dineat | 18 | 9 | 27 | 10.5 | 5.2 | 15.7 | - | 1 | 22 | 12.8 | 60 | 18.8 | 133 | 132 | 265 | 10.5 | 105 | 21.0 |  |  |  |  |  |  |
| Hidy Prenom. | 2 | 0 | 2 | 00 | 00 | 0.0 | 2 | 1 | 3 | 17 | 0.9 | 2.6 | 14 | 2 | 23 | 11 | 0.7 | 1.8 |  |  |  |  |  |  |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 00 | 0 | 0 | 0 | 20 | 0.0 | 0.0 |  |  |  |  |  |  |
| SClowns, Onst, etc | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 0 | $\rho$ | 0 | 20 | 0.0 | 0.0 | 3 | 7 | 10 | 0.2 | 0.6 | 0.8 |  |  |  |  |  |  |
| Chemeric. mio. | 21 | 0. | 21 | 12.2 | 0.0 | 12.2 | 10 | 0 | 10 | 8.5 | 0.0 | 8.5 | 111 | 0 | 111 | 8.8 | -a0 | 8.8 |  |  |  |  |  |  |
| 7 P Pratologice | 2 | 0. | 2 | $\angle 2$ | 0.0 | 1.2 | 1 | 1 | 2 | 0.9 | 0.9 | 18 | 23 | 2 | 25 | 1.8 | 0.2 | 1.0 |  |  |  |  |  |  |
| Runtom | 34 | 0 | 34 | 128 | 0.0 | 128 | 22 | 0 | 32 | 27.3 | 0.0 | 273 | 227 | 0 | 127 | 18.0 | a0 | 18.0 |  |  |  |  |  |  |
| 90 mm | 2 | 4 | 7 | 47 | 2.3 | 4.0 | 5 | 0 | 5 | 4.3 | 0.0 | 4.3 | 36 | 18 | 50 | 29 | 1.1 | 4.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totel | /36 | 36 | 172 | 79.1 | 20.9 | 100 | 941 | 23 | 117 | 80.4 | 19.6 | 100. | 904 | 359 | 1263 | 71.6 | 28.4 | 100. |  |  |  |  |  |  |



| Evaluation | 1250 |  |  |  |  |  |  |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Pacent |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percent |  |  |  |  |  |  |  |  |
|  | Certan | Doobthu | Total | certan | Doobtimil | TOEX | Cetbia | Doudxin | Tobi | Cetran | Dasobltu] | Tota |  |  |  | Certin | Doubthil | Towd | Catain | Doubtral | Total | Coutain | Docotini | Total |
| O-Balloon | 2 | 0 | 1 | 100 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 16 | 17 | 33 | 9.1 | 9.7 | 18.8 |  |  |  |  |  |  |
| 1-A3IPonomical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 6 | 8 | 41 | 3.4 | 4.5 |  |  |  |  |  |  |
| 2-Aicrat | 4 | 1 | 5 | 40. | 100 | 50.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 32 | 35 | 67 | 183 | 20.0 | 38.3 |  |  |  |  |  |  |
| 3 Ligt Phenom. | 0 | 0 | 0 | 0.0 | 20 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 3 | 2 | 5 | 1.1 | 11 | 2.8 |  |  |  |  |  |  |
| 4.-1uts | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 10.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5 Clouds, Dust elc. | 0 | 1 | 0 | 0.0 | 2.0 | 20 | 2 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |
| Glasufice mio. | L | 0 | 1 | 10.0 | 00 | 10.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 18 | 0 | 18 | 10.3 | 0.0 | 10.3 |  |  |  |  |  |  |
| 7-Psydelogical | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 1 | 4 | 17 | 0.6 | 2.3 |  |  |  |  |  |  |
| 0 Hitrow | 2 | $?$ | 2 | 20.01 | 0.0 | 120.0 | 1 | 0 | 1 | 50.0 | a0 | 20 | 85 | 0 | 35 | 20.0 | 0.0 | 20.0 |  |  |  |  |  |  |
| 5 | 1 | 0 | 1 | 10.0 | 2.0 | 100 | 1 | 0 | $\angle$ | 50.0 | 0.0 | 50.0 | 5 | 0 | 5 | 29 | 0.0 | 2.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9 | , | 10 | 90. | 10.01 | 100 | 2 | 0 | 2 | 1000 | 0.0 | 100. | 114 | 61 | 115 | 65.2 | 34.8 | 100. |  |  |  |  |  |  |

TROE A/3 EVALUATIAN OF UNIT SLGHEINGS ECR ALE YEARS BY

| Evaman | mex |  |  | P Pecat |  |  | Nunatel |  | Tobit | Pet Comt |  |  | Number |  |  | Peicmi |  |  | Number |  |  | Pet Cent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Cetran | Doabmil | (101 |  | Dousthi | Total |  |  | Cetman |  | roal | Eeta |  |  |  | Out |  |  |  |  |  |  |
| labsilcon | 14 | 9 | 23 | 49 | 32 | 18. |  | O |  | - | 48 | 0.0 | 48 | $\angle$ |  | 0 | 1 | 41 | 0.0 | 4.1 | 0 | 0 | $\checkmark$ | 0.0 | Q | 00 |
| 1-asionmanal | 5 | 12 | 2 | 18 | 42 | 6.0 | 0 | 0 | O | 00 | 0.0 | $0 \cdot$ | , | 2 | 2 | 0.0 | 18.2 | 182 | 1 | 0 | 1 | 56 | e. | 56 |
| 2:Ancan | 54 | 27 | 81 | 189 | 25 | 28.4 | 1 | 0 |  | 4.8 | $0 \cdot$ | 4.8 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 1 | 3 | 4 | 5.6 | 16.7 | 22.3 |
| 134. | 4 | 8 | 12 | 14 | 2.8 | 412 | 0 | 0 | e | 00 | el | 00 | 0 | 2 | 2 | 1.0 | 18.2 | 18.2 | 0 | 0 | 0 | 0.0 | e. | 08 |
| 4-9ums | 5 | 8 | 13 | 18 | 2.8 | 4.6 | -2 | 0. | Q | 102 | 0.0 | 0.0 | 1 | 2 | 3 | 21 | 18.2 | 273 | 0 |  | 1 | 0. | 5. | 5.6 |
| Sclaves Dost elc | 0 | 2 | 0 | 20. | e 0 | 0. | - | 0 | 0 | 0.0 | 0.0 | 0.0 | e | 0 | 0 | 0.0 | el | 20 | 0 |  | 0 | 0.0 | a 0 | ee |
| Glastica mo. | 39 | 0 | 39 | 13. 1 | 0.0 | 13.7 | 5 | 0 | 5 | 13.8 | 0.0 | 23.5 | 0 | 0 | 0 | 20. | 0.1 | 00 | 6 | 0 | 6 | 135. | 0. | 33. |
| 2.pyercioprax | 1 | 3 |  | 0.4 | 11 | 15 | 0 | 1 | 1 | 8.0 | 4.8 | 48 | 0 | 0 | e | e0 | 0.0 | 0.0 | 1 | 0 | , | 5. | 2. 0 | 5.6 |
| O. 0 matom | 18 | e | 18 | 214 | 0.0 | 214 | 1 | 0 | 1 | 33,3 | 0. | 3 38 | 1 | 0 | , | 21 | 0.0 | 9.1 | 5 |  | 5 | 278 | 0.0 | 278 |
| 90me | 16 | 2 | 18 | 5.6 | 07 | 6.3 | 6 | 0 | 6. | 28.6 | 0.0 | 28,6 | - | 0 | a | 20. | 0.0 | 0.0 | 0 |  |  | 208 | 0. |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 216 | 69 | 285 | 7ヶ8 | 24.2 | 100. | 20 |  | 21. | 95 | 48 | 100 | 5 | 6 |  |  |  |  | 14 | 4 | 18 |  |  |  |


| Evrlution |  |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Minber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number | , |  | pacent |  | Number |  |  | Pacme |  |  | Number |  |  | Paccort |  |  |  |  |  | Percmit |  |  |
|  | Celatim | Dobutal | Tobl | Cention | Oebtul | Tobi | Cerama | Dabtime | blat | Cation | Dambit | Tota | Sentin | Doobtulu | Tout | miain | Dobotrui | Tatal | Cotion | Doubtuo | Told | Cerima | Dasidil | Tola |
| araslom | 2 | 0 | 2 | 21 | 0.0 | 81 | 0 | 0 | - | 20. | 40 | as | 12 | 9. | 19 | 4.9 | 4.4 | 2.3 |  |  |  |  |  |  |
| 1-.Astrommical | 0 | 0 | 0 | co | ed | 00 | , | 2 | 4 | 10.0 | 30.0 | 400 | 3 | 7 | 10 | 1.5 | 3 | 4.9 |  |  |  |  |  |  |
| 2-Aicant | 8 | 1 | 2 | 36.4 | 4.5 | 40.9 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 4 | 25 | 64 | 20.2 | ⒈3 | 31.5 |  |  |  |  |  |  |
| 3.4met Phememe | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 6 | 10 | 2.0 | 3.0 | 5.0 |  |  |  |  |  |  |
|  | 0 | 0 | 0 | a0 | 00 | 0.0 | 0 | 0 | 0 | 00 | d: 0 | 0.0 | 4 | 5 | 4 | 1.0 | 2.5 | 4.5 |  |  |  |  |  |  |
| Sclouds Oust $\mathrm{Mc}_{\text {ce }}$ | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | O | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Gumalic mio. | 4 | 0 | 4 | 18.2 | 0.0 | 182 | 1 | 0 | 1 | 10. | 0.0 | 10.0 | 23 | 0 | 23 | 11.3 | 0.0 | \% 3 |  |  |  |  |  |  |
| T.Psymalosical | 0 | 0 | a | $0 \cdot$ | 0.0 | 0.0 | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 1.0 | 1.0 |  |  |  |  |  |  |
| Sunbow | 5 | 0 | 5 | 22.7 | 0.0 | 21.1 | 3 |  | 3 | 30.0 | 0.0 | 300 | 57 | 0 | 57 | 28.0 | 00 | 28.0 |  |  |  |  |  |  |
| 900 mm | 1 | , | 2 | 45 | 45 | 20 |  | 2 |  | 10.0 | 0.0 | 10.0 | 8 | e | 9 | 3.9 | 0.5 | 4.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toal | 20 | 2 | 22 | 90.9 |  |  | 7 |  |  |  |  |  | 150 | 53 |  |  |  |  |  |  |  |  |  |  |




TWGWE AIS EKALUATION DE UNIT SIGHTINGS FOR ALL YEARS 28

| Eviluston | ALL SIARS |  |  |  |  |  | 1,947 |  |  |  |  |  | 516HTI |  |  |  |  |  |  |  | 9 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Menber |  |  | Per Cent |  |  | Munber |  |  | Per Cont |  |  | Nunber |  |  | Petcent |  |  | Murber |  |  | Per Cent |  |  |
|  | Certan | Doubthy | Total | Cendan | Dovolul | Tobat | Cetrin | Doabitul | Tota | Centin | Dowitho | Total | CEanin | Daibtol | Total | Certain | Doubtiou | Tobl | Cortan | Dowilmu | Tobat | cátin | Dosititul | Total |
| --8allman | 4 |  | 5 | 13 | 18 | 21 | 1 | 0. |  | 250 | 0.0 | 15.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astonomial | 4 |  | 15 | 25.5 | 48 | 27.3 | 1 | 0 | 1 | 250 | 0.0 | 250 | 0 | , | 1 | 0.0 | 25.0 | 25.0 | 2 | 0 | 2 | 286 | 0.0 | 28,6 |
| 2-Altamt | 3 | 4 | 7 | 54 | 73 | 12.7 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | 00 | 0.0 | 00 |
| 3 3Lut Premen. | 2 | , | 3 | 3.6 | 18 | 5.4 | 0 | 0 | 0 | 0.0 | a0 | 0.0 | 0 | 1 | 1 | 00 | 25.0 | 25.0 | 0 | 0 | 0 | 00 | 0.0 | 20 |
| 4. -Birts | 3 | 0 | 3 | 5.4 | 0.0 | 5.4 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5 Clowds, Dust, elc. | 0 | 0 | 0 | 10 | 0.0 | 00 | 0 | 0 | 2 | Q. 0 | 0.0 | 00 | 0 | 0 | 0 | al | 0.0 | 02 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| ${ }^{6}$ masulic mo. | 1 | 0 | 11 | 10.0 | 00 | 20.0 | 2 | 0 | 2 | 500 | 0.0 | 50.0 | 2 | 0 | 2 | 0.0 | 50.0 | 50.0 | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 |
| 7.Psydalogiti | 0 | 1 | 1 | 0.0 | 1.8 | 18 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | -0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 4latnown | 8 | 0 | 8 | 14.5 | 00 | 14.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 42.9 | 0.0 | 42.9 |
| 90 ther | 2 | 0 | 2 | 36 | 0.0 | 3.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | a, | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 47 | 8 | 55 | 55 | 145 | 100 | 4 | 0 | 4 | 1009 | 0.0 | 100 | 2 | 2 | 4 | 50.0 | 50.01 | 100. | 7 | 0 | 7 | 1000 | 0.0 | 100. |


| Evalualion | 1920 |  |  |  |  |  | 1951 |  |  |  |  |  | Mumber |  |  | Per Cent |  |  | Murber |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Paccoil |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Certain | Doubtuil | Total | Centain | Dowithil | Total | Certhia | Doatthil | Tota | Cetria | Doubtual | Total | Cetain | Doubltul | Total | cetain | Doubtifl | Todal | Catrin | Doakimf | Tobal | Cettin | Dositul | Told |
| Q-Balloon | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | $\angle$ | 4 | 8.8 | 2.9 | 11.7 |  |  |  |  |  |  |
| 1-Astronomical | 2 | 0 | 2 | 667 | 0.0 | 4ic. 7 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 9 | 0 | 9 | 265 | 0.0 | 26.5 |  |  |  |  |  |  |
| 2-Aircatt | a | 2 | 1 | 0.0 | 0.0 | 0.1 | 0 | 1 | 1 | 0.0 | 33.3 | 33.3 | 3 | 3. | 6 | 88 | 8.8 | 17.6 |  |  |  |  |  |  |
| 3.Light Phenom. | 3 | 0 | 0 | 0.0 | 0.0 | Q10 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 2 | 0 | 2 | 5.9 | 0.0 | 5.2 |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | $?$ | 8.8 | 0.0 | 8.8 |  |  |  |  |  |  |
| $5-C$ couss, Dust elc. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | -0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| GInsalic. into. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 66.7 | 0.0 | clat | 3 | 0 | 3 | 8.8 | 0.0 | 8.8 |  |  |  |  |  |  |
| 7. Pryenologicas | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 4 | 1 | 00 | 2.9 | 2.9 |  |  |  |  |  |  |
| 8 -Ubluoum | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 0 | 2 | H, | 0.0 | 14.7 |  |  |  |  |  |  |
| $9-0$ her | 1 | 0 | 4 | 33.3 | 0.0 | 33.3 | 0 | 0 | $\theta$ | 0.0 | $0 \cdot$ | 00 | 1 | - 0 | 1 | 2.9 | 0.0 | 2.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toul | 3 | 0 | 3 | 100.0 | 0.0 | 100. | 2 | 1 | 3 | (20.7 | 393 | 100. | 29 | 5 | 34 | 85.3 | 14.7 | 100. |  |  |  |  |  |  |

TAGLE RIE EKALUTION OE OBNECT SIGHTNGS EOR ALS KEARS BQ


|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Nunber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pet Cent |  |  | Number |  |  | $\mathrm{Per} \mathrm{Cosl}$ |  |  | Humber |  |  | Per coml |  |  |  |  |  |  |  |  |
| Evaluation | Certan | Doubthlu | Total | Centan | Douttul | Tolat | Certain | Doantul | Total | Cettio |  | rota | Cetrain | Doobltul | Tobal | Cemain | Dosuthul | rata | Celta | Doubtiul | Tatal | Certin Per Cont |  | Tota |
| 0.8alicon | 18 | 4 | 22 | 129 | 2.9 | 15.8 | 8 | 5 | 11 | 78 | 2.9 | 10.7 | 125 | 90 | 215 | 11.5 | 8.3 | 19.8 |  |  |  |  |  |  |
| 1-A stronomical | 24 | 14 | 38 | 121 | 10.0 | 271 | 15 | 11 | 26 | 14.7 | 10.8 | 255 | 154 | 76 | 230 | 461 | 10 | 21.1 |  |  |  |  |  |  |
| 2-Arciph | 14 | 1 | 21 | 10.0 | 5.0 | 15.0 | 14 | 6 | 20 | 13.7 | 5.9 | 196 | 122 | 118 | 240 | $1 / 2$ | 10.8 | 22.4 |  |  |  |  |  |  |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | -1 | 1 | 2 | 10 | 1.0 | 2.0 | 13 | 6 | 18 | 12 | 06 | 1.8 |  |  |  |  |  |  |
| 4 Bucs | 2 | e | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.4 |  |  |  |  |  |  |
| 5-Cloods. Oust, ets | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 7 | 10 | 0.3 | 0.6 | 0.9 |  |  |  |  |  |  |
| G-Insulic mio. | 21 | 0 | 21 | 15.0 | 0.0 | 15.0 | 10 | 0 | 10 | 9.8 | 0.0 | 2.8 | 103 | 0 | $1{ }^{1} 3$ | 9.5 | 0.0 | 9.5 |  |  |  |  |  |  |
| 1-Psycrological | 2 | 0 | 2 | 14 | 0.0 | 1.4 | 1 | - | 2 | 10 | 10 | 3.0 | 22 | 2 | 24 | 2.0 | 0.2 | 22 |  |  |  |  |  |  |
| 8-Unkosim | 31 | 0 | 31 | 22.1 | 0.0 | 22.1 | 27 | 0 | 27 | 26.5 | 0.0 | 26.5 | 200 | - | 200 | 18.4 | $0 \cdot$ | 18.4 |  |  |  |  |  |  |
| Fotret | 3 | 2 | 5 | 2.1 | 1.4 | 3.5 | 4 | Q | 4 | 3.9 | 0.0 | 3.9 | 36 | 12 | 48 | 3.3 | 11 | 4.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | [13] | 27 | 1410 | 80.1 | 19.3 | 1100. | 80 | 22 | 102 | 178.4 | 21.6 | 100. | 728 | 311 | 1089 | 11.4 | 28.6 | 100. |  |  |  |  |  |  |



| Eviluabon | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Nunter |  |  | Per Cent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | muber |  |  | Percom |  |  | Mumber |  |  | Percent |  |  | Nunber |  |  | Per Cent |  |  |  |  |  |  |  |  |
|  | Certan | Dowbitul | Total | Cellan! | Doubthi | Total | Certan | Dosibin | Total | Centain | Douidtul] | Totá | Eentin | Dovatur | Total | Certain | Doubtiful | Total | Certain | Doubtfil | Totit | Certain Dowtrui |  | Trat |
| O-Basloon | 1 | 0 | \% | 100 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 14 | 14 | 28 | 20 | 8.0 | 180 |  |  |  |  |  |  |
| 1-Astrenomical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 6 | 8 | 13 | 39 | 52 |  |  |  |  |  |  |
| 2.Ancliat | 4 | 1 | 5 | 40.0 | 10.0 | 50.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 30 | 28 | 58 | 194 | 18.1 | 375 |  |  |  |  |  |  |
| 3 lubt Phenom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 2 | 5 | 19 | 1.3 | 32 |  |  |  |  |  |  |
| 4 -8irds | 0 | 0 | 0. | 0.9 | 0.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |  |  |  |  |  |  |
| 5 Clowods, Dust, itc | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Gnnsulic mio. | 1 | 0 | 1 | 0.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 17 | 0 | 17 | 11.0 | 0.0 | 11.0 |  |  |  |  |  |  |
| 7.Psytulogral | 0 | 0 | 0 | el | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 3. | 1 | 4 | 1.9 | 0.6 | 2.5 |  |  |  |  |  |  |
| 4 Unksome | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 1 | 0 | 1 | 50.0 | 0.0 | 50.0 | 31 | 0 | 31 | 200 | 0.0 | 20.0 |  |  |  |  |  |  |
| Solm | 1 | 0 | 1 | i0.0 | 0.0 | 10.0 | $\angle$ | 0 | L | 50.0 | 0.0 | 50.0 | 4 | 0. | 4 | 2.6 | 0.0 | 2.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toted | 9 | 1 | 10 | 98.0 | 10.0 | ven | 2 | 0 | 2 | 1en:0 | 0.01 | 100 | 104 | 51 | 155 | 1671 | 52.9 | 100. |  |  |  |  |  |  |



| Evalualion | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Munber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pex cemt |  |  | Numbe! |  |  | PrCort |  |  | Nunter |  |  | Percent |  |  |  |  |  | Percont |  |  |
|  | Certain | Dovoltul | Total | Certan | Dovilitil | Tolal | Cerian | Doobthil | Totan | Centin | Dabitiol | Tola | Centain | Dovbltul | Tolal | Certain | Doubthil | Total | Centain | Doiblitu | Tota | Certain | Dowitiv1 | Tota |
| 0-8axilom | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 1 | 13 | 3.2 | 3.8 | 7.0 |  |  |  |  |  |  |
| 1-Astronamical | a | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | 10.0 | 30.0 | 40.0 | 3 | 7 | 10 | 1.6 | 3.8 | 5.4 |  |  |  |  |  |  |
| 2-Aimath | 4 | 1 | 5 | 250 | 63 | 31.3 | 1 | 0. | 1 | 10.0 | 0.0 | 12.0 | 37 | 23 | 60 | 20.0 | 12.4 | 33.4 |  |  |  |  |  |  |
| 13.LTmit Pherom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 4 | 6 | 10 | 2.2 | 3.2 | 5.4 |  |  |  |  |  |  |
| 4 Brids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | Q.e | 0.0 | 4 | 5 | 9 | 2.2 | 2.7 | 4.7 |  |  |  |  |  |  |
| S-Clouds, Dust ecc: | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 2.0 | Qe | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| GInsitice ins. | 2 | 0 | 2 | 12.5 | 0.0 | 2.5 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 21 | 0 | 21 | 11.3 | 0.0 | 11.3 |  |  |  |  |  |  |
| 17.Psychologieal | 0. | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 4 | 1.1 |  |  |  |  |  |  |
| Is inakom | 5 | 0 | 5 | 31.2 | 0.0 | 31.2 | 3 | 0 | 3 | 30.0 | 0.0 | 30.0 | 51 | 0 | 51. | 215 | 0.0 | 275 |  |  |  |  |  |  |
| Yother | 1 | 1 | 2 | 6.3 | 6.3 | 12.6 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 8 | 1 | 9 | 4.3 | 0.5 | 4.8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 14 | 2 | 16 | 875 | 12.5 | 100. | 7 | 3 | 10 | 1ad | 30.0 | 100 | 134 | 51 | 185 | 71.5 | 215 | 100. |  |  |  |  |  |  |


|  | T88LE- 279 |  |  |  | EVRLUATION |  |  |  | OF OBJECT |  |  |  | SGHTINGS |  |  |  | Eed |  | ALL |  | YEARS |  | Q8 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | NUM | BEL |  | OF |  | ABUE | ers | PER |  | 5164 | ING |  | EL | EVE |  |  | Moe | E | Q1 | crs |
|  | Toral |  |  |  |  |  | 1947 |  |  |  |  |  | 1948 |  |  |  |  |  | 1849 |  |  |  |  |  |
|  | Mumber |  |  | Per cent |  |  | Mumber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  | Mumber |  |  | Per Cont |  |  |
| Evaluation ${ }^{\text {a }}$ | Certain | Doubthl | Totata | Certain | Doodtbl | tal | Centrin | DasituI | Tobl | Certain | Dowith | Total | Certain | Daubthil | Total | Certain | Dovobtol | Toxal | Cetain | Dowithy | Total | Certain | Daubitul | Total |
| C-Balimen |  | 1 | 2 | 1.5 | 1.5 | 30 | 0 | 0 | 0 | 0.0 | a0 | 0.0 | 0 | 2. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomical | 4 | 3 | 1 | 6.1 | 45 | 10.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 25.0 | 15.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aicliaft | 2 | 6 | 8 | 30 | 21 | 12.1 | 0 | 0 | 0 | 0.0 | 0.0 | ae | 1 | 0 | 1 | 25.0 | 0.0 | 25.0 | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 |
| 3-Lignt Pharom. | 3 | 0 | 3. | 4.5 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 3 | , | 4 | 4.5 | 1.5 | 6.0 | 0 | 0 | 0 | 0.0 | 0.0 | ar | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 25.0 | 0.0 | 250 |
| 5-Clous, Dust, et | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nsultic, tio. | 8 | 0 | 8 | 12.1 | 0.0 | 12.1 | 0 | 0 | P | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 25.0 | $0 \dot{0}$ | 250 | 2 | 0 | 2 | 15.0 | no | 250 |
| 7.Psycmological | 3 | 1 | 4 | 4.5 | 15 | 6.0 | 1 | 1 | 2 | 16.7 | 16.7 | 33.4 | 1 | 0 | 1 | 25.0 | al | 25.0 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 |
| 8 Unkxom | 25 | 0 | 25 | 31.9 | 0.0 | 37.9 | 4 | 0 | 4 | 16. 7 | 0.0 | W. 7 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 12.5 | 00 | 12.5 |
| 9-Other | 4 | 1 | 5 | 6.1 | (5) | 2.6 | 2 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | / | 0 | $\angle$ | 12.5 | 0.0 | 12.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 53 | 13 | 66 | 80.3 | 19.7 | 100. | 5 | 1 | 6 | 83.3 | 16.7 | 100. | 3 | 1 | 4 | 75.0 | 25.0 | 100 | 7 | 1 | 8 | 87.5 | 12,5 | 100. |


| Eraualion | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | minber |  |  | Per Cort |  |  | Number |  |  | Pet Comt |  |  | Number |  |  | Per Cent |  |  |  |  |  | Per Cont |  |  |
|  | Certan | Dovitui] | Total | Centan | Dowethl | Total | Certain | Doubtwil | Total | Centain | Doubtural | Told | Cention | Doubtul | Total | Certain | Doubthil | Total | Certain | Dowlthil | Toted | Certain | Doubtul | Total |
| O-Ballion | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | 1 | 2 | 2.4 | 2.4 | 4.8 |  |  |  |  |  |  |
| 1-Astrommal | 1 | 0 | 1 | 27.0 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 2 | 5 | 2.3 | 4.9 | 12.2 |  |  |  |  |  |  |
| 2.Ancidt | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 5 | 6 | 2.4 | 12.2 | 14.6 |  |  |  |  |  |  |
| 3Litat Pherome | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 1.3 | 0.0 | 7.3 |  |  |  |  |  |  |
| 4 Birts | 0 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 20.0 | 10.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 |  |  |  |  |  |  |
| 5-Clouds, Dust, elc. | 0 | 0 | 0 | 23 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Ginseytic int. | 0 | 0 | 0. | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 4 | 0 | 4 | 9.8 | 0.0 | 28 |  |  |  |  |  |  |
| 1.Prycorogial | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| flomonim | , | 0 | $\cdots$ | 50.0 | 0.1 | 50.0 | 2 | 0 | 2 | 400 | 0.0 | 40.0 | 17 | 0 | 17 | 41.5 | 0.0 | 41.5 |  |  |  |  |  |  |
| 500w | 0 | Q | 0 | Q0 | 0.0 | 0.0 | 1 | 0 | 1 | 20.0 | 0.01 | 20.0 | 2 | 1 | 3 | 49 | 2.4 | 7.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tout | 2 | 0 | 2 | 100.0 | 0.0 | 10a. | 4 | 1 | 5 | 80.0 | 20.01 | 100. | 32 | 9 | 41 | 18.0 | 22.0 | 100. |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | minter |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Humber |  |  | Pexcat |  |  | Uumber |  |  | Pacent |  |  |  |  |  |  |  |  |
| Evaluation | Certain | Dasbtuol | Tobl | Certain | Dowitul | Tobl | Centrin | Doamblay | Tobel | Cratin | [Doubtind | T0123 | Certion | Diobblul | Tobl | Cerbsin | Dostural | Tatal | Catain | Doutituy | Total |  |  | Mal |
| O-Baylion | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 65 | 3.2 | 9.7 |  |  |  |  |  |  |
| $1-\mathrm{Astranomical}$ | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | 9 | 29.0 | 0.0 | 2\%,0 |  |  |  |  |  |  |
| a-Aicratt | 2 | 2 | 0 | 00 | 00 | 0.0 | 0 | 0 | $a$ | 0.0 | 0.0 | 0.0 | 3 | 2 | 5 | 9.7 | 6.5 | 16.2 |  |  |  |  |  |  |
| ;-Light Phemom. | 0 | 0 | a | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2. | 0 | 2 | 65 | 0.0 | 6.5 |  |  |  |  |  |  |
| 4 Brios | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 9.7 | 0.0 | 9.7 |  |  |  |  |  |  |
| S-Clouds Oust exc | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | e. 0 | 0.0 | 0. | 0. | 0 | 0.0 | 0.0 | 10.0 |  |  |  |  |  |  |
| 6-insiticic unt. | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 100.0 | 0.0 | 100.0 | 3 | 0 | 3 | 9.1 | 0.0 | 9.1 |  |  |  |  |  |  |
| 7.Psychologica | 0 | 0 | 0 | 0.4 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 4 | 1 | 0.0 | 3.2 | 3.2 |  |  |  |  |  |  |
| BUntroum | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 12.9 | 0.0 | 12.9 |  |  |  |  |  |  |
| 90ther | 1 | 2 | 1 | ione | 0.0 | 100.0 | 0 | 0 | 0 | e, 0 | $0 \cdot$ | 00 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1 | 0 | 1 | 100.9 | 0.0 | 100. | 2 | 0 | 2 | 100.0 | 0.0 | 100. | 21 | 4 | $3 / 1$ | 87.1 | 12.9 | 100. |  |  |  |  |  |  |



| Enaluation | 6/SECONOS-5Minutes |  |  |  |  |  | 6-30 MIMUTES |  |  |  |  |  | Over 30 minutes |  |  |  |  |  | Nor stareo |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Pecemil |  |  | nuber |  |  | Pacent |  |  | Mumber |  |  | Pecant |  |  | Munter |  |  | Pectat |  |  |
|  | Cemban | Doubtul | Tont | Coman | Ooxthel |  | Ote |  |  | Cobit | Doctra | Trata | etrin | Doabtuol | 1061 | Cot | Duabich | Tरक | Cettion |  |  | Cortin |  | Tolat |
| ORalloan | 65 | 43 | 108 | 12.8 | 8.5 | 21.3 | 82 | 58 | 140 | 15.6 | 11.0 | 26.6 | 42 | 12 | 54 | 16.9 | 4.8 | 21.7 | 59 | 32 | 91 | 6.9 | 3.8 | 10.7 |
| 1 A.Atmanaica | 11 | 16 | 27 | 2.2 | 3.1 | 5.3 | 43 |  | ¢ 60 | 8.2 | 3.2 | 11.4 | 37 | 17 | 54 | 14.9 | 6.8 | 21.7 | 137 | 93 | 230 | 16.1 | 10.9 | 27. |
| 2-Aicem | 77 | 61 | 138 | 15.2 | 12.0 | 272 | 43 | 63 | 106 | 8.2 | 12.0 | 70. | 13 | 15 | 28 | 5.2 | 6.0 | 1.2 | 84 | 49 | 133 | 9.9 | 5.8 | 5. |
| 3 Ligt Prowe | 7 | 4 | 11 | 1.4 | 0.8 | 2.2 | 5 |  | 21 | 2.8 | 1.1 | 3.9 |  | 2 | 3 | 0.4 | 0.8 | 1.2 | 5 | 2 | 7 | 0.6 | 0.2 | 0.8 |
| 4Birs | 7 | - |  | 0.2 | 0.0 | 02 | 0 |  |  | 0.0 | 0.2 | 0.0 | 3 | 0 | 3 | 1.2 | 0.0 | 1.2 | 5 | 2 | 7 | 0.6 | 0.2 | 0.8 |
|  | , | 7 | 8 | 0.2 | 1.4 | 1.6 | 3 |  |  | 0.6 | 0.4 | 1.0 | 4 | 0 | 4 | 1.6 | 0.0 | 1.6 | 3 | 1 | 4 | 0.4 | 0.1 | 0.5 |
| Gomuric me | 44 | - | 44 | 87 | 0.0 | 8.7 | 39 |  | 39 | 7.4 | 0.0 | 7.4 | 15 | 0 | 15 | 6.0 | 0.0 | 6.8 | 143 | 0 | 143 | 16.8 | 0.0 | 16.8 |
| 7.9 gramopical | 5 | 4 | 9 | 1.7 | 0.8 | 1.8 | 11 |  | 11 | 2.1 | 0.0 | 2.1 | 5 | 1 | 6 | 2.0 | 0.4 | 2.4 | 8 | 2 | 10 | 0.9 | 0.2 | 1.1 |
| Hunkem | 141 | 0 | 141 | 27.6 | 0.0 | 27.6 | 19 |  | 119 | 72.6 | 0.0 | 32.6 | 66 | 1 | 6 | 26.5 | 0.0 | 26.5 | 177 | 0 | 177 | 20.8 | 0.0 | 20.8 |
| Some | 19 | 3 | 22 | 3.7 | 0.6 | 4.3 | , |  | 25 | 3.0 | 1.7 | 4.7 | 13 | 3 | 3 | 5.2 | 1.2 | 6.4 | 44 | - 6 | 50 | 5.2 | 0.7 | 5.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ttan | 370 | 138 | 508 | 72.8 | 27.2 | 110 | 37 | 156 | 587 | 70.4 | 29.6 | 100. | 199 | 50 | 249 | 79.9 | 20.1 | 101. | 665 | 187 | 852 | 78.1 | 21.9 | 100. |



| Eriutioa | 6/SECONOS-5 MYNUTES |  |  |  |  |  | 6-30 MinUTES |  |  |  |  |  | OkER 30 minutes |  |  |  |  |  | NOT STATEO |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | moma |  |  | recmat |  |  | number |  |  | Pectort |  |  | Number |  |  | Petcmil |  |  | Mumber |  |  | Pacart |  |  |
|  | Combin | Dowtotol | Tout | 隹河 | Dowthl | O0D | mbin | DobituI | Trobi | cotum | Dabitue | Cown | Celian | Dobetrid | Tabi | Ceram | Dowthil | Tobal | Coman | Dowetain |  |  |  | वब |
| O-8xilose | 2 | 0 | 2 | 20.0 | 0.9 | 200 | 0 | 0 | 0 | $0 \cdot 9$ | 0.0 | 0.9 |  |  |  |  |  |  | 4 |  | \& | 6.8 | 0.0 | 6.8 |
|  | e | 0 | 0 | $\bigcirc 0$ | 0.0 | 0.0 | 2 |  | 0 | 0.0 | 0.8 | 0.0 |  |  |  |  |  |  | $1 /$ | 4 | 15 | 18.6 | 6.8 | 125.4 |
| 2 2.incrat | 0 | 0 | ${ }^{\circ}$ | 00 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.8 | 2.0 |  |  |  |  |  |  | 2 | - | 2 | 3.4 | 00 | 3.4 |
| 3 Liom Proma | 1 | 0 | 7 | 10.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  | 4 |  |  | 1 | 0 | < | 1.7 | 00 | 1.7 |
| 4 Hirla | - | 0 | \% | 0.0 | 00 | 0.0 | , | c | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 0 | o | 0 | 0.0 | 00 | 0.0 |
| 5 cloous, aust etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | d | 0.0 | 0.0 | 0.0 |  |  | 0 |  |  |  | 0 |  | 0 | 0.0 | 00 | 0.0 |
| Gmamic mic. | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 3 | 0 | 3 | 60.0 | 0.8 | 60.0 |  |  |  |  |  |  | 7 | - | 7 | 11.9 | 0 | 119 |
| 7.Pypabetion | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 0 | 0.0 | 0.8 | 0.0 |  |  |  |  |  |  | 3 |  | ¢ | 5.1 | 1.7 | 6.8 |
| - | 4 | 0 | 4 | 40.0 | 0.0 | 40.0 | 2 | 0 | 2 | 40.0 | 0.0 | 48.0 |  |  |  |  |  |  | 12 | 0 | 12 | 20.3 | 00 | 20.3 |
| Sorm | 1 | 0 | , | 10.0 | 0.0 | 18.0 | 0 | - | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | C4 | 4 | 18 | 23.7 | 00 | 23.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toun | 10 | 0 | 10 | 100. | 0.0 | 100. | 5 | 0 | 5 | 100.0 | 0.0 | 100. |  |  |  |  |  |  | 54 | $S$ | 5 | 9.5 | 8.5 | 100 |

TRGLE ABS EVRLUATLON AE MLE SIGMTINGS BL AURATION OF SLGMTING 1948

| Evalunom | 5 SECONDS AND L |  |  |  |  |  | 6-10 SECOND |  |  |  |  |  | II-30 SEcond |  |  |  |  |  | 31-60 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | nemot |  |  | Pacomi |  |  | Number |  |  |  |  |  | Hunber |  |  | Pectemt |  |  | Number |  |  |  |  |  |
|  | Cent | Doabobil | Tout | Cetan! | Doovitul | Toba | celb | Doout | Total | gitan | Dabation | Total | Statan | Doobtuol | Total | Certain | Doouth1 | Tobit | cerain | Wali | Total | cetuin | Soubtal | Tald |
| Cobation |  | 2 |  | 29 | 5.91 | 6.8 | 0 |  | 1 | 0.0 | 5.6 | 5.6 | 0 | 2 |  | 0.0 | 16. | 16. | 0 |  | 0 | 0.0 | 0.1 | 0.0 |
| 1.Astimomic |  | 1 | 7 | 17.6 | 32.4 | So | 4 | 2 | 6 | 22.2 | 11.1 | 533 | 0 | , |  | 0.0 | 8.3 | 8.3 | 0 | 0 | 0 | 0.0 | T0 | 0.0 |
| 2.Ancicia | 2 |  | 2 | 5.9 | 20 | 5.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0 |  | 0 |  | 8.3 | 00 | 8.3 | 3 |  | 3 | 60.0 |  | 60.0 |
| 34 pmiPm |  |  |  | 2.4 | 0.0 | 2.4 | 0 | 4 | 4 | 0.0 | 22.2 | 22 | 0 | 1 | , | 0.0 | 8.3 | 8.3 |  |  | $\bigcirc$ | 0.0 | 0.1 | 0.0 |
| 1 Buas |  | 0 | 1 | 2.9 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0 | P. 8 |
| cclouds Dost |  |  | 0 | 0.0 | 0.0 | 00 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | $\square$ | 0.0 | 00 | 0.0 | 0 |  | 0 | 0. | 0.8 | 0,0 |
| Gmanticant. |  |  | 2 | 5.9 | 0.0 | 5.9 |  | $\delta$ | 1 | 5.6 | 0.0 | 5.6 |  |  | 1 | 8.3 | 00 | 8.3 |  |  | 1 | 20.0 | 00 | 20.0 |
| mobr | Q |  | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0 O | 0.0 | 3. | $a$ |  | 0 | 0.0 | 00 | 0.8 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 |
| Hubum | 2 | 0 | 7 | 20.6 | 0.0 | 20.6 | 6 | 0 | 6 | 33.3 | 0.0 | 33.3 | 5 |  |  | 41.7 | 0.0 | 4.7 | 0 | 0 | $\sigma$ | 0.0 | 0.0 | . 0 |
| Oonem | 0 | 1 |  | 0.0 |  | 2.9 |  |  | $\delta$ | 00 | $0 \cdot$ | 0.0 |  |  |  | 0.0 | 8.3 | 8.3 |  | 0 | 7 | 20.0 | 0.0 | 20 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tow | 20 | 14 | 34 | 58.8 | 41.2 | 100 | 7 | 7 | 18 | 61.1 | 38.9 | 10 | 7 | S |  | 58.3 | 4/.7 | d |  | 8 |  | 100.0 |  |  |


| Evalution | 61 SECONQS - 5 dinUTES |  |  |  |  |  | 6-30 MuNotes |  |  |  |  |  | OLER 30 minuter |  |  |  |  |  | Nor STATER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | nmomer |  |  | pacorn |  |  | Mrimer |  |  | Per |  |  | Mutber |  |  | Cont |  |  | Munber |  |  | Percart |  |  |
|  | Centiol | Davoltay | Tob1 | Cutan | Donubal | Toti | Etain | [Dautits | Tobat | catin | Doabtion | Fola | Eerain | Dabithar | tal |  |  | Toul | Cerbio | Doablbil | Total | arin |  |  |
| Batlom | 1 | 4 | 5 | 6.7 | 26.7 | 33.4 | 3 | 5 | 8 | 13.0 | 21.7 | 34.7 | 6 | 0 | 6 | 50.0 | 0.0 | 50. | 6 | 6 | 12 | 7.0 | 7.0 | 14.9 |
| 1-Astumaial | 1 | 2 | 3 | 6.7 | 13.3 | 20.0 | 7 | - | 8 | 30.4 | 4.3 | 34.7 | 1 | 0 | 4 | 33.3 | 0.9 | 33.3 | 14 | 22 | 36 | 16.3 | 25.6 | 41.9 |
| 2.Ancram | 3 | 1 | 4 | 20.0 | 6.7 | 26.7 | 1 | 1 | 2 | 4.3 | 4.3 | B. 6 | 1 | 0 |  | 8.3 | 0.1 | 8.3 | 5 | 3 | 8 | 5.8 | 3.5 | 9.3 |
|  | 0 | - 0 | 0 | 0.0 | 0.0 | 8.0 | 1 | 0 | , | 4.3 | 0.8 | 4.3 | e | 0 | 0 | 0.1 | 8 | 0.0 | 0 | , | 1 | 0.0 | 1.2 | 1.2 |
| -Binc | 0 | -0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 4.3 | 4.3 | 0 | 0 | ס | $0!$ | 0.0 | 0.0 | 1 | 2 | 3 | 1.2 | 2.3 | 3.5 |
| Sclaus. Dist, elc | 0 |  | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 Gmanic mb. | 2 | - | 2 | 13.3 | 0.0 | 13.3 | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 11 | 8 | 11 | 17.8 | 0.0 | 12.8 |
| T.Pspabiotial | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 1 | 0 |  | 8.3 | 0.0 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | O. 0 |
| Cumbom |  | 0 | 1 | 6.7 | 0.0 | 6.7 | d | 0 | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 8 | 0 |  | 9.3 | 0.0 | 9.3 |
| Some |  |  | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 8.7 | 8.7 | 0 | 0 | 0 | 0.0 | 10 | 0.0 | 3 | 4 | 2 | 3.5 | 4.7 | 8.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rital | 2 |  | 15 | 53.5 | 46.7 | 100. | 13 | 10 | 23 | 56.5) | 43.5 | 100. | 12 | 0 | 12 | 100.0 | 0.0 | 100. | 48 | 38 | 86 | 55.8 | 44.2 | 100 |


|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 Seconos and Less |  |  |  |  |  | 6-10 SECONOS |  |  |  |  |  | 1/-30 seconds |  |  |  |  |  | $3 /-60 \text { sECONDS }$ |  |  |  |  |  |
|  | Mumber |  |  | Pacomt |  |  | Manmer |  |  | Paciont |  |  | ${ }^{\text {a }}$ Mumber |  |  | $\square$ |  |  | Number |  |  | Pescort |  |  |
| Evaluation | Cevain | Doubtry | Tomi | Cetain | Toubtay | Tobl | Cerain | Dostitul | Troad | crin | Daubtan | 17 Tota |  |  |  | Cetrin | Doubtuil | Total |  |  |  | Eentin | Dabatul | Tobal |
| -Bation | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\sigma$ | 0.0 | 0.0 | 0.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1.Astumama | 12 | 83 | 95 | 11.4 | 79.0 | 90.4 | 2 | -6 | 6 | 0.0 | 42.9 | 42.9 | 6 | 6 | 2 | 30.0 | 30.0 | 69.0 |  |  | 4 | 10.7 | 3.6 | 14.3 |
| ath |  | - | 4 | 0.0 | 3.8 | 3.8 | 0 | 1 | 1 | 0.0 | 7.1 | 7.1 | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 |  | 10 | 7 | 25. | 0.0 | 25.0 |
| Mmi Pmome | 0 | 0 | O | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | 0 | 0.0 | 0.0 | 0.1 |
| Hains | 0 | 1 | 1 | 0.0 | 1.0 | 1.0 | 1 | 0 |  | 7.1 | 0.0 | 7.1 | 0 | 0 | 6 | D. 0 | 0.9 | 0.0 | - | - 0 | 3 | 10.7 | 0.8 | 10.7 |
| 5 clauss Doss | a | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | $\theta$ | 0.0 | 0.0 | 0.0 |  | 0 | 0 D | 0.0 | 0.0 | 0.8 |
| Flnaticicemo. | 4 | e | 4 | 3.8 | 0.0 | 3.8 | 1 | 0 | 1 | 7.1 | 0.0 | 7.1 |  | $\checkmark$ | 1 | 5.0 | 0.1 | 5.8 |  | $\bigcirc$ | -1 | 3.6 | 0.0 | 3.6 |
| 1.8 sperabigica | 1 | 0 | $\sigma$ | 0.0 | 0.0 | 0.0 | 10 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | - | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 10 | 0. | 0.0 | 0.0 |
| Orumam | 1 | 0 | 1 | 1.0 | 0.0 | 1.0 | Y | 0 | 4 | 28.6 | 0.0 | 28.6 | 5 | 1 | 5 | 25.0 | 0.0 | 25.0 | 13 | 0 | 13 | 46.4 | 0.0 | 46.4 |
| 900 ma | , |  | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 7.1 | 0.0 | 7.1 | S | 0 | - | 0.0 | 0.0 | 0.0 |  |  |  | 0.0 | 0.0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T TX | $\angle 1$ | 88 | Lo | 16.2 |  | 100. | 7 |  | 1/4 | 50.4 | 50.0 | 100. | 1/41 | 6 | 20 | 70.0 | 3 3 P1 | 100. | 27 | 11 | 28 | 76.4 | 3.6 | 10 |


| Evaluation | 61SECNOS- 5 MINUTES |  |  |  |  |  | 6-30 Minutes |  |  |  |  |  | OVER 30 minutes |  |  |  |  |  | Not STATER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pecmil |  |  | Mumber |  |  | Pecemi |  |  | Number |  |  | Pencomt |  |  | maneer |  |  | Pecomt |  |  |
|  | Cetala | Doibltua | Toba | , | Doutitu | Tobat | Certain | Doabtain | Total | Cemidin? | Dubbtol | Tota | Centin | Dovetral | Total | Ceria | Doioth | Total | Cetion | Dovitul | Toba | centin | Debthiol | Tota |
| O-Balcon | 9 |  | 10 | 23.7 |  | 26.3 | 2 | - | 6 | 4.4 | 8.9 | 13.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 0 | 5 | 3.9 | 0.0 | 3.9 |
| 1-Astumamat |  | 5 | 7 | 5.3 | 3.2 | 18.5 | 6 | 0 | 6 | 13.3 | 0.0 | 13.3 |  | 1 | 4 | 17.6 | 5.9 | 23.5 | \#2 | 30 | 22 | 32.8 | O. | 56.2 |
| 2.Aicath | 7 | 2 | 9 | 18.4 | 5.3 | 23.7 | 5 | 13 | 18 | 11.1 | 28.9 | 40.0 | 0 | 2 | 1 | 0.0 | 5.9 | 5.9 | 10 | 5 | 15 | 7.8 | 3.9 | 11.7 |
| 3-Litit Pheom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | l | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| 48 mes | 0 | 0 |  | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 10 |
| Sclouds Duss ect | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| Standicic. mfo. | 6 | 0 |  | 15.8 | 0.0 | 15.3 | 2 | 0 | $z$ | 4.4 | 0.0 | 4.4 | 1 | 0 | 1 | 5.9 | 0.0 | 59 | 20 | 0. | 20 | 15.6 | 0.0 | 15.6 |
| T.Pserchological | $c$ |  | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 1 | 2.2 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 2 | 0 | 2 | 1.6 | 0.0 | 1.6 |
| -GVanom |  |  | 5 | 13.2 | 0.0 | 13.2 | II | 0 | 1 | 24.4 | 0.0 | 24.4 | 6 | 0 | 6 | 35.3 | 0.0 | 35.3 | 11 | 0 | 11 | 2.6 | 0.0 | 8.6 |
| Some |  |  | 1 | 2.6 | 0.0 | 2.6 | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 5 | $\bigcirc$ | 5 | 29.4 | 0.0 | 29.4 | L | 0 | 3 | 2.3 | 0.0 | 2.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toal | 301 | 8 | 38 | 78.9 | 21.1 | 100. | 28 | 17 | 45 | 62.2 | 37.8 | 700. | 15 | 2 | 17 | 88.2 | 11.8 | 100. | 93 | 35 | 128 | 72.7 | 27.3 | 100. |



| Evaluation | 6) SECNS - SMNUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | QUER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pet Cent |  |  | Number |  |  | Per Cont |  |  | Nunber |  |  | Per Cent |  |  | Mumber. |  |  | Percort |  |  |
|  | Cerrain | Oovbtuol | Total | Ceftain | Doouttul | Tolal | Certain | Doubtite | Totad | Celtan | Doubltul | Told | Certain | Doubtrul | Total | Certain | Doubtral | Total | Certin | Doublim | Tota | Certain | Daubthil | Total |
| O-Bazioon | 5 | 1 | 6 | 8.9 | 1.8 | 10.7 | 13 | 4 | 17 | 21.7 | 6.7 | 28.4 | 8 | 0 | 8 | 32.0 | 0.0 | 32.0 |  | 1 | 6 | 4.9 | 1.0 | 5.9 |
| 1-Astonomical | 4 | 0 | 4 | 7.1 | 0.0 | 7.1 | 4 | 0 | 4 | 6.7 | 0.0 | 6.7 |  | 1 | 3 | 9.0 | 4.0 | 12.0 | 26 | 11 | 31 | 19.6 | 10.8 | 30.4 |
| 2.Aicath | 7 | 1 | 8 | 12.5 | 1.8 | 4.3 | 3 | - 4 | 7 | 5.0 | 6.7 | 11.7 | 0 | 5 | 5 | 0.0 | 20.0 | 20.0 | 17 | 3 | 20 | 16.7 | 2.9 | 17.6 |
| 3-Lieml Phenom. | 0 | $\bigcirc$ | C | 0.0 | 0.0 | 9.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.7 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Bincs | $n$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clowds, Dust, et. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | d | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-insuficic min. | 15 | 0 | 15 | 268 | 0.0 | 26.8 | 3 | 0 | 3 | 5.0 | 00 | 5.1 | 4 | 0 | 4 | 16.0 | 0.0 | 160 | 24 | 0 | 24 | 23.5 | 0.0 | 23.5 |
| 7.Psyetrological | 1 | $\bigcirc$ | 1 | 1.8 | 0.0 | 1.8 | 3 | 0 | 3 | 5.0 | 0.0 | 5.0 | d | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 |
| BUnlowem | 16 | 0 | 16 | 28.6 | 0.0 | 28.6 | z2 | 0 | 22 | 36.7 | 0.0 | 36.7 | 5 | 0 | 5 | 20.0 |  | 20.9 | 18 | 0 | 18 | 17.6 | 0.0 | 17.6 |
| gover | 3 | 3 | 6 | 5.4 | 5.4 | 10.8 | 1 | 3 | 4 | 1.7 | 5.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1. | 3 | 2.0 | 0.9 | 2.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5) | 5 | 56 | 91.1 | 8.9 | 100. | 49 | $1 /$ | 60 | 81.7 | 18.3 | 100. | 19 | 6 | 25 | 76.0 | 24.0 | 100 | 86 | 16 | 102 | $84.3]$ | 15.7 | 100. |


| TABLE A86 ELARL |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 5 SECONDS AND LESS |  |  |  |  |  | 6-10 SECONDS |  |  |  |  |  | /1-30 SECONDS |  |  |  |  |  | $31-60$ secordos |  |  |  |  |  |
|  | Number |  |  | Pacomt |  |  | Humber |  |  | PaCal |  |  | Nunter |  |  | Pecteme |  |  | Munber |  |  | Pet Cat |  |  |
| Evaluaten | Centain | Dosostal | T001 | mrain | Dowothl | Tobi | Cerrain | boublum | T Tolal | Cratin | Doubtos | Tola | Etbin | Doobthul | 17 | Cendin | Doabtalu | Toal | Celtian | Doubtuy | ¢ | Centain | Dosabthil |  |
| O-asloan |  | 0 | 0 | 0.0 | 0.0 | 1.0 | - |  | 0 | 0.0 | 0.0 | 0.0 |  |  | 1 | 9.1 | 0.0 | 9.1 | -0 |  | 0 | 0.0 | 0. | 2.0 |
| 1-Astomenial | c | 2 | 12 | 588 | 11.8 | 70.6 | 4 | 1 | 5 | 50.0 | 12.5 | 62.5 | -4 | 0 | 4 | 36.4 | 0.0 | 36.4 |  | , | 1 | -0 | 20.0 | 20.0 |
| 2.aicant | 1 | 0 | , | 5.9 | 0.0 | 5.9 | -1 | 0 | 1 | 2. | 0.0 |  | -3 | 10 | - 3 | 27.3 | 9 | 27.3 |  | - 1 | 4 | 60.0 | 20.0 | 80.0 |
| 3-Light Pheme | 0 | 0 | 0 | 0. | 0.0 | 0.9 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | be | 0,0 |
| 4 Bints | $\bigcirc$ | 0 | 0 | $0 \cdot 0$ | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 1 | 1 | 0.0 | 9.1 | 9.1 |  | - | 0 | 0.0 | 0.0 | 0.0 |
| Sclows Doust ac | $\bigcirc$ | c | 0 | 0.0 | 0.0 | 0.8 | 0 | - | 0 | 0.0 | 0.0 | 0.0 | -0 | 0 | - 0 | 0.0 | 0.0 | 8.1 | d | 0. 0 | 0 | 0.0 | 0.0 | 0.0 |
| Glmsulicic. mb. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | - | 0.0 | 0.0 | 0.8 | 0 | , | 0 | 0.0 | 0.0 | 0.0 |
| 2.P9yctrobxicad | 0 | 0 | R | 0.0 | 0.0 | 8.0 | 0 | 0 | - | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.8 | 0.9 | 0.9 |  | , | 0 | 0.0 | 0.0 | 0.0 |
| Qunbrom | 1 | 0 | 4 | 23.5 | 0.0 | 23.5 | 2 | 0 | $z$ | 225.0 | 0.0 | 25.0 | 2 | 0 | -2 | 18.2 | 0.0 | 18.2 |  | 0 O | 0 | $0 \cdot 1$ | 0.0 | 0.0 |
| Pomee | 0 | 0 | $\varepsilon$ | 0.0 | 0.0 | 0.0 | 0 |  | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 00 | $\bigcirc$ | 2-0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 15 | 2 | 17 | 88.2 | 11.8 | 100.1 | 7 | 1 | 8 | 87.5 | 12.5 | 100. | 10 | 1 | 11 | 90.9 | 9.1 | 100. | 3 | 2 | 5 | -60.0 | 140.0 | 100 |


| Evalution | 61 SECONOS-5 MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | DVER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munder |  |  | Per Cent |  |  | Humber |  |  | Petemt |  |  | Musber |  |  | Pat Cent |  |  | Humber |  |  | PaCent |  |  |
|  | Certisin | Doubltur | Tolal | Certan | [Dobtto] | Tolal | Certain | Doubitul | Total | Certain | Doontrul\| | Tolat | Certain | Doubitul] | Fotal | Certain | Doubtul | Totil | Ceitrain | Doubtoil | Yotal | Certain | Doubtul | Total |
| O-Balioon | 2 | 1 | 3 | 7.7 | 3.8 | 11.5 | 2. | 0 | 2 | 8.3 | 0.0 | 8.3 | 1 | 0 | 1 | 12.5 | 0.0 | 125 | 4 | 3 | 7 | 6.6 | 4.9 | 11.5 |
| 1-Astrmamical | $\bigcirc$ | 1 | 1 | 0.0 | 3.8 | 3.8 | 3 | 1 | 4 | 12.5 | 4.2 | 16.7 | 1 | 1 | 2 | 12.5 | 2.5 | 25. 0 | 3 | 10 | 13 | 4.9 | 16.4 | 21.3 |
| 2.AItciaft | 3 | 1 | 4 | 11.5 | 3.8 | 15.3 | 2 | 4 | 6 | 8.3 | 16.7 | 25.0 | 1 | 0 | 1 | 12.5 | 1.0 | 12.5 | 2 | $z$ | 4 | 3.3 | 3.3 | 6.6 |
| 3-Lumi Pheome | 0 | 1 | 1 | 0.0 | 3.8 | 3.9 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.6 | 0.0 | 1.6 |
| 4 4-3ids | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 |
| 5 Clouds, Oust elc. | 0 | C | 0 | 0.1 | 0.0 | 0.8 | 0 | 0 | 0 | 9.0 | 0.0 | 0.0 | 0 | 2 | 0 | 8.0 | 04 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Ginsultic mio. | 1 | $\cdots$ | 1 | 3.8 | 0.0 | 3.8 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | 2 | 0 | $z$ | 25.0 | 0.0 | 25.0 | 10 | 0 | 10 | 16.4 | 0.0 | 16.4 |
| 17Psyctolopial | 0 | 1 | 1 | 0.0 | 3.8 | 3.8 | 0 | 0 | 0. | 0.0 | $0 \cdot$ | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.6 | 0.0 | 1.6 |
| 7-4hanom | 13 | ${ }^{\prime}$ | 13 | 50.0 | 0.0 | 58.0 | 7 | 0 | 7 | 29.2 | 0.0 | 74.2 | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 | $z 2$ | 0. | 22 | 36.1 | 0.0 | 36.1 |
| Fothem | 2 | 0 | 2 | 7.7 | 0.9 | 7.7 | 3 | 0 | 3 | 125 | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 4.9 | 0.0 | 49 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toun | 21 | 5 | 26 | 80.8 | 19.2 | 100. | 19 | 5 | 24 | 79.2 | 20.8 | 100. | 7 | 1 | 8 | 87.5 | 12,5 | 100. | 46 | 15 | 61 | 75.4 | 24.6 | 100. |



|  | El SECNSS - 5 MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OVER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eviluation | Number |  |  | Pet Cont |  |  | Numbel |  |  | Pax Cott |  |  | Munber |  |  | Percent |  |  | Mumber |  |  | Pexcot |  |  |
|  | Ceran ${ }^{-1}$ | Dowbtul | Tobi | Certain | Dowsind | Total | Centain | Dabtiol | Totwed | Certinin | Doubthu | Totat | Certain | Dovotul | Total | Certain | Doidful | Totad | Cerixin | Dostitul | Tota | Centin | Dowbitil | Total |
| O-8avioon | 46 | 36 | 82 | 12.7 | 9.9 | 2.76 | 62 | 45 | 117 | 16.8 | 12.2 | 29.0 | 27 | 12 | 39 | 14.4 | 6.4 | 20.8 | 35 | 22 | 57 | 8.4 | 5.3 | 13.7 |
| 1-Astronomical | 4 | 8 | 13 | 1.1 | 2.2 | 3.3 | 23 | 15 | 38 | 6.2 | 4.1 | 10.3 | 27 | 14 | 41 | 14.4 | 7.5 | 71.9 | 47 | 16 | 63 | 11.3 | 3.8 | 15.1 |
| 2-Aicrent | 5 | 56 | 113 | 15.7 | 15.4 | 31.1 | 32 | 41 | 73 | 8.6 | 11.1 | 19.7 | 11 | 9 | 20 | 5.9 | 4.8 | 10.7 | 48. | 36 | 84 | 1.5 | 8.7 | 20.2 |
| 3.LImit Pherom. | 6 | 3 | 9 | 1.7 | 0.8 | 2.5 | 13 | 6 | 19 | 3.5 | 1.6 | 5.1 | 1 | z | 3 | 0.5 | 1.1 | 1.6 |  | 1 | 4 | 0.7 | 0.2 | 0.9 |
| 4 - ${ }^{\text {ands }}$ | 1 | c | 1 | 0.3 | 6. | 0.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 1.6 | 0.0 | 1.6 | 4 | 0 | 4 | 1.0 | 0.0 | 1.0 |
| S-Clooss, Dust ext | , | 2 | 8 | 0.3 | 1.9 | 2.2 | 3 | $z$ | 5 | 0.8 | 0.5 | 1.3 | 4 | 0 | 4 | 2.1 | 0.0 | 2.1 | 3 | 1 | 4 | 0.7 | 0.2 | 0.9 |
| GGInsulic. mo. | 18 | 0 | 18 | 5.0 | 2.0 | 5.0 | 29 | 0 | 29 | 7.8 | 0.0 | 7.8 | 8 | 0 | 8 | 4.3 | 0.0 | 4.3 | 71 | 0 | 71 | 17.1 | 0.0 | 17.1 |
| 7.Psycriolowial | ! | 3 | 7 | 1.1 | 0.8 | 1.9 | 7 | 0 | 7 | 1.9 | 0.0 | 1.9 | 4 | 1 | 5 | 2.1 | 0.5 | 2.6 | 2 | 1 | 3 | 0.5 | 0.2 | 0.7 |
|  | 101 | 0 | 101 | 27.8 | 0.0 | 27.8 | 77 | 2 | 77 | 20.8 | 0.0 | 20.8 | 53 | 0 | 53 | 28.3 | 0.0 | 28.3 | 106 | 0 | 106 | 25.5 | 0.0 | 25.5 |
| Sother | 12 | 0 | 12 | 3.3 | 0.0 | 3.3 | / | 4 | 15 | 3.0 | 1.1 | 4.1 | 8 | 3 | 11 | 4.3 | 1.6 | 5.9 | 19 | 1 | 20 | 4.6 | 0.2 | 4.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 250 | 113 | 363 | 68.9 | 31.1 | 100. | 257 | 113 | 370 | 69.5 | 30.5 | 100. | 146 | 41 | 187 | 78.1 | 21.9 | 100 | 338 | 78 | 416 | 81.2 | 18.8 | 100. |



|  | $61 S_{\text {Seccivas - }} 5$ MINUTES |  |  |  |  |  | C-30 MINUTES. |  |  |  |  |  | OVES 3 ? Minutas. |  |  |  |  |  | Nor S>A1 $\leq 0$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evaluation | Ruaber |  |  | Percent |  |  | Number |  |  | Percont |  |  | Nuabee |  |  | Pacent |  |  | Mumber |  |  | Percort |  |  |
|  | Gertain | Davotul | Tolat | Certain | Doulthi] | Total | Certain | Doubthis | Tota | Certain | baubitul | Total | Cerain | Oocottul | rotal | Certain | Doubtiol | Todat | Certain | OoutstuI | Tota | Certan | Doubtiol | rolal |
| O-Balloon | 55 | 48 | 95 | 13.6 | 9.9 | 23.5 | 67 | 45 | 112 | 15.9 | 107 | 26.6 | 35 | 12 | 4 | 178 |  | 75.9 | 51 | 25 | 76 | 27 | 3.8 | 11.5 |
| 1.Astronomica | 8 | 13 | 21 | 2.0 | 3.2 | 5.2 | 34 | 15 | 49 | 8.1 | 36 | 11.2 | 33 | 16. | 49 | 168 |  | 24.9 | 28 | 61 | 160 | 15.0 | 9.3 | 043 |
| 2-Aircart | 56 | 54 | 110 | 13.8 | 13.3 | 27.1 | 40 | 44 | 84 | 95 | 10.5 | 20.0 | 10 | 10. | 20 | 5.1 |  | 10.2 | 72 | 35 | $1 / 0$ | 10.9 | 52 | 16.6 |
| 3-Lidet Phenon. | 7 | 4 | 11 | 1.7 | 1.0 | 2.7 | 15 | 6 | 21 | 3.6 | 1.4 | 5.0 | $L$ | 2. | 3 | 25 |  | 10 | 5. | 2 | 7 | 0.8 | 03 | 11 |
| 4 Eirds | 1 | 0 | 1. | 0.2 | 0.0 | 0.2 | 0 | 1 | 1 | 0.0 | Q2 | 0.2 | 2 | 0 | 2 | 1.6 | 0.0 |  | 2. | 2 | 4 | 03 | 63 | 0.6 |
| 5.Clouds, Dust, eta. | 0 | 3 | 3 | 0.0 | 0.71 | 0.7 | 1 | 1 | 2 | 0.2 | 22 | 0.4 | 1 | 0. | 1 | 0.5 | 0.0 | 0. 5 | 1 | 0 | 1 | 0.2 | 0.0 | Q. 2 |
| G-Insuffic: mio. | 30 | 0 | 30 | 74 | 0.0 | 74 | 36 | 0 | 36 | 8.6 | 0.8 | 8.6 | 11 | 0 | 11 | 5.6 | 0.0 | 5.6 | 130 | 0 | 130 | 19.7 | 0.0 | 19.7 |
| 7 P Sycchological | 5 | 4 | 9 | 1.2 | 1.0 | 22 | 9 | 0 | 9 | 21 | 0.0 | 2.1 | 5 | 1 | 6 | 25 | 0.5 | 3.0 | 8 | 2 | 10. | 1.2 | 0.3 | 1.5 |
| 8-Unksown | 107 | 0 | 107 | 26.4 | 0.0 | 2h4 | 86 | 0. | 86 | 20.1 | 0.6 | 20.4 | 47 | 1 | $y 7$ | 239 | 0.0 | 23.9 | 121 | 0 | $12 /$ | 18.4 | 0.0 | 18.4 |
| Solter | 15 | 3 | 18 | 3.7 | 0.7 | H.4 | 15 | 6 | 21 | 3.6 | 1.4 | 5.0 | ? | 3 | $1 /$ | 41 | 1.5 | 6.6 | 35 | 5 | 40 | 5.3 | 0.8 | 6.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 284 | 121 |  | 78.1 | 29,9 | 100 | 3031 | 118 | 421 | 72.0 | 28.0 | 100 | 153 | I4 | $19 \lambda$ | 717 | 223 | 102. | 524 | 135 | 659 | 79.5 | 20.5 | <00. |

TABLE AEQ EVALUATION. OE INIT SIGMTLNGS RU DURATIDN DF SIGATING,

| Evaluation | $55 E C O N O S$ OR LESS |  |  |  |  |  | 6-10 SECONDS |  |  |  |  |  | 11-30 sErovos |  |  |  |  |  | $31-60$ SERONOS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nunber |  |  | Pes Com |  |  | Nurber |  |  | Pacent |  |  | Number |  |  | Per Cenl |  |  | Number |  |  | Percent |  |  |
|  | Certain | Docestul | Total | Centin | Doebttul | Todai | Certain | Doubtiol | Total | Certain |  | Tota | Certain | Doubtul | Tolat | Certsin |  | Total | Ceritan | Dooltetul | Total | Cetlarn | Dauthu! | total |
| O-Balloon | 0 | 0 | 1 | 0.0 | 00 | 8.0 | 0 | 0 | 0 | ed | 0.0 | 0.0 | 1 | 0 | 1 | 21 | 0.0 | 71 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astromomical | 6 | 1 | 7 | 75. | 125 | 87.5 | 2 | 2 | 4 | 50.0 | 50.0 | 100.0 |  | 0 | 3 | 21.4 | 0.0 | 214 |  | 1 | 2 | 143 | 14.3 | 28.6 |
| 2-Aircraft | 0 | 0 | 0 | 80 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 |  | 1 | 0.0 | 2.1 | 7.1 | O | 1 | 1 | 0.0 | 143 | 143 |
| 3-Lighl Phenom. | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | c | 0 | 0.0 | 0.0 | 0.0 |
| 5 Clounds, Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 1 | a 0 | 0.0 | 0.0 | 0 | 0 | 0 | -0. 0 | 0.0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nsulfica mino. | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 04 | 0.0 | 0.0 | 2 | 0 | 2 | 14.3 | 0.0 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psychlological | 0 | 0 | 0 | 001 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 7.1 | 7.1 | 0 | 0 | d | 0.0 | 0.0 | 0.0 |
| 8-undorom | 0 | 0 |  | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 5 | - | 5 | 35.7 | 0.0 | 357 | 4 | 0 | 4 | 571 | 0.0 | 51. |
| 9-0ther | 1 | 0 | 1 | 12.5 | 00 | 12.5 | 0 | 0 | 0 | Od | 0.0 | 0.0 | 1 | 0 | 1 | 21 | 0.0 | 71 | $\Omega$ | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2 | 7 | 8 | 87.5 | 125 | <00. | 2 | 2 | 4 | 50.0 | 50.0 | 100. | 12 | 21 | 14 | 85.7 | 14.3 | 100. |  | 2 | 7 | 714 | 28.6 | 100 |


|  | 6I SECONDS-5MINUTES |  |  |  |  |  | 6-30 M MNUTES |  |  |  |  |  | QUER 30 Mrnvtls |  |  |  |  |  | Ner stuce |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percort |  |  | Humber |  |  | Pelcent |  |  | Number |  |  | Percent |  |  | Number |  |  | Petcent |  |  |
| Evaluation | Certion | [Doubitul | Yobar | Certain | Doubtitu\| | Total | Certain | Dooblitul | Total | Cerbio | Doumbiul | Total | Certain | Doubtul | Total | Cetiain | Doubtiol | Tolal | Certain | Doubthil | Total | Catain | Doubthil | rota |
| Q-Ealloon | 2 | 0 | 2 | 286 | 0.0 | 286 | 0 | - 0 | $\delta$ | el 0 | 0.0 | 0.0 |  |  |  |  |  |  | 2 | C | 4 | 75 | 0.0 | 75 |
| 1-Astronomical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 7 | 4 | 11 | 13.2 | 7.5 | 180.7 |
| 2-Aicraxi | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 1 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 2 | 0 | 2 | 3.8 | 0.0 | 3.8 |
| 3 Light Pheman. | 1 | 0 | 4 | 14.3 | 0.0 | 14.3 | $?$ | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  | 4 |  |  | 1 | 0 | 1 | 19 | 0.0 | 1.9 |
| 4 -8irds | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |  |  |  |  |  |  | $r$ | C | 0 | 0.0 | 0.0 | 0.0 |
| F-Clowast Dust, etc | 0 | 0 | 0 | 00 | 0.01 | 0.0 | 12. | 0 | 0 | 0.0 | 0.0 | 0.8 |  |  |  |  |  |  |  | 2 | 0 | 0.0 | 0.9 | 0.0 |
| 6-nsuffic inf. | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 2. | 0 | 2 | 50.0 | 0.0 | 50.0 |  |  |  |  |  |  | 7 | C | 7 | 13.2 | 0.0 | 132 |
| 7. Psycralogiod | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | d | 0 | 0 | 0.0 | 0.0 | 0.8 |  |  |  |  |  |  | 31 | 1 | 4 | 5.7 | 1.9 | 2.6 |
| S-Undsomm | 21 | 0 | 2 | 286 | 0.0 | 28.6 | 2 | 0 | 2 | 50.2 | 0.0 | 50.0 |  |  |  |  |  |  | 11 | 0 | 11 | 20.8 | 0.0 | 20.8 |
| 90thes | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 13 | 0 | 13 | 24.5 | 0.0 | 24.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 7 | 0 | 7 | 100,0 | 0.01 | 100. | 4 | $\delta$ | 4 | 1000 | 0.0 | 100. |  |  |  |  |  |  | 48 | 5 | 53 | 28.6 | 9.4 | 100. |



|  | 5 SECNOS ANO Less |  |  |  |  | 6-10 scionps |  |  |  |  |  | II-30 seconos |  |  |  |  |  |  | 31-60 spconos |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Enduba | Doumber |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| araluem | 1 | , | 40 | 06 | 4.0 |  |  | 1 |  |  | 7.1 |  |  |  | 0.0 |  | 22 |  |  |  |  |  | 0.0 | 0.0 |
|  | 8 | $\angle$ | 20.0 | 320 | 52.0 |  |  | 6 |  | 4 | 2.9 |  |  |  | 0.0 |  | II. |  |  |  |  | 0.0 |  | n. 0 |
| Aluam | 20 | - | 8.0 | 0.0 | 8.1 |  |  | 0 |  |  | 0.0 |  |  |  | 14.1 | 0.0 | II. |  |  |  |  | 500 | 00 | 50 |
| \%ump |  |  | 4.6 | 0.0 | 4.0 |  | 0 | 2 |  | 4.3 | 14.3 |  |  | 0 | 0.0 |  | 0.8 |  |  |  |  |  |  | , |
| tbins | 1 - | , | 4.6 | 0.0 | 4.0 |  |  | 0 |  | 9.0 | 0.0 |  | , 0 | e | 0.0 |  |  |  |  | $01$ | $\bigcirc$ | . |  | O. |
| Slaus, Oust | $\bigcirc 0$ | 0 | 0.0 | 0. | 0.0 |  | - | 0 | 0 | 1.0 | 0.0 | - | 1. | 0 | $0.0$ |  | 0.0 |  |  |  |  | 0.0 | 0.0 | P0 |
| Gumatic mb. | 20 | 2 | 8.0 | $0 \cdot 1$ | 8. |  |  | 1 | 7.1 | 0.0 | 7.1 |  |  |  | $1 / 1$ |  |  |  |  |  |  | 25. |  |  |
| 2.Pryobobial | 0. | 6 | 0.0 | cl | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | 0 | 0.0 |  | 0.0 |  |  |  |  | 2. |  |  |
| ancomm |  | 4 | 16.0 | 0.0 | 16.0 |  |  | 4 | 28.6 |  | 28.6 | 3 |  |  | 33,3 |  | O 33.3 |  |  |  |  | 0 |  |  |
|  |  |  | 0.0 | 4.0 | 4.0 |  |  | O | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| atal | 16.9 |  |  | 36. | 100. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | 6/SECANDS-5 MINUTES |  |  |  |  |  | 6-30 M NUTES |  |  |  |  |  | OVER 30 miuntes |  |  |  |  |  | Not STAzE0 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percmt |  |  | Number |  |  | Per Cenl |  |  | Nunber |  |  | Percent |  |  | Munter |  |  | Percert |  |  |
| Evalustion | Cortain | Dowbtiou | Total | Certain | Dowitri] | bat | Certain | Doutitul | Total | Cerlain | boustal | Total | Certsin | [Dovobut] | Totas | Cersin | Doithtur | Toba | Celvin | Dovitul | Total | Cettain | Dautital | Toter |
| D-8avilom |  | , | 2 | II. 1 | 11.1 | 21.2 | 1 | 4 | 5 | 67 | 26.7 | 33.4 | a | 0 | 6 | 500 | 0.0 | 50.9 | 5 | 2 | 7 | 27 | 3.1 | 10.8 |
| 1-Astomamial |  |  | 2 | 11.1 | 11.1 | 27.1 | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 | \% | 0 | 4 | 333 | 0. | 33. | 10 | 5 | 2 | 15.4 | 23.1 | 38.5 |
| 2-Airenft | 3 | 0 | 3 | 33.3 | 0.0 | 33.3 | 1 | $L$ | 2 | 6.7 | 6.7 | 13.4 |  | 0 | 1 | 8.3 | 0.0 | 8.3 |  | 3 | 8. | 27 |  | 10.8 |
| 3-Ligt Premom | 0 | 0 | 0 | 0.0 | 0 | 2.0 |  | 0 | - | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 7 | 1 | 0.0 | 1.5 | 1.5 |
| 4 - Bints | 0 | 0 | 0 | 0.8 | 0.1 | 0.0 | 1 | 1 | , | 4.0 | 67 | 6.7 | 0 | 0 | 0 | e. 0 | 1.0 | P. 0 | 1 | 2 | 3 | 15 | 3.1 | 4.6 |
| Sclouts Dost de | $a$ | 0 | 0 | 0.0 | 0.8 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gimanaic. mio. | 1 | 0 | 1 | 11.1 | 0.0 | 11 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 10 | 0 | 10 | 15.4 | 0.0 | 15.4 |
| 7.Payctological | 0 | 1 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0: 0$ | 0.0 |  | 0 | 1 | 8.3 | 0.0 | 8.3 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |
| gundovm |  | 0 | , | 11.1 | 0.0 | 11.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 6.2 | 0.0 | C. 2 |
| g-othee | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 0 | 1 | 1 | 0. | 6.7 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3. | 4 | 7 | 4.6 | 6.2 | 10.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2 | 2 | 9 | 77.8 | 22.2 | 100. | 8 | 7 | 15 | 53.3 | 46.7 | 110. | 12 | 0 | 12 | 100.0 | 0.0 | 101. | 38 | 27 | 65 | 58.5 | 41.5 | 100. |



| Evaluation | 5 SECONOS ANO LESS |  |  |  |  |  | $6-10$ seconos |  |  |  |  |  | $11-30$ SECONDS |  |  |  |  |  | 31-60 stcones |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percent |  |  | Number |  |  | Percent |  |  | Munber |  |  | Percent |  |  | Number |  |  | Percant |  |  |
|  | Certain | Dowistul | Tobl | Centain | Doablivil | Tobi | Cartin | Doastin] | rotal | Certain | Doubtitil | rota | Centain | Doutbtall | Tot | Certain | Doubitul | Totad | Centain | Douthtul | Total | Certain | Davebtu! | rotal |
| a-batioon | $c$ | 0 | $\lambda$ | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | ¢ | 0.2 | 0.0 | 0.0 |
| 1-Astoonomical | 6 | 56 | 62 | 8.2 | 812 | 89.9 | 0 | 2 | 2 | 0.0 | 28.6 | 28.6 | 3 | 3 | 6 | 30.0 | 300 | 60.0 | 3 | 0 | 3 | 25.0 | 0.0 | 25. |
| 2-Aircrath | 0 | 2 | 2 | 0.0 | 29 | 2.9 | 0 | -1 | 1 | 0.0 | 14.3 | 14.3 | 2 | 0 | 2 | 20.6 | 9:0 | 20.8 | 2 | 0 | 2 | 16.7 | 0.7 | 16.7 |
| 3-Limal Phenom. | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 0 | 0 | 0 | 1.0 | 0.0 | 01 | 0 | 0 | 0 | 0.0 | 0.0 | 0.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 1 | 1 | 0.0 | 14 | 1.4 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 2 | 0 | 2 | (6)7 | 0.7 | 16.7 |
| S-Clouds, Dust, elc | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | d | 0.0 | 0.0 | 0.0 |
| $6-1 n$ sutice int. | 4t | 0 | 4 | 5.8 | 0.0 | 5.8 |  | 0 | , | 14.3 | 0.0 | 14.3 | , | 0 | 1 | 10.0 | 0,0 | 10.8 | 1 | 0 | 1 | 8.3 | 00 | 8.3 |
| 7.Psychalogical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 0.0 | 00 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| OUnknom | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 |  | 0 | 1 | 100 | 0.0 | 10.0 | 4 | 0 | 4 | 333 | 0.0 | 33.3 |
| 9onter | 0 | 0 | - 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0.9 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10 | 59 | 69 | 14.5 | 85.5 | 100. | 7 |  | 7 | 5711 | 42.9 | 100. | 7 | 31 | 10 | 76.0 | 30.0 | 199 | 12 | 0 | 12 | 100.0 | 0.0 | 100 |


| Evisurion | 6/SECONES-SMINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | DuEa 30 MINUTES |  |  |  |  |  | Nor STATEO |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mubet |  |  | Pes Cont |  |  | Mumber |  |  | Petcent |  |  | Huaber |  |  | Per cent |  |  | Number |  |  | Per Comt |  |  |
|  | Centain | Doubthal | Tolat | Centan | Doubtal | Total | Certain | Dould ${ }^{\text {a }}$ | Toral | Cention | Dastuol | Total | Sertion | [Doubtrial | Total | Certain | Doiblul | Total | Centain | Doutbit | Total | Cestrin | Dowititul | Total |
| a-ballicon | 6 |  | 7 | 222 | 3.7 | 25.9 | 2 | 2 | 4 | 8.3 | 8.3 | 16.6 | 0 | $\theta$ | 0 | 0.0 | 0.9 | 0.0 | 3 | $\sigma$ | 3 | 3.9 | 0.0. | 3.9 |
| 1-Astronomial | 0 | 4 | 4 | 0.0 | 14.8 | 14.8 | 3 | 0 | 3 | 125 | 0.0 | 12.5 | 3 |  | 4 | 27.3 | 9.1 | $3 \leq 4$ | 16 | 14 | 30 | 211 | 18.4 | 39.5 |
| 2-Aintrat | 3 |  | 5 | 111 | 7.4 | 18.5 | 3 |  | 6 | 12.5 | 12.5 | 250 | 0 | , | 1 | 0.0 | 9.1 | 9.1 | 8 | 3 | $1 /$ | 10.5 | 3.9 | 14.4 |
| 3-Lidet Preman. | 0 | 0 | d | 0.8 | 0.8 | 0.0 | 0 | 0 | 0 | 08 | 0.8 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birts | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\lambda$ | 0.4 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowas, Oust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 40 | 0.8 | 0 | 0 | 0 | 0.8 | 0.0 | 0.9 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 |
| Fimaralic mo. | 6 | 0 | f | 21.2 | 0.0 | 22.2 | 2 | 0 | 2 | 8.3 | 00 | 8.3 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 17 | 0 | 17 | 224 | P. 0 | 72.4 |
| 7.Pryemologat | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 1 | 0 | 1 | 42 | 0.0 | 4.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 2.6 | 0.1 | 2.6 |
| Cumbiom | 4 | 0 | 4 | 14.8 | 0.0 | 14.8 | 7 | 0 | 7 | 292 | 0.0 | 29.2 | 4 | 0 |  | 36.4 | 0.0 | 36.4 | 11 | 0. | $1 /$ | 145 | 0.0 | 14.5 |
| 900m | 1 | 0 | 1 | 3.7 | 0.0 | 3.7 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 2 | 0 | 2 | 2.6 | 0.0 | 2.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20 | 7 | 27 | 74.1 | 25,9 | 100. | 19 | 5 | 24 | 172.2 | 20.8 | 110. | 9 | $2)$ | 11 | 181.8 | 182 | 100 | 59 | 17 | 76 | 17.61 | 22.4 | 110. |

$V$


| Evajution | 5 SECONOS ANO LESS |  |  |  |  |  | 610 SECONOS |  |  |  |  |  | 11-30 Seconds |  |  |  |  |  | 31-60 Secoras |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Conl |  |  | Number |  |  | Pet Cent |  |  | Huaner |  |  | Percent |  |  | Number |  |  | Per Cont |  |  |
|  | Certan | Ooubtul | Total | Certan | Doubtul | Total | Certain | Doubthor | Total | Certan | Dosititol | Tolal | Centin | Doubtul | Total | Certain | Doubimi | Total | Certain | Doubtiv\| | total | Costrin | Doutitul | Tona |
| Pabalicon | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | , | , | 00 | 6.2 | 62 | 1 | 0 | 1 | (1.) | N. | 11.1 |
| 1.Astronomical | 10 | 5 | 15 | 50.0 | 25.01 | 75.0 | - | 2 | 3 | 16.7 | 37.3 | 50. | 6 | 1 | 7 | 375 | 6.2 | $4{ }^{4} 2$ | 0 | 2 | 2 | 0.1 | 22 | 22 |
| 2-Alcide | 1 | 0 | , | 5.0 | 0.01 | 5.0 | 3 | 0 | 2 | 58.0 | 0.0 | 50. | 4 | 2 | 6 | 25.0 | 12.5 | 375 | , | 2 | 2 | 22. | 0.0 | 22,2 |
| 3 Lught Pherom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| $\cdots$ - Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0. | 0.0 | 0.0 |
| Sclouds, Dust et | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-1nsuftic mik. | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.1 | 00 | 1 | 0 | 1 | 6.2 | 0.0 | 6.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1.Psycrobitial | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot 1$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 Unaknom | 1 | 0 | 1 | 5.0 | 0.0 | 50 | 0. | 0 | 2 | 0.0 | 0.0 | 0.1 | 1 | 0 | 1 | 6.2 | Q D D | 6. 2 | 3 | 0 | 3 | 33. | 20 |  |
| gother | 0 | 0 | 0 | 0.9 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 11.1 | 0.0 | II.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ota | 15 | 5 |  |  |  | 10 | 4 | 2 |  |  |  |  | 12 | 4 |  |  | 250 | 100 | 7 | 7 | 9 | 778 |  |  |


| Evaluation | 6/SECONOS-5MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OVER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | Number |  |  | Pacert |  |  | Number |  |  | percent |  |  | Humber |  |  | Percat |  |  |
|  | Certain | Dovital | Total | Certain | Dobittul | Total | Certain | Doabitul | Tolal | Certain | Doubthal | Tota | Cetrain | Dosbtuo | T0073 | Centain | Doutitu\| | कaid | Centin | Doutter | Tota | Certain | Dabktol | Tola |
| 1-Barlooa | 4 | 1 | 5 | 11.1 |  | 13.9 | 9 | 2 | $1 /$ | 231 | 5.1 | 28.2 | 3 | 0 | 3 | 27,3 | 0.0 | 273 | 4 | 7 | 5 | 5.6 | 1.4 | 7 l |
| 1-Astronmamical | 4 | 0 | 4 | 11.1 | 0.0 | II. 1 | 2 | 0 | 2 | 5.1 | 0.0 | 5.1 | 2 | 1 | 3 | 182 | 9.1 | 27.3 | 17 | 7 | 24 | 23.6 | 9.7 | 33. |
| 2-Aitcrat | 4 | 1 | 5 | 11.1 | 2.8 | <3.9 | 3 | 3 | 6 | 72 | 77 | 15.4 | 0 | 2 | 2 | 0.0 | 18.2 | 18.2 | 13 | 3 | 16 | 18.1 | 4.2 | 22 |
| 3.Light Phenom. | $E$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | O | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds, Dust, etc. | 0 | 0 | 0 | 0.0. | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insulfic. info. | 3 | 0 | 3 | 8.3 | 0.0 | 8.3 | 3 | 0 | 3 | 7.7 | 0.0 | 7.7 | 1 | 0 | 1 | 81 | 00 | 91 | 16 | 0 | 16 | 22.2 | 00 | 22 |
| 1.Psyctalogical | 1 | 0 | 1 | Z 2.5 | 0.0 | 2.8 | 1 | 0 | 1 | 2.6 | 0.0 | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| BUnkrowa | 13 | 0 | 13 | 36.1 | 0.01 | 36.1 | 13 | 0 | 13 | 33,3 | 0.0 | 37, 3 | 2. | 0 | 2 | $\angle 82$ | 0.0 | 18.2 | 9 | 0 | 9 | 12,5 | 0.0 | 12.5 |
| Potres | 2 | 3 | 5 | 5.6 | 8.3 | 13.9 | 1 | 2 | 3 | 2.6 | 5.1 | 77 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 2 | Q | 2 | 7.8 | 0.0 | 2.8 |
|  |  | $-$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | $3 /$ | 5 | 36 | 86.1 | 13.9 | 100. | 32 | 7 | 39 | 182.1 | 179 | 100 | 8 | 3 | $1 /$ | 72.7 | 27.3 | 102 | 61 | /1 | 72 | 84, 7 | 15.3 | 100 |

TABLE AQS EVALUATION DE UNIT SIGHTINGS BL DUAATION DF SLGHTLNG,

|  | 5 SECONDS ANO $\angle$ ESS |  |  |  |  |  | $6-10$ SECONOS |  |  |  |  |  | /1-30 Seconos |  |  |  |  |  | 3/-60 SECONPS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cent |  |  | Murber |  |  | Pecal |  |  | Nunber |  |  | Pes Cent |  |  | Humber |  |  | Percent |  |  |
| Evaluation | Cention | Dooutrul | Tobi | Certain | Doastiol | Total | Certain | Doabthul | Totat | Certain | Doubitul | Total | Ceatrin | Doobthul | Total | Certain | Doubitul | Tota | Certan | Doubthil | Tolad | Certain | Doubthel | Total |
| O-Balloon | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.9 | 0 | 0 | 0 | 00 | Q, D | 0.0 | 0 | 0 | 0. | el | 0.0 | 0.0 |
| 1-Astronemical | 8 | 2 | 10 | 53.3 | 13.3 | 666 | 3 | 0 | 3 | 50.0 | 0.0 | 50.0 | 3 | 0 | 3 | 375 | 0.0 | 37.5 | 0. | L | I | 0.0 | 20.0 | 20.0 |
| 2-Ailcrift | 1 | 0 | 1 | 67 | 0.0 | 6.7 | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 3 | 0 | 3 | 37.5 | 0.0 | 32.5 | 3 | 1 | 4 | 60.0 | 20.0 | 80.0 |
| 3.Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 0 | 0 | 0.0 | C.O | 0.0 | 0 | 0 | 0 | 0:0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust ect | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| G-Insultic. mo. | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  | 0 | 0 | 0.0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | D | 0.0 | 0.0 | 0.0 |
| 7-Psychoiogical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | Q. 0.0 |
| SUndnom. | 4 | 0 | 4 | 26.2 | L0. | 26.7 | 2 | 0 | 2 | 33.3 | 0.0 | 33,3 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 9-0ther | 0 | 0 | D | 0.0 | 0.0 | 0.1. | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00. | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toad | 13 | 2 | 15 | 86.7 | 3.3 | 100 | 6 | 0 | 6 | 10ad | 0.0 | 100 | 7 | 1 | 8 | 87.5 | 12,51 | 100. | 3 | 2 | 5 | 60.0 | HD,D | 100. |


| Evaluation | 6/SEcpnos- 5 Mowutes |  |  |  |  |  | 6-30 MUNUTES |  |  |  |  |  | OVER 30 MUNUES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mamer |  |  | Percont |  |  | Aumber |  |  | Per Cent |  |  | Mumber |  |  | Percent |  |  | Aumber |  |  | Per Cent |  |  |
|  | Cestin | Dowbthil | [ola | Centin | DDoubkul] | Tolad | Ceritain | Doubtul | Tota | trin | Doatctur | Tolal | Ceftain | Dastifu | Toba | Certain | Doubltul | Total | Certain | Dowbt | Toba | Certain | Doubttol |  |
| Q. Ballion |  | 1 | 3 | 8.2 | 4. | 13.0 | 2 | 0. | 2 | 8.7 | 0.0 | 8.7 |  | 0 | 1 | 12.5 | 0.0 | 12 |  | 2 | 6 | 8.2 | 4,1 | 2. |
| 1-Astronomica | 2 | , | 1 | 0. | 4.3 | 4.3 | 3 | 1 | 4 | 13.0 | 4.3 | 176 | , | 1 | 2 | 12,5 | 12.5 | 25.0 |  | 8 | /1 | 6.1 | 16. 3 |  |
| 2.Alcratt | 3 | 1 | 4 | 13.0 | 4.3 | 17.3 | 2 | 4 | 6 | 8.7 | 17.4 | 26.1 | 1 | 0 | - | 12.5 | 2.0 | 12.5 | 2 | 2 | 4 | 4.1 | 4.1 |  |
| ${ }^{3}$ Llight Phon | 0 | 1 | 1 | 0 | 4 | 4.3 | 1 | 0 | 1 | 43 | 0.0 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 |
| 4 4-Einds | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |
| s-cloods, Dost | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| G-Insuttic tano. | , | 0 | 1 | 4.3 | 0.0 |  | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 2 | 0 | 2 | 25.0 | 0.0 | 25. | 10 | 0 | 10 | 20.4 | 0.0 | 20 |
| 7. Psycriolerial | 0 | 1 | 1 | 0.0 | 4.3 | 4.3 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.0 | 0.0 |  |
| B,Unknow | 10 | 0 | 10 | 43,5 | 0.0 | 43, 5 | 6 | 0 | 6 | 26.1 | 0.0 | 26.1 | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 | 13 | 0 | 13 | 26.5 | 0.0 | 26. |
| Yothes | 2 | 0 | 2 | 8.7 | 0.0 | 8.7 | 3 | 0 | 3 | 13.0] | 0.0 | 13.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 3 | 6.1 | 0.0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 18 | 5 | 23 | 78.3 | 21.7 | 100. | 18 | 5 | 23 | 78.3 | 21.7 | 100. | 7 | 1 | 8 | 87,5] | 12.5 | 100. | 37 | 12 | 49 | 75,5 | 24.5 | 100 |



| Eviluation | 6/SECOHOS-5MINVEES |  |  |  |  |  | 6-30 M/WUTES |  |  |  |  |  | OVER 30 MUNUTES |  |  |  |  |  | Ner STATEQ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nunber |  |  | Pet Cent |  |  | Munber |  |  | $\mathrm{Pex}_{\text {cent }}$ |  |  | Humber |  |  | Percent |  |  | Humbes |  |  | Per Cont |  |  |
|  | Certain | Doubltul | Oobt | Certain | Dowitul | Tolal | Cerrain | Dovettol | Tolal | Celtioin | Doubtiol | Tota | Certain | Dabitfol | Total | Centain | Dooblitul | Toan | Cetain | Doveltaid | Tota | Centain | Doultitol | Tota |
| 1-Baxiloon | 40 | 36 | 76 | 13.2 | 11.9 | 25.4 | 53 | 37 | 90 | 16.8 | 右 | 28,5 | 25 | 12 | 37 | 1 I. | 7.7 | 238 | 31 | 20 | 51 | 9,0 | 5.8 | 14.8 |
| 1-Astronomical | 3 | 7 | 10 | 1.0 | 2.3 | 3.3 | 22 | 14 | 36 | 7,0 | 4.4 | 1114 | 23 | 13 | 36 | 14.8 | 8.4 | 232 | 46 | 13 | 59 | 13.4 | 3.8 | 17.2 |
| 2-Aircant | 43 | 50 | 93 | 14.2 | 16.5 | 30.7 | 31 | 33 | 64 | 9.8 | 10.4 | 20.2 | 8 | 7 | 15 | 5.2 | 45 | 9.7 | 42 | 27 | 69 | 12.2 | 7.8 | 20.0 |
| 3-Light Phemon. | 6 | 3 | 9 | 2. | 1.0 | 30 | 13 | 6 | 12 | 4.1 | 1.9 | 6.0 | 1 | 2 | 3 | 0.6 | 1.3 | 1.9 | 3 | 1 | 4 | 0.9 | 0.3 | 1.2 |
| 4 Birds | 1 | 0 | 1 | 0.3 | 0.0 | 0.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 1.3 | 0.0. | 1.3 | 1 | 0 | , | 0.3 | 0.0 | 0.3 |
| SCloods, Oust, etc | 0 | 3 | 3 | 0.0 | 1.0 | 1.0 | 1 | 1 | 2 | 0.3 | 0.3 | 0.6 | 1 | 0 | 1 | 0.6 | 0.0 | 0.6 | - | 0 | 1 | 0.3 | 0. | 0.3 |
| Glosultic. mini. | 18 | 0 | 18 | 5.9 | 0.0 | 5.9 | 27 | 0 | 27 | 8.5 | 0.0 | 8,5 | 7 | 0. | 7 | 4,5 | 0.0 | 4.5 | 70 | 0 |  | 20.3 | 0.0 | 20.3 |
| 7.Pricmological | 4 | 3 | 7 | 1.3 | 1.0 | 2.3 | 7 | 0 | 7 | 22 | 0.0 | 22 | 4 | 1 | 5 | 2.6 | 0.6 | 32 | 2 | 1 | 3 | 0. | 0. | 0.9 |
| Bundum | 72 | 0 | 77 | 25.4 | 0.0 | 25.4 | 58 | 0 | 58 | 18.4 | 0.0 | 18.4 | 39 | 0 | 39 | 25.2 | 0.0 | 25.2 | 73 | 0 | 73 | 21.2 | 0.0 | 21.2 |
| 90ther | 9 | 0 | 9 | 3.0 | 0.0 | 3.0 | 10 | 3 | 13 | 3.2 | 09 | 4.1 | 7 | 3 | 10 | 4.5 | 1.9 | 6.4 | 12 | 1 | 13 | 3,5 | 0.3 | 3.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toun | 201 | 102 | 303 | 66.3 | 33.7 | 100. | 222 | 94 | 316 | 70.3 | 29.7 | 100 | $1 / 7$ | 38 | 5 | 75.5 |  | 100. | 281 | 63 | 344 | 87.7 | 1 | . |



|  | 61 SECONOS-5MINUTES |  |  |  |  |  | 6-30 Minvtes. |  |  |  |  |  | OYER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per Cent |  |  | Humber |  |  | Pa Cmt |  |  | Humbet |  |  | Peacent |  |  | Hunber |  |  | Per cent |  |  |
| Evaluation | Certain | Doubtul | Tob1 | Certsin | Doobltal | Total | Certoin | [Dasbtal | Total | Certin | Dabitiol | Tota | Centrin | Doobtiful | Total | Certain | Douthtul | Total | Cetion | Doutter | Total | Ceflain | Daubtul | Tota |
| O-Baxloon | 53 | 35 | 88 | 14.4 | 9.5 | 23.9 | 63 | 38 | 101 | 16.8 | 10.1 | 26.9 | 29 | C2 | 41 | 169 | 7.0 | 23.9 | 43 | 20 | 63 | 28 | 3.6 | 11.4 |
| 1-Astrononical | 6 | 11 | 17 | 1.6 | 3.0 | 4.6 | 31 | $15^{1}$ | 46 | 82 | 4.0 | 12,2 | 27 | 15 | 44 | 16.9 | 8. | 25,6 | 62 | 47 | 109. | 11.3 | 86 | 19.9 |
| 2-Aitcrath | 52 | 49 | 101 | 14.1 | 133 | 27.4 | 38 | 37 | 75 | 10.1 | 9.8 | 19.9 | 9 | 8 | 17 | 52 | 4.7 | 9.9 | 60 | 34 | 94 | 10.9 | 62 | 171 |
| 3.Ligte Pherom. | 6 | 3 | 9 | 1.6 | 0.8 | 2.4 | 14 | 5 | 19 | 3.7 | 1.3 | 5.0 | 1 | 2 | 3 | 0.6 | 12 | 1.8 | 5 | 1 | 6 | e. 2 | 0.2 | 1.1 |
| 4 - Bins | , | 0 | 1 | 0.3 | 0.0 | 0.3 | 0 | 1 | 1 | 0.0 | 2. 3 | 0.3 | 2 | 0 | 2 | 1.2 | 0.0 | 1,2 | 2 | 2 | 4 | 0.4 | 0.8 | 08 |
| 5-Clowds, Oust, dt: | 0 |  | 3 | 0.0 | 0.8 | 28 | 1 | 1. | 2 | 0.3 | 0.3 | 0.6 | 1 | 0 | 1 | D, 6 | 1.0 | 0.6 |  | 0 | 1 | 0.2 | 00 | 0.2 |
| GInsultic. mbo. | 26 | 0 | 26. | 2.1 | 00 | 71 | 32 | 0 | 32 | 8.5 | 0.6 | 8.5 | 10 | $\Delta$ | 10 | 5.8 | 0.0 | 5.8 | 123 |  | 123 | 22.4 | 0.0 | 23.4 |
| 7.Psyerological | 5 | $y$ | 9 | 1.4 | 1.1 | 25 | 2 | 0 | 9 | 2.4 | 0.0 | 24 | 5 | , | 6 | 2.9 | 0.6 | 3.5 | 8 | 2 | 10 | 1.5 | 0.4 | 1.9 |
| 8-Undinom | 98 | $\partial$ | 99 | 26.9 | 0.0 | 26.9 | 7 | 0 | 71 | 18.9 | 0.0 | 18.9 | 37 | 0 | 37 | 21.5 | 0.0 | 215 | 104 | 0 | 104 | 190 | 0.0 | 18.0 |
| 9-0ther | 14 | 1 | 15 | 3.8 | Q3 | 4.1 | 15 | 5 | 20 | 4.0 | 1.3 | 5.3 | 8 | 3 | /1/ | 4.7 | 1.7 | 6.4 | 22 | 6 | 34 | 53 | 0.9 | 6.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 262 | 106 | 3681 | 17.21 | 28.8 | 160 | 274 | 102 | 376 | 72.9 | 271 | 100 | $13 /$ | 41 | 172 | 76.3 | 23.8 | 100 | 437 | /1/ | 548 | 72.7 | 20.31 | 108. |



| Evaluation | 5 SECONOS AND LESS |  |  |  |  |  | 6-10 SECONDS |  |  |  |  |  | 11-30 SECONDS |  |  |  |  |  | 31-60 SECONOS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Musber |  |  | 'PaCent |  |  | Number |  |  | Pax Cent |  |  | Mumber |  |  | Peecent |  |  |
|  | Certion | Doubtiol | Tobi | Cetain | Dowitall | Tolad | Certain | Dobitul | Totat | Certain | Doubtbu] | Total | Certain | Doubtul | Total | Certin | Doubtull | Total | Cerlain | Doubtul | Total | Certain | Doubtul | Tolal |
| O-Balloon | 0 | - 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1.Astronomical | 3 | 1 | 4 | 60.0 | 20.0 | 80.0 | 4 | 2 | 3 | 33,3 | 66.7 | 100.0 | 1 | 0 | 1 | 8.3 | 0,0 | 8.3 |  |  | 1 | 0.0 | 16.7 | 16.7 |
| 2-Aurciatt | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 0 |  | 1 | 0.0 | 16.7 | 16.7 |
| 3-Lught Pherom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 |
| 4 - Bios | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Oust edc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 10 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-nseltic. Into. | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | $0)$ | 0 | 0.0 | 0.0 | 0.0 | 7. | 0 | 2 | 16.7 | 0.01 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psycrological | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 83 | 8.3 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 |
| $8.4 n k$ now | 0 | 0 | 0 | 0.6 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | st | 0 | 5 | 41.7 | 0.0 | 4.7 | 1 | 0 | 4 | 66.7 | 0.0 | 66.7 |
| 9-Ovier | 1 | 0 | 1 | 20.01 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 1 | 8.3 | 0.01 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | Q0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 4 | 1 | 5 | 80.0 | 20.0 | 100. | 1 | 2 | 3 | 33.3 | 66.7 | 100. | 10 | 2 | 12 | 83.3 | 16.7 | 100. | 4 | 2 | 6 | 66.7 | 33.3 | 100. |


|  | 61 SECONDS-5MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | CVER 30 MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percort |  |  | Mumber |  |  | Perceint |  |  | Mumber |  |  | Pet Cent |  |  | Humber |  |  | Percent |  |  |
| Evaluation | Cerrain | Doubtivi | Total | Certain | [owitiol | Total | Cetrin | Doobttur | Totad | Certion | Doowtilu | Total | Senta | Dowithil | Tota! | Certion | Doubliul | Totat | Cerain | Doubtral | Totat | Corstian | Doubtion | Toda |
| 1-Ballom | 2 | 0 | 2 | 286 | 0.0 | 26.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 4 | 0. | 4 | 9.3 | 0.0 | 9.3 |
| 1-Astronoxical | 0 | 0 | 0 | 0.0 | 0.0 | al | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 3 | 4 | 7 | 7.0 | 9.3 | 16.3 |
| 2-Ailcratt | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 2 | 8 | 2 | 42 | 0.0 | 4.7 |
| 3-Ligt Phenot | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 1 | $\delta$ | 1 | 23 | 0.0 | 23 |
| 4 4-Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 02 | 0.0 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Cloods, Dust, etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | $\stackrel{ }{*}$ |  |  |  | 0 | 0 | D | 0.0 | 0.01 | 0.0 |
| G-nsutica me: | 1 | 0 | 1 | 14.3 | 0.0 | 143 | 2 | 0 | 2 | 66.2 | 0.0 | 66.7 |  |  | 0 |  |  |  | 7 | 0 | 7 | 163 | 0.0 | 16.3 |
| 7.Psyctolomica | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | - 0 | R | 0.0 | 0.0 | 0.0 |  | N |  |  |  |  | 3 | 4 | 4 | 7.0 | 2.3 | 9,3 |
| SUninnom | 2 | 0 | 2 | 28.6 | 0.0 | 27.6 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 |  | ( |  |  |  |  | 10 | 0 | 10 | 233 | 0.0 | 233 |
| Hotree | 4 | 0 | 1 | 14.3 | 0.0 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 8 | 0 | 8 | 18.6 | 0.0 | 18.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 7 | 0 | 7 | 1000 | 0.0 | 100. | 3 | 0 | 3 | 100.0 | 0.0 | 100. |  |  |  |  |  |  | 38 | 5 | 43 | 88.4 | 11.6 | 102 |



| Evaluation | S SENOS ANE CKS |  |  |  |  |  | 6-10 5ECONDS |  |  |  |  |  | 11-30 Seconos |  |  |  |  |  | $31-60$ SECONDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Per Cont |  | Number |  |  | Per Cont |  |  | Number |  |  | Pet Cent |  |  | Number |  |  | Per Cent |  |  |
|  | Señar | Ecuta |  | Centain | Doubutu |  |  |  |  | Cetian | [0esutitul $]$ | Tola | Centan | [Doustrinu | Tota |  |  |  | Centain | Doubthil | Total | Certain | Doubthil | Tota |
| abalion |  |  |  | 1 | $00^{\prime}$ | $\pm 3$ | 。 | 1 | 1 | 0.0 | 2.7 | 77 | 0 | 2 | 2 | Co | 22. | 22.2 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 |
| 1-4sstonamical | 5 |  | 2 | 2/2 | 30.4 | 52.1 | 4 | 4 | 5 | 308 | 7.7 | 38.5 | 1 | 1 | 1 | 00 | 11.1 | 11.1 | 0 | $d$ | 0 | 0.0 | 0.0 | 0.0 |
| 12 -Arctit |  | 0 | 2 | 9.2 | 0.0 | 8.7 | 0 | 0 | $?$ | 0.0 | 0.0 | 0.0 | $\angle$ | 0 | 1 | 11.1 | 0.0 | 11.1 | 2 | 0 | $z$ | 50.0 | 0.0 | 500 |
| 3 lmgmp Phem |  | 0 | 1 | 4.3 | QO | 4.3 | e | 2 | 2 | 0.0 | 15.4 | 154 | 0 | 0 | 0 | 0.0 | 0.0 | 4.12 | 0 | 0 | 人 | 0.0 | 0.0 | 00 |
| 4.8 drs |  | 0. | 7 | 4.3 | 0.0 | 43 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 0 | 0 | 2 | 2.0 | 0.0 | 0.0 | 0 | 0. | 2 | 0.0 | 0.0 | 0.0 |
| scleuds. Dust, et. | 0. | 0 | 0 | 00 |  | 100 | 0 | 0. | 0 | 0.0 | a0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - 0 | 0. | 0 | 6 | 0.0 | 0.2 |
| GInsultic info. | $2^{2}$ |  | 2 | 8.2 | 0.0 | 8.7 |  | 0 | 1 | 27 | 0.0 | 7.7 | 1 | 0 | 1 | 11.1 | ce | 111 | 1 | 0 | 1 | 25.0 | 1.0 | 25.0 |
| 7. Psydulogical | 0 | 0 | $\bigcirc$ | 0.0 |  | 0.0 | 0 | 01 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | OD |
| BUnamom |  |  | 3 | 13.0 |  | 13.0 | 4 | 0 | 4 | 308 | 0.0 | 308 | 3 | d | 3 | 333 | 0.0 | 3.33 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 9006e | 0 |  |  | 0.0 | 4.3 | 43 | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 11.1 | 11.1 | - | 0 | 1 | 25.0 | 0.0 | 25,0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toled | 5 | [ 8 | 23 | 65 | 348 | 100.1 | 9 | 4 | 13 | 692 | 30.8 | 100.1 | 5 | 4 | 9 | 55.6 | 44.4 | 100. | 4 | 0 | 4 | 100.0 | 0.0 | 100. |



TARE AGE EVALUATION OF OBJFCT SUGHTNLGS BL DURATLON DF SIGHTING,

|  | 5 SECLNOS ANOLESS |  |  |  |  | $6-16$ SECNOS |  |  |  |  |  | 11-30 SECONOS |  |  |  |  |  | 31-60 SECONDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  | Percms |  |  | Number |  |  | Per Cent |  |  | Humber |  |  | Per cent |  |  | Number |  |  | Per Cot |  |  |
| Evaluation | Cerian babitul | Ycta! | Certain | Doubitul | Total | Certain | Dooblitu\| | Total | Certain | Doubitul | Total | Cerlain | Doubthul | Total | Certain | Doubtul] | Toal | Certrin | Doubtitil | Total | ain | Doupthal | rotal |
| (0-Balloon |  | 0 |  | 0.0 | 00 | 0 | 0 | 0 | 18 | 1.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | , | 0.0 | 0.0 |
| 1-Astaname | 38 | 42 |  | 12. | 89.4 | 0 | 2 | 2 | d. 0 | 28.6 | 286 | 2 | 3 | 5 | 122 | 33.3 | 55.5 | 2 | 0 | 2 | Le. | 0.0 | 18.2 |
| 2-Almat | 0. | 2 |  | 4.3 | 4.3 | 0 | 1 | 1 | 0.0 | 14.3 | 14.3 | 2 | 0 | 2 | 22.2 | 0.0 | 27.2 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 |
| 3-L | 010 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {ard }}$ |  |  |  | 21 | 2.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 18.2 | 0.0 | 8.2 |
| Scleuso. .ast elc | 0.0 | L |  | 0.0 | 0 | - 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\sigma$ | 0 | 0.0 | 0.0 | 20 |
| Folnsutica into | 210 | 2 | $\underline{2}$ | Cid | 4 | 1 |  | 1 | 143 | 0.0 | 14.3 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 1 | 0. | 1 | 9.1 | 0.0 | 9.1 |
| 7.Psyctolog | - | 0 | 0.0 | 10 |  | - | 0 | 0 | 18.0 | - 0 | 0.0 | 0 | 0 | 0 | 0, 0 | 0.0 | 10, | 0 | 0 | 0 | 0.1 | 0.0 | 0.8 |
| (8)Lnanom | 0 d | 0 |  | do | 0.0 | - | 0 | 2 | 28.6 |  | 29.6 | 1 | 0 | , | 111 | 0.0 | 11.1 | 8 | 0 | 4 | 36.4 | 0.0 | 36.4 |
| $9-0$ ther | 1.0 |  |  | 20 | 0.0 |  | 0 | , | 14.3 | 0.0 | 14.3 | 0 | 0 | 2 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolai | ? | 47 | 12 | 1 | 160 | 4 | 3 | 7 |  | 42.9 | 1001 | 6 | 3 | 9 |  |  |  | // | $D$ |  |  | 0.0 | 100 |


| Evaluation | Firas 5 HNUTES |  |  |  |  |  | -0-3CM/NLTES |  |  |  |  |  | QVER 30 MINVTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nuther |  |  |  | Percoit |  | Number |  |  | Per Cont, |  |  | Number |  |  | Percent |  |  | Nunber |  |  | Per Cent |  |  |
|  | Ccitain | 93ubthon | Tota! | Cetion | Doubtrul | T 7017 | Certain | Doubtul | Total | Cextan | Doostitul | Tota | Cerrain | Dowitiol | Total | Certain | Doubtral | Total | Certain | Dowbtivel | Total | Certio | Dobibtal | Total |
| 108sulten |  | 0 | 6 | 273 | 0.01 | 1273 | 2 |  | 4 | 10.0 | 10.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 48 | 0.0 | 4.8 |
| 1-nstornmat |  | 3 | 3 | 0.0 | 136 | 13.6 | 3 | 0 | 3 | 15.8 | 0.0 | 15.0 | 3. | 0 | 3 | 42.9 | 0.0 | 429 | $\angle 5$ | 9 | 24 | 23.8 | 14.3 | 38.1 |
| 2-Airalt | 3 | 7 | 5 | 13.6 | 6.91 | 227 | -3 | 3 | 6 | 15.0 | 15.0 | 30.0 | 0 | 1 | 1 | 0.0 | 14.3 | 14.3 | 8 |  | 11 | 12.7 | 4.8 | 175 |
| 7L 2 ghl Phown. | 0. | 0 | 0 | 0.0 | 000 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.2 | 0 | 0 | 0 | 0.0 | 0.0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | Cid |
| $4 \cdot \mathrm{Bras}$ | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0. | 0 | 0 | 0.0 | 0.8 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust elc | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 6.0 | 0.0 | 0.01 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | < 4 |
| 6-1nsultic info. | 3 | 01 | 3 | (3.6) | 0.0 | 13.6 | 1 | 0 | 1 | 5.01 | 0.0 | 5.0 | 1 | 0 | 1 | 14.3 | 0.0 | 143 | 15 | 0 | 15 | 23.8 | 0.0 | 238 |
| 7.Psytalogical | 0. | 0 | 0 | 00 | 0.0 | 0.0 |  | 0. | $\angle$ | 5.0 | 0.0 | 5.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 32 | 0.2 | 3.2 |
| 8 8Unkrown | $\underline{7}$ | 0 | 4 | 18.2 | 0.0 | 18.2 | 4 | 0 | 4 | 200 | 10.0 | 200 | 1 | $\div 0$ | 1 | 14.3 | 0.0 | 143 | 6 | 0 | 6 | 9.5 | Q0 | 9,5 |
| 9-0tse | 1 | 0 | 1 | 45 | 0.0 | 45 | $\angle$ | 0 | 1 | 5.0 | 0.0 | 5.6 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 2 | 0 | 2 | 3.2 | 2.0 | 3.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  | 7 |  |  |  |  |  |  |  |  |  |  |  |
| rout | 17 | 5 | 27 | 21.3 | 22.7 | 100 | 15 | 5 | 20 | 75.0 | 25.0 | 100 | 6 | 1 | 7 | 85.7 | 14.31 | 100 | 51 | 12 | 63 | 81.0 | 120 | 180 |

TABLE 999
-Ev

5 SECONDS ANE 1950

| 6-10 SECONOS |  |  |  |  |  | $11-30$ SECAND |  |  |  |  |  | 31.60 SECONDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nunber |  |  | $\begin{aligned} & \text { Per Cost } \\ & \text { in } 1 \text { Docotiol } 1 \text { Total } \end{aligned}$ |  |  | Munael |  |  | $\begin{array}{\|c\|} \hline \text { Per Cent } \\ \text { Cetbin [Doubtom [otail } \\ \hline \end{array}$ |  |  | zin Dumber Dovitul Total |  |  |  |  |  |
| Celtio | Doobtha |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Q | 0 | 0.9 | 0.0 | 0.4 | 0 | - 1 | 1 |  | 010.0 | 10.0 |  | 0 |  | 11. | 0.0 | 14. |
|  | , | 3 | 25.0 | 50.0 | 75. | 2 | d | L | 200 | 0.0 | 20.0 |  |  |  | 0.0 | 222 |  |
|  | 0 | 1 | 250 | 0.0 | 25,0 | 3 | 2 | 5 | 30.0 | 20.0 | 50.0 |  |  | 2 | 22. | D.e |  |
|  | 0 | 0 | 0.0 |  | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | O, | 0.0 |  |
| 0 | 0 | 0 | 0. | 0.0 | 00 | 0 | 0 | 0 |  |  | 0.0 |  |  | 0 | 0.0 | 0.0 |  |
|  |  | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.6 | 0. | 0.1 | 0 |  |  | 0.0 | CO |  |
|  | 0 | 0 | 1.0 | 0.0 | 0.6 | 1 | 0 |  | 10.0 |  | 10.0 | - |  | 0 | 00 | 0.0 | 0. |
|  | 0 | 0 | el | 0 | 00 |  | 0 | 0 | 0. |  | 0.0 | - 0 |  |  | 0.0 | 0.0 |  |
|  |  | $\bigcirc$ | 0.0 | , | d, |  | 0 | 1 | 10.0 | 0.0 | 10.0 |  | $3-$ | 3 | 333 | 0.0 | 33 |
|  | 0 | - | 0. | 02 | 0.0 | - |  | 0 | a |  |  |  |  | 1 | /1/1 | a |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  | 4 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


|  | 61SECONOS-5ININTES: |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OVER 30 MUNUTES |  |  |  |  |  | NoT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Percorl |  |  | munter |  |  | Percent |  |  | Humber |  |  | Percont |  |  |
| Evaluation | Centin | Doubitul | Tobil | Certain | Dovottul | Total | Certain | Doubtivi] | Totai | Certain | Dociblul | Total | Centain | [Dovstul] | Tolal | Certain | Doubtrol | Total | Cetrin | Doubtitul | Total | Certain | Doobthil | Total |
| A-Bazloon | 4 |  | 5 | 125 | 3.1 | 15.6 | 8 | 2 | 10 | 222 | 5.6 | 27.8 | 3 | 0 | 3 | 33.3 | 0.0 | 33.3 | 4 | 0 | 4 | 2.4 | 0.0 | 7.4 |
| 1-Astronomical | 3 | 0 | 3 | 9.4 | 0.0 | 9.4 | 2 | 0 | 2 | 56 | 0.0 | 5.6 | 2 | 1 | 3 | 22.2 | 11.1. | 33,3 | 9 | 5 | 14 | 16.7 | 9.3 | 26.0 |
| 2-Aictraft | 3 | 1 | 4 | 9.4 | 3.1 | 12.5 | 3 | 3 | 6 | 8.3 | 8.3 | 16.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 3 | 12 | 16.7 | 5.6 | 22.3 |
| 3-Lighl Phenom. | 0 | $\sigma$ | 0 | 0.0 | 0.0 | 60 | 0 | 0 | 0 | ed | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds, Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.4 | 0 | 0 | 0 | 0,0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | ed | 0.0 | 0.0 |
| 6-1nsulfic. Ant. | 3 | 0 | 3 | 9.4 | 0.0 | 9.4 | 3 | 0 | 3 | 8.3 | 0.0 | 8.3 |  | 0 | 1 | 11.1 | 0.0 | 11.1 |  | 0 | 14 | 25.9 | 0.0 | 25.9 |
| 7.-Pycimobgical | 1 | 0 | 1 | 31 | 0.0 | 3.1 | 1 | 0 | 1 | 2.8 | 00 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | D | 0.0 | 0.0 | 0.0 |
| 8 8Unknown | 13 | 0 | 13 | 40.7 | 00 | 40.7 | $1 /$ | 0 | 11. | 30.6 | 0.0 | 30.6 | 2 | 0 | 2 | 222 | 0.0 | 22.2 | 8 | 0 | 8 | 14.8 | 0.0 | 14.8 |
| 9-0ther | 2 | 1 | 3 | C. 2 | 31 | . 93 | 1 | 2 | 3 | 2.8 | 5.6 | 8.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | $z$ | 3.2 | 0.0 | 3.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 29 | 3 | 32 | 30.6 | 9.4 | 100. | 29 | 7 | 36 | 80.6 | 19.4 | 100. | 8 | 1 | 2 | 8891 | III | 100. | 46 | 8 | 54 | 85.2 | 14.8 | 100. |

TABLE A 100 EVALVATION OF OBIECT SIGHTINGS QK DURATION OF SIGHTING,

| Evalualion | 5 SECONDS AND LESS |  |  |  |  |  | 6-10 SECONDS |  |  |  |  |  | $11-305$ 5-LONOS |  |  |  |  |  | 3/-60 SELONDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percem |  |  | Mumber |  |  | Percent |  |  | Humber |  |  | Pes Cenl |  |  | Number |  |  | Petcent |  |  |
|  | Certain | Docebtral | Total | Certain | Dombtul | Todal | Certain | Doatifici | Total | Cetrain | Dobbltal | Total | Cention | Dovottul | Total | Centain | Ooubthal | Total | Certain | Docutery | Tota | Ceftain | Daubthl | Tol |
| O-8alloon | 0 | 0 | D | $0 \cdot 0$ | 0.9 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | $\checkmark$ | 0 | 0 | OD | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 1-Astronomical | 5 |  | 7 | 41.2 | 16.75 | 58.4 | 2 | 0 | 2 | 40.0 | 00 | 40.9 | 2 | 0 | 2 | 333 | 0.0 | 33.3 | 0 | 1 | 7 | 0.0 | 20.0 | 20.0 |
| 2-Aictath | 1 | 0 | 1 | 83 | 0.0 | 8.3 | 1 | 0 | 1. | 20.0 | 0.0 | 20.0 | 2 | 0 | 2 | 333 | 00 | 33.3 | 3 |  | 4 | 60.0 | 20.6 | 800 |
| 3. Lent Phenoa | 0 | 0 | 0 | 0.0 | 00 | 0,0 | 0 | 0 | $D$ | 20 | 00 | 0.0 | 0 | 0 | 0 | D0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 |
| 4 - Brids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 16.7 | 16.7 | 0 | 0 | 0 | 0.0 | 00 | 00 |
| S-Clouds, Oust. ec. | 0 |  | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nsuitic. into. | 0 | 01 | e | DO | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | D | 0.2 | 0.0 | - 1. | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 7. Psychlogical | 0 | 0 | C | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | Q | 1.0 | 0.0 | Q. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| B-Unknown | 4 | 0 | 4 | 333 | 0.0 | 333 | 2 | 0. | 2 | 40.0 | 0.0 | 40.0 | c. | 0 | 1 | 16.7 | 0.0 | 16.7 | $d$ | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Y-oter | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 10 | 2 | 12 | 83.31 | 167 | IDP. | 5 | 0 | 5 | 100.0 | 00 | 101. | 5 | 1 | 6 | 83.3 | 16.7 | 180. | 3 | $\lambda$ | 5 | 60.0 | 40.0 | IPD. |


| Evaiution | 61SECONA - 5 Ajuntes |  |  |  |  |  | 6-30 MNUTES |  |  |  |  |  | CVEA 3R MINUTES |  |  |  |  |  | NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Peicent |  |  | Number |  |  | Percent |  |  | Mumber |  |  | Percent |  |  | Number |  |  |  |  |  |
|  | Cerixin | Doubttul | rotal | Certain | Doubthol | Toter | Certain | Doubtha | Total | Centain | Dosotul | Total | Cerldin | Doubtul | Total | Certain | Doubtiol | Tolas | Cerain | Doubthil | Total | Cratin | Doubtiol | Tow |
| d. Eallion | 2 | R | 3 | 4.5 | 4.8 | 14.3 | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 3. | 2 | 5 | 6.5 | 4.3 | 108 |
| 1-Astronomical | 0 | 1 | 1 | 0.0 | 4.8 | 4.8 | 3 | 1 | 4 | 15.8 | 5.3 | 21.1 | $\angle$ | 1 | 2 | 14.3 | 14.3 | 28.6 | 3 | 8 | $1 /$ | 6.5 | 17.4 | 23.9 |
| 2-Atcraft | 3 |  | 4 | 14.3 | 4.8 | 19.1 | 2 | 3 | 5 | 10.5 | $15: 8$ | 26.3 | $<$ | 0 | 1 | 14.3 | 0.0 | 14.3 | 2 | $\angle$ | 3 | 4.3 | 2.2 | 6.5 |
| 3 Light Preno. | 0 | 4 | 1 | 00 | 4.8 | 4.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 22 | 0.0 | 2.2 |
| 4 -8irds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 06 |
| S.Clouds, Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 00 |
| G-msuntic ino. | 1 | 0 | 1 | 48 | 0.0 | 4.8 | 1 | 0. | 1 | 5.3 | 0.0 | 5.3 | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 | 10. | 0 | 10 | 2.2 | 0.0 | 21.7 |
| 7. Pydurionical | 0 | 1 | 1 | 0.0 | 4.8 | 4.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | l | 00 | 0.0 | 0.0 | 1 | 0 | 1 | z2 | 00 | 2.2 |
| 8-unaroum | 8 | 0 | 8 | 381 | 00 | 381 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 13 | 0 | 13 | 28.3 | 0.0 | 28.3 |
| 9.0ter | 2 | 0 | 2 | 25 | 0.0 | 9.5 | 3 | 0 | 3 | 15.8 | 10 | 15.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | $\sigma$ | 2 | 43 | 0.0 | 4.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 16 | 5 | 21 | 76.2 | 23.8 | 180. | 15. | 4 | 19 | 78.9 | 21.1 | 108. | 6 | 1 | 7 | 825.2 | (43) | 100. | 35 | 17 |  | 76.1 | 23.9 | 100. |



| Evaluation | 6/SECONOS -5 Menutes |  |  |  |  |  | 6-30 MNUTES |  |  |  |  |  | Qveri 3 M MINUTES |  |  |  |  |  | Net STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | Mebeer |  |  | Pex cont |  |  | Mumer |  |  | Parcent |  |  | member |  |  | Percat |  |  |
|  | Cention | Dowtolul | Totir | Cention | Doubitu | Toter | Ceftrin | Doubtin | rotal | Catain | Doubth] | Toind | Cetrial | Doubtinl | Tobi | Certain | Doibtitul | Total | Centin | Dastitol | Toter | Certuin | Daubitul | Tota |
| ararlosa | 38 | 32 | 10 | 13.7 | 116 | 25.3 | 50 | 38 | 80 | 177 | 10.6 | 28.3 | 21 | 12 | 33 | 15.0 | 8.6 | 236 | 24 | 6 | 40 | g, 5 | S. | 14.2 |
| 1-Astomomical | 2 | 6 | 8 | 0.7 | 22 | 2.9 | 19 | 14 | 33 | 6.7 | 4.9 | 11.6 | 20 | 13 | 33 | 14.3 | 93 | 23.6 | 24 | , | 32 | 8.5 | 2.8 | 11.3 |
| 2-4ircain | 40 | 45 | 85 | 14.4 | 162 | 30.6 | 29 | 27 | 56 | 10.2 | 9.5 | 19.7 | 7 | 7 | 14 | 50 | 5.0 | 11.0 | 34 | 24 | 58 | 121 | 8.5 | 20.6 |
| 3-Lijpt Preoma. | 5 |  | 7 | 1.8 | 0.7 | 2.5 | 3 | 5 | 18 | 4.6 | 1.8 | 6.4 | 1 | 2 | 3 | 0.7 | 1.4 | 2.1 | 3 | 0 | 3 | 11 | 0. | 1.1 |
| 4 -Bins |  | 0 | 1 | 0.4 | 0.0 | 0.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 2 | $a$ | 2 | 1.4 | 0.0 | 1.4 |  | $\delta$ | 1 | 0.4 | 0.0 | 0.4 |
| 5 -cloods Doust etc. | 0 | 3 | 3 | 0.1 | 1.1 | 1.1 | 1 | 1 | 2 | 0.4 | 1.4 | 0.8 | 1 | 0 | 1 | 4.7 | 0.0 | 0. 7 |  | 0 | 1 | 0.4 | 0.0 | 0.4 |
|  | 17 | 0 | 17 | 6.1 | 0.0 | 6.1 | 24 | 0 | 24 | 8.5 | 0.0 | $\beta .5$ | 6 | 0 | 6 | 4.3 | 0.0 | 4.3 | 67 | 0 | 67 | 23.8 | 0.8 | 23.8 |
| xpyrtological | 4 | 3 | 7 | 1,4 | $1 /$ | 2.5 | 7 | 0 | 1 | 2.5 | 0.0 | 2.5 | 4 | , | 5 | 2.9 | 0.7 | 3.6 | 2 |  | 3 | 0.7 | 2. 4 | 7.1 |
| 8 - Uninow | 23 | 0 | 71 | 256 | 0.0 | 75.4 | $5 /$ | 0 | ज1 | 18.0 | 0.0 | 18.0 | 33 | 0 | 33 | 23.6 | 0.0 | 23.6 | 63 | 0 | 63 | 22.4 | 1.1 | 22.4 |
| 9-0per | 8 | 0 | B | 29 | Q. 1 | 2.9 | 10 | 2 | 12 | 3,5 | 0.7 | 4.2 | 7. | 3 | (1) | 5.0 | 2.1 | 7.1 | 12 | 1 | 13 | 4.3 | 0.4 | 4.7 |
| Total | 186 | 9 |  |  |  |  | 20 | 79 |  |  |  |  | 102 |  |  |  |  |  |  | 50 |  |  |  |  |



| Evalualion | SEPTEMRER |  |  |  |  |  | Detaper |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMRER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Pencat |  |  | Mumber |  |  | Percant |  |  | Numbet |  |  | Percent |  |  | Mumber |  |  | Per Cont |  |  |
|  | Certain | Dowbltu] | Total | Cetain | Doubthil | Total | Cernain | Doatotul | Total | Cprtain | Daubtul | Total | Cetbin | Doubitiol | Total | Centain | Doubtivil | Total | Catain | Doultay | Total | Certain | Dabithil | Total |
| 0.Balioon | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 5.6 | 5.6 | 0 | 0 | 0 | e. 0 | 0.0 | 0. | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronamica | 12 | 1 | 13 | 51.1 | 4.8 | 61.9 | 17 | 6 | 23 | 472 | 16.7 | 63.9 | 7 | 14 | 21 | 24.1 | 48.3 | 72.4 | 12. | 12 | 24 | 40.0 | 40.0 | 80.0 |
| 2-Ainctat | 1 | 2 | 3 | 48 | 9.5 | 143 | 1 | 3 | 4 | 28 | 83 | 11.1 | 2 | 1 | 3 | 6.9 | 3.4 | 10.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Light Phenom. | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 2.8 | 2.8 | 1 | 0 | 1 | 14 | le | 3.4 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 4 - Birds | $a$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 2.8 | 2.8 | 5.6 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | 0 | 2 | 0 | 00 | 0.0 | 0.0 |
| 5-Clouds, Dust ex. | 1. | 0 | 0 | 0.0 | 0.0 | 02 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0. | 0 | 0 | 00 | 0.0 | 00 |
| 6 G-msulfic. min. | 2 | 0 | 2 | 9.5 | 00 | 9.5 | 1 | 0 | 1 | 2.8 | 0.0 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 00 |
| $\underline{t P r y c h o l o g i c a l ~}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 120 |
| 8-Unlinome | 2 | 0 | 2 | 9.5 | 0.0 | 4.5 |  | 0 | 3 | 4.3 | n.0 | 8.3 | 3 | 0 | 3 | 10.3 | 0.0 | 10.3 | 6 | 0 | 6 | 20.0 | 0.0 | 20.0 |
| S-Otres | 0 | 1 | 1 | 0.0 | 4.8 | 4.8 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| roal | /71 | 4 | 21 | 81.0] | $19.0]$ | 10. | 23 | 13 | 36 |  | 36.1 | 100. | 14 | 15 | 29 | 48.3 | 51. |  | 18 | 12 | 30 |  | 400 |  |



|  | May |  |  |  |  |  | June |  |  |  |  |  | Jucy |  |  |  |  |  | Aucost |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Humber |  |  | Pee Cont |  |  | Munber |  |  | Percent |  |  | Munber |  |  | Percont |  |  |
| Evaluation | Certain | Doubtuil | Tobl | Cerrain | Diobitul | Total | Certain | Dowituil | Tola | Cettin | Dowblui | Told | in | Dovobttol | Total | Cratain | Doubltad | Total | Cortin | Doutith | Total | Certrin | Dastriul | Total |
| Q-Ballion | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 1 | 0 | 1 | 5.0 | 0.0 | 50 | 1 | 0 | 1 | 2.4 | 0.0 | 24 | 0 | 4 | 4 | 0.0 | 12.5 | 12.5 |
| 1-Astronomical | 3 | 0 | 3 | 25.0 | 0.0 | 15.0 | 5 | $\underline{7}$ | 10 | 15. | 35.0 | 50.0 | 14 | 6 | 20 | 34.1 | 14.6 | 48.7 | 3 | 3 | L | 9.4 | 9.4 | 18.8 |
| 2-Aimant | 2 | 1 | 3 | 16.7 | 8.3 | 250 | 3 | 2 | 3 | 150 | 0.0 | 150 | 6 | 5 | 11 | 14.6 | 12.2 | 26.8 | 8 | 4 | 12 | 25.0. | 12:5 | 315 |
| 3-Lidt Pravos | 0 | 1 | 1 | 0.0 | 8.3 | 83 | 0 | 3 | 3 | 0.0 | cs. 0 | 150 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 3.1 | 0.0 | 3.1 |
| 4 - Binds | 2 | 0 | 0 | 0.0 | 20 | 0.0 | 2 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds, Oust, et | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 02 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| G-Insultic, mito. | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 2 | 0 | 2 | la | 0.0 | 10.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 | , | 0 | 2 | 6.3 | 0.0 | 6.3 |
| $7{ }^{\text {Prychological }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | e | 0.2 | 0.0 | 0.0 |
| 8 -undrown | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 1 | 0 | 1 | 50. | 0.0 | 5.0 | 7 | 0 | 7 | $11 /$ | 0.0 | 17. | 6 | 0 | 6 | 18.7 | 0.0 | 18.2 |
| 9-0.wer | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 24 | 0.0 | 24 | , | 0 |  | 3.1 | 0.0 | 31 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toftal | 10. | 2 | 12 | 83.3 | 16.7 | 100. | 10 | 10 | 20 | 50. | 50.0 | 100 | 30 | 11 | 41 | 13.2 | 26.8 | 100. | 21 | $1 /$ | 32 | 65.6 | 34.4 | 100. |


|  | SEPTEMBER |  |  |  |  |  | Retoree |  |  |  |  |  | NOVEMBEE |  |  |  |  |  | DEEEMSER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Huaber |  |  | Pescmit |  |  | Nunber |  |  | Patcont |  |  | Mumber |  |  | Pescent |  |  | Nunter |  |  | Percent |  |  |
| Evalustion | Centir | Dowbtrul | Tome | Certain | Dasabtal | Total | Cerain | Dowitul | Total | Certin |  | Total | Certain | Doubtral | Total | Cendia | Doubtrol | Talt | Cerlain | Doulthil | Total | Certain | Dowbthl | Total |
| O-Batioan | 0 |  | 1 | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20. | 0.0. |
| 1 Astoromital | 2 | 1 | 3 | 200 | 10.0 | 330 | 10 | 3 | 13 | 66.7 | 20.0 | 86.7 | 3 | 1 | 4 | 429 | 14.3 | 512 | 1 | 2 | 3. | 33.3 | 66.7 | 100.0 |
| 2-Aitalt | 0 | 2 | 2 | ne | 20.0 | 200 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Light Pheom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Biros | 0 | 1 | $\angle$ | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 20 | al | 0.0 | 0. | 0 | 0 | 00 | 0.0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| SCloous, Dust eta | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 02 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| SInsulficat mo. | 0 | 0 | - 0 | 0.01 | 0.0 | ar | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.2 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 1.Psyctrological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| BUnknomm | 3 | 0. | 3 | 30.0 | 0.0 | 30.0 | 2 | 0 | 2 | 133 | OL | 13.3 | 3 | 0 | 3 | 42.9 | 00 | 429 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| $9-0$ ther | 2 | 0 | 0 | 2.0 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | ap | 00 | al | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5 | 5 | 10 | 50.0 | 500 | 100. | 12 | 3 | 15 | 80.0 | 20.0 | 100. | 6 | 1 | 7 | 85.7 | 14.3 | 100. | 1 | 2 | 3 | 37.3 | 66.7 | 100. |



| Evalustion | SEPTEMRER |  |  |  |  |  | Detepel |  |  |  |  |  | MOVEMSER |  |  |  |  |  | DECEMEER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | mumber |  |  | Percent |  |  | Munter |  |  | Per cont |  |  | Humber |  |  | Percent |  |  |
|  | Certain | Dowbthol | Tobl | Certain | Dactimi | Tola | Certain | Doobtan | Total | Cotrin | [ Doubtitu] | Told | Cetain | Doobttol | Total | Cemain | Doubttol | Toxal | Certion | Doubith | Tota | Certain | Doubtol | Tota |
| aballoon | 0. | 2 | 2 | 0.0 | 13.3 | 13.3 | , | 0 | 1 | 71 | Qe. | z 1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 15.4 | 15.4 |
| 1-Astomonical | 1 | 1 | 2 | 6.7 | 6.7 | 13.4 | 6 | 1 | 7 | 42.9 | $1 /$ | 500 | 2 | 0 | 2 | 50.0 | 0.0 | 50.0 | 3 | 0 | 3 | 23.1 | 00 | 13, |
| 2-Aicratt | 4 | 3 | 7 | 267 | 20.0 | 46.7 | 1 | 2 | 3 | 21 | 14.3 | 21.4 | 2 | 0 | 2 | 500 | 0.0 | 50.9 | 1 | 4 | 5 | 17 | 30.8 | 38.5 |
| 3-Lieht Phenom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e. 0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 |
| 5-Clouds Dust ac. | 0 | 1 | 1 | 0.0 | 6.7 | 6.7 | 0 | 1 | 1 | 0.0 | 11 | 11 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0. | 0 | 0 | 20 | 0.2 | 0.0 |
| 6-Inoulfic mo. | 2 | 0 | 2 | 13.3 | 0.0 | 183 | 1 | 0 | 1 | 71 | 0.0 | 12 | 0 | 0 | 0 | Q0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| JPsycrological | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| Suntroum | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 711 | $0 \cdot$ | 71 | 0 | 0 | 0 | 0.0 | $a$. | 0.0 | 2 | 0 | 2 | 15.4 | 00 | 15.4 |
| 9-0thes | 0 | 0 | 0 | ao | $a 0$ | 00 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 17 | 0.0 | 77 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totat | 8 | 7 | 15 | 53.3 | 46.7 | 100. | 10 | 4 | 14 | 17.4 | 28.6 | 100. | 4 | 0 | 4 | 100.0 | 0.0 | $100-1$ | 7 | 6 | 13 | 53.9 | 46.1 | 100. |




| Evaluation | MAV |  |  |  |  |  | JUNE |  |  |  |  |  | sucy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percem |  |  | Nunber |  |  | Pa Comt |  |  | Mumber |  |  | $P_{6} C$ cent |  |  | Number |  |  | Percmit |  |  |
|  | Certain | Ooubthul | Total | Certain | Doabltul | Total | Certain | Doobluil | Toted | Cettin | Dousthal | Total | Sertin | Doubitul | Totil | Cenrais | Dowittul | Toat | Centin | Dotblim | Total | Centrio | Dasixiol | Total |
| a-8azioon | 4 | 2 | 11 | 24 | 5. | 29.7 | 2 | 1 | 7 | 19.3 | 22 | 22.5 | 22 | 14 | 36 | 135 | 8.6 | 22. | 10 | 2 | 22 | 13.5 | 16.2 | 29.7 |
| 1-Astronomial | 0 | 2 | 2 | 0. | 5.4 | 5.4 | / | 2 | 3 | 3.2 | 6.5 | 9.7 | 1 | 3 | 4 | ab | 1.8 | 2.4 | 1 | 1 | 2 | 1.4 | 1.4 | 2.8 |
| 2-Aircratt | 4 | 6 | 10 | 10.8 | 16.2 | 210 | 5 | 4 | 4 | 41 | 12.9 | 280 | 30 | 16 | 46 | 18.4 | 9.8 | 28.2 | 12 | 4 | 16 | 16.2 | 5.4 | 21.6 |
| 3-Light Prenom. | 0 | 0 | 0 | 0.0 | 0.0 | ao | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 1 | 7 | 21 | 0.6 | 4.3 | 0 | 3 | 3 | 0. | 4.1 | 4.1 |
| 4 Birds | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | R | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5.Clouds, Dusi, elc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 1 | 0 | 1 | 0.6 | d.0 | 26 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insuftic, into. | , | 0 | 4 | 10.8 | 0.0 | 10.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 14 | 0 | 14 | 8.6 | 0.0 | 8.6 | 3 | 0 | 3 | 4.1 | 0.0 | 41 |
| 7. Psychologica | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 3 | 5 | 1.2 | 1.8 | 3.0 | 2 | 1 | 3. | 2.1 | 1.4 | 411 |
| 8.1 Inkinum | 1 | 0 | 1 | 18.9 | 0.0 | 18.9 | 8 | 0 | 8 | 25.8 | 0.0 | 25.8 | 46 | 0 | 46 | 28.2 | 0.0 | 282 | 23 | 0 | 23 | 31.1 | 0.0 | 31.1 |
| Hother | 3 | 0 | 3 | 8.1 | 0.0 | 8.1 | 4 | 0 | 4 | 12.9 | 0.0 | 12.9 | 4 | 0 | 4 | 2.4 | 0.0 | 2.4 | 2 | 0 | 2 | 2.1 | 0.0 | 2.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 21 | 10 | 37 | 13.0 | 210 | 100. | 24 | 7 | 31 | 124 | 22.6 | 100. | 126 | 37 | 163 | 173 | 22.7 | 100. | 53 | 21 | 74 | 11.6 | 28.4 | 02 |


|  | SEPTEMRER |  |  |  |  |  | Detoser |  |  |  |  |  | NOVEMAER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumbe |  |  | Pencent |  |  | Number |  |  | Parcmit |  |  | Number |  |  | Percmit |  |  | Munber |  |  | Percent |  |  |
| Evaluation | Certain | Doubthio | robi | Centzin | Dabilul | Total | Cerbin | Dosistul\| | Total | Cetain | Doublial | Total | Ceribin | Doubbtul | Total | Certain | Doubtul | Total | Cratain | Doouthy | Tolal | Centain | Dabltal | Tota |
| 0-Eallion | 3 | 6 | 9 | 6.5 | 13.0 | 185 | 2 | 6 | 8 | 6.1 | 20.0 | 26.7 | 2 | 0 | 2 | 13.3 | 0.0 | 133 | 5 | 1 | 6 | 21.7 | 4.3 | 26.0 |
| 1-Astronomical |  | 1 | 2 | 22 | 2.2 | 44 | 0 | 2 | 2 | 0.0 | 6.7 | 6.7 | 1 | 1 | 2 | 6.7 | 6.7 | 13.4 | 2 | $\angle$ | 3 | 8.7 | 4.3 | 13.0 |
| 2-Aircrath | 2 | 16 | 18 | 4.3 | 34.8. | 391 | 3 | 5 | 8 | 10.0 | 16.7 | $\underline{26.7}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 5 | 6 | 4.3 | 21.7 | 26.0 |
| 3-Lint Pherone | 0 | 0 | 0 | 0.0 | 0.0 | aO | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | a | 1 | 6.7 | 0.0 | 6.7 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | Qo | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 CClouds, Dust, ete | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 6 | 6 | 0.0 | 40.0 | 40.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GInsiltic mba. | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 2 | 0 | 2 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 8.7 | 0.0 | 8.7 |
| 7. Psycrologiol | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| tunkrom | 16 | 0 | 16 | 34.8 | 00 | 34.8 | 9 | 0 | 4 | 30.0 | 0.0 | 30.0 | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 | 6 | 0 | 6 | 21 | 0.0 | 26.1 |
| 90ther | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 3.3 | 0.0 | 3.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 23 | 23 | 46 | 50.01 | 50.0 | 100. | 17 | 13 | 30 | 567 | 4/3.3 | 100. | 8 | 7 | 15 | 53.3 | 46.7 | 100. | 16. | 7 | 23 | 69.6 | 30.4 | 100. |



| Eraluation |  |  |  |  |  |  |  |  |  |  |  |  | six |  |  |  |  |  | MINUTES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Januply |  |  |  |  |  | Eeseualy |  |  |  |  |  | MARCH |  |  |  |  |  | Aper |  |  |  |  |  |
|  | mumber |  |  | Percent |  |  | Munber |  |  | Per Cont |  |  | Number |  |  | Per Cent |  |  | Mumber |  |  | Pet Cott |  |  |
|  | Certan | [Doubtul] | Total | Certain | Doubitul | Total | Celtin | Doubthil | Tobed | Cemian | Doustuly | Tola | Ceftrin | Doattiol | Total | cerain | Doubtul\| | Total | Certain | Douttoul | Total | Catain | Doubitul | Total |
| a-Ballom |  |  | 2 | 59 | 52 | 11.8 | 3 | 0 | 3 | 25.0 | 00 | 25.0 | 2. | 2 | 5 | 133 | 20.0 | 33.3 | 0 | e | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astmonmical | 6 |  | 6 | 35.3 | 0.0 | 35.3 | 2 | 0 | 2 | 14.7 | 0.0 | 167 | $\angle$ | 0 | 1 | 67 | 0.0 | 6.7 | 4 | 1 | 5 | 25.0 | 43 | 31.3 |
| 2.AIrcrith | 2 | 1 | 3 | 11.8 | 59 | 177 | 0 | 2 | 2 | Qe | 16.7 | 16.7 | 1 | 2 | 3 | 6.7 | 13.3 | 20. | 4 | 2 | 4 | 25.0 | 0.0 | 25.0 |
| 3 Ligti Phenom. | 0 | 0 | 0 | -2 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | ' 0 | 0 | 20 | 0.0 | lae | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| ${ }^{1}$ - Bids | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0. | 0 | 0 | 00 | 0.0 | 0.0 | 2. | 0 | 0 | 00 | 0. 0 | 100 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5.Clouds. Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GInsuticic into. | 2 | 0 | 2 | 02 | 0.0 | 0.0 | (1) | 0 | 0 | e0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 1 | 0 | , | 6.3 | a0 | 6.3 |
| 7.Psycriofich | 1 | 0 | 1 | 5.2 | 0.0 | 5.9 | 0 | 0 | 0 | 0.0 | 0.0 | a0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 00. | 0.0 | 0.0 |
| 8.4 nkmom | 4 | 0 | 4 | 235 | 0.0 | 23.5 | 2 | 0 | 2 | 16.7 | 10 | 16.7 | 5 | 0 | 5 | 33.3 | 0.0 | 323 | 6 | 0 | 6 | 515 | 0.0 | 315 |
| 90thee | 1 | 0 | 1 | 59 | Qo | 5.9 | 3 | 0 | 3 | 25.0 | 0.0 | 25.0 | 0 | 1 | $\angle$ | 0.0 | 6.7 | 6.7 | 0 | 0 | 0 | al. | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolat | 15 | 2 | 17 | 58.2 | 11.8 | 100. | 10 | 2 | (2) | 183.3 | 16.7 | 100. | $\varepsilon$ | 6 | 15 | 60.0 | S/00 | 100. | 15 | 1 | 16 | 43.71 | 6.3 | 100. |


|  | MAY |  |  |  |  |  | JUNE |  |  |  |  |  | Sucy |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Pee Comt |  |  | Number |  |  | Percont |  |  |
| Eratuation | Ceritain | Doubthil | Total | Certain | Doubltul | Tolal | Certain | Dovblitu | Total | itsin | Doobthil | Total | ertain | Daubtul | Total | Centain | Doubltol | Toal | Certain | Doultry | Tolay | Certain | Daxibici | Totai |
| Q-adioon | 4 | 2 | 11 | 26.5 | 5.9 | 324 | 13 | 3 | 16 | 30.2 | 7.0 | 37.2 | 24 | 14 | 38 | 12.6 | 11.5 | $3 / .4$ | 17 | 13 | 30 | 18.3 | 14.0 | 323 |
| 1.Astmanical | 3 | 1 | 4 | 8.8 | 2.9 | 11.7 | 2 | 0 | 2 | 417 | 0.0 | 4.7 | 7 | 4 | 11 | 5.7 | 3.3 | 4.0 | 8 | 2 | 10 | 8.6 | 2.2 | 168 |
| 2-Aitciat | 5 | 2 | 1 | 14.7 | 5.9 | 20.6 | 5 | 3 | 8 | 11.6 | 20 | 18.6 | 16 | 8 | 24 | 131 | 6.6 | 18.7 | 6 | 4 | 23 | 6.4 | 18.3 | 24.7 |
| 3.Lighl Phexem | 3 | 0 | 3 | 88 | 0.0 | 8.8 | -1 | 0 | 1 | 2.3 | 0.0 | 2.3 | 3 | 2 | 5 | 2.5 | 16 | 41 | 4 | 0 | 4 | 4.3 | 0.0 | 4.3 |
| 4 Biids | Q | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 100 | 0 | 0 | 0 | 0. | 0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.2 | 20 |
| 5 5-Clouds, Dust, e | 1 | 0 | 1 | 29 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | Q. 0 | 0 | 0.0 | 0 |  | 1 | al | 11 | 1.1 |
| G-msutic. mit. | 3 | 0 | 3 | 88 | 0.0 | 88 | , | 0 | 3 | 1.0 | 0.0 | 70 | 16 | 0 | 16 | 13.1 | 0.0 | 13.1 | 6 | 0 | 6 | 6.4 | 0.0 | 6.4 |
| 7-Psychologial | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 4 | 0 | 4 | 2.3 | $a 0$ | 9.3 | 1 | 0 | 1 | e. 8 | ap | 0.8 | 2 | 0 | 2 | 2.2 | 0.0 | 22 |
| B-Unkoven | 2 | 0 | 2 | 54 | 0.0 | 5.9 |  | 0 | 2 | 20.9 | 0.0 | 209 | 22 | 0 | 22 | 18.0 | 0.0 | 18.0 | 12 | 0 | ' 12 | 12.9 | 0.0 | 12.9 |
| Solther | 1 | 2 | 3 | 2.9 | 5.9 | 8.8 | 0 | 0 | 0 | 20. | a0 | 00 | 4 | 1 | 5 | 3.3 | 0.8 | 41 | 4 | 1 | 5 | 43 | 1.1 | 5.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totad | 21 | 7 | 34 | 19.41 | 20.6 | 100. | 37 | 6 | 43 | 184. 1 | 13.9 | 100. | 93 | 29 | 122 | 16.3 | 23.7 | 100. | 69 | 34 | 931 | 63.4 | 36.6 | 120. |


|  | SEPTEMBER |  |  |  |  |  | Detosee |  |  |  |  |  | NOVEMBEL |  |  |  |  |  | PECEMRER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Comt |  |  | Number |  |  | Per Comt |  |  | Nuaber |  |  | Per Cent |  |  | Aumber |  |  | Percont |  |  |
| Evaluation | Cerrain | Dabitul | Tobi | Centain | Dabtinal | Total | Centain | Dountiol | Total | Ceriain | Doublual | Total | Certain | Ooubtul | Totar | ertain | Doubitu | Tral | artain | Douthen | Tola | Certain | Doubthit | Tota |
| a-Balloon | 3 | 2 | 5 | 100 | 67 | 1 h | 2 | 6 | 8 | 91 | 21.2 | 36.3 | 2 |  | 2 | 63 | 21.9 | 28.2 | 2 |  | 3 | 8.0 | 4.0 | 12. |
| 1 -Astronomical | - | 2 | 2 | 0.0 | 6.7 |  | 7 | 2 | 3 | 4.5 | 9.1 | 13.6 | 3 | 3 | 6 | 24 | 9.4 | 18.8 | 5 |  | 6 | 20.0 | 40 | 24: |
| 2-Aicraft | 1 | 8 | 9 | 3.3 | 26.7 | 32.0 |  | 2 | 3 | 4.5 | 91 | 13.6 | 0 | 8 | 8 | 102 | 25.0 | 25.0 | 1 | 2 | 3 | 4.0 | 8.0 | 12.0 |
| 3-Light Phexom. | , | 1 | 2 | 2.3 | 3.3 | 6.6 | 1 | 2 | 3 | 45 | 9.1 | 13.6 | 1 | 2 | 2. | 3.1 | 3.1 | 6.2 | - | 2 | 1 | 4.0 | 0.0 | 40 |
| 4 - Birss | 0. | 0 | 0 | a0 | 00 | 00 | 0 | 1 | 1 | 00 | 45 | 4.5 | 0 | 0 | 0 | 2. 2 | 00 | 0.2 | 0 | Q | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouss, Doust et | 0 | 0 | '0 | 100 | 00 | 0.0 | 0 | 0 | 0 | an | 0.0 | 0.0 | 0 | 0 | 0 | 2R | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-insutic, into. | 3 | 0 | 3 | 10.0 | 20 | 10.0 | 1 | 0. | 1 | 45 | 0.0 | 4.5 | 1 | 0 | 1 | 51 | 0.0 | 3.1 | 2 | 2 | 2 | 8.0 | 0.0 | 8.0 |
| 7. Psychatogical | 0 | 0 | 0 | 0.0 | OR | a, | 2 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 1 | 4.0 | 0.0 | 40 |
| B-Unknown |  | 0 | $Z$ | 23.3. | 0.0 | 23.3 | 3 | 0. | 3 | 13.6 | 0.0 | 13.6 | 6 | 2 | 6 | 18.7 | 0.0 | 187 | 8 | 0 | 8 | 32.0 | 0.0 | 32. |
| 9-OMer |  |  | 2 | 3.3 | 3.3 | 6.6 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 0.0 | 00 | $\angle$ | 0. | 1 | 4.0 | 0.0 | 4.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yotas | 16 | 14 | 30 | 53.31 | 46.71 | 100. | 9 | 13 | 22 | 40.9 | 59.1 | 100. | 13 | 19 | 32 | 40.6 | 59.4 | 100. | 21 | 4 | 25 | 840 | 16.0 | 0. |



| Evalustion | MAY |  |  |  |  |  | Juñ |  |  |  |  |  | Lucy |  |  |  |  |  | Aucust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbe |  |  | Percent |  |  | mumber |  |  | Pea cont |  |  | mabee |  |  | Parcent |  |  | munber |  |  | Pecent |  |  |
|  | Certin | Doctitul | Total | Certin | Dabblut | Total | Certan | Dabthel | Total | Cation | Doubtrat | Totad | Centin | Dosebthl | Total | Certain | Dostital | Total | Cation | Dobitiol | Total | Centin | Dambitiol | Tota |
|  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 2 | 9 | 29.2 | 8.3 | 37.5 | 14 | 1 | 21 | 14.3 | 2 1 | 21.4 | 6 | 3 | 9 | 11.1 | 5.6 | 16.7 |
| 1-Astromanial | 0 | 1 | $\angle$ | 0.0 | 11.1 | 11.4 | 5 | 0 | 5 | 20.8 | 0.0 | 20.8 | 12 | 5 | 17 | 12.2 | 5.1 | 17.3 | 8 | 7 | 15 | 14.8 | 12.9 | 27.7 |
| 2-Airran | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 83 | 0.0 | 8.3 | 6 | 8 | 14 | 61 | 8.2 | 14.3 | 3 | 3 | 6 | 5.6 | 5.6 | 11.2 |
| 3-Lipt Phama | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | - | 1.0 | 0.0 | 10 | 0 | 1 | $\angle$ | 0.0 | 19 | 1.9 |
| 4 Birk | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Cloods , oush ec | 6 | 0 | 6 | 66.7 | 0.0 | 64.7 | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gramofic. Mra. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 8 | 0 | 8 | 8.2 | 0.0 | 82 | 2 | 0 | 2 | 3.1 | 0.0 | 3.7 |
| 7-Psycmotogiea | 0 | - 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 1 | 2 | 1.0 | 1.0 | 2.0 | 2 | 0 | 2 | 3.1 | 0.0 | 3.7 |
| BUndsoma | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 0 | 7 | 29.2 | 0.0 | 27.2 | 31 | 0 | 31 | 31.6 | 0.0 | 31.6 | 15 | 0 | 15 | 27.8 | 0.0 | 218 |
| و-0ther | 1 | 4 | 2 | /1.1 | 11.1 | 22.2 | $\checkmark$ | 0 | 1 | $4 / 2$ | 0.0 | $4 / 2$ | 4 | 0 | 4 | 41 | 0.0 | 4.1 | 2. | 4 | 4 | 0.0 | 2.4 | 1.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totat | 7 | 2 | 9 | 71.8 | 22.2 | 100. | 22 | 2 | 24 | 11.7 | 8.3 | 10a | 77 | 21 | 98 | 78.6 | 21.4 | 100. | 36 | 18 | 54 | 66.7 | 33.3 | 100. |


| Evaluation | SEPTEMBER |  |  |  |  |  | ReTORER |  |  |  |  |  | MOUEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Pacmid |  |  | Munber |  |  | Pea cont |  |  | number |  |  | PaCat |  |  | Munber |  |  | Percent |  |  |
|  | Centrin | Doubtha | Total | Centrin | Doibluil | Total | Certwin | Dobetul | Tota | Catrin | Davotul | Total | Certain |  | Total | Certain | Dosiotal | Total | Catrin | Doubitol | Totas | Certin | Daubital | Total |
| O-Balloon | 0 | 2 | 2 | 0.0 | 4.3 | 6.3 | 7 | 3 | 10 | 36.8 | 15.8 | 5.26 | 0 | 1 | 1 | 0.0 | $4 / 2$ | 4.2 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 1-Astronomial | 3 | 1 | 4 | 4.4 | 3.1 | 12.5 | , | 0 | I | 53 | 0.0 | 5.3 | 3 | 2 | 5 | 12.5 | 8.3 | 20.8 | 1 | 1 | 2 | 121 | 11.1 | 22.2 |
| 2-Aicraft | 2 | 4 | 6 | 6.3 | 12.5 | 18.8 | 0 | 1 | 1 | 0.0 | 5.3 | 5.3 | 1 | 5 | 6 | 4.2 | 20.8 | 250 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Light Phamen. | 0 | 1 | 1 | 0.0 | 3.1 | 31 | 0 | 0 | 0 | 0.0 | 0.0 | 40 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {ards }}$ | 1 | 0 | 1 | 3.1 | 0.0 | 3.1 | 2 | 0 | 2 | 10.5 | 00 | 10.5 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds Dust etc | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 | 1 | a0 | 4.2 | 4.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insultic mio. | 2 | 0 | 2 | 6.3 | 0.0 | 63 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 | 0 | Q | 0 | 0.0 | 0.0 | 0.0 |
| 7-Psthelogica | 1 | 0 | 1 | 3.1 | 0.0 | 3.1 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0. | 1 | 4.2 | 0.0 | 4.2 | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 |
| Otindmome | 14 | 0 | 14 | 43.7 | 00 | 437 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 | 7 | 0 | 7 | 29.2 | 0.0 | 29.2 | 4 | $\bigcirc$ | 4 | 44.4 | 0.0 | 44.4 |
| 90thes | 1 | 0 | 1 | 31 | 0.0 | 3.1 | $a$ | 1 | 1 | 00 | 53 | 5.3 | 1 | 0 | 1 | 4.2 | 0.0 | 42 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 24 | 8 | 32 | 75.0 | 25.0 | 100. | 14 | 5 | 19 | 13.7 | 26.3 | 100. | 15 | 9 | 24 | 625 | 37.5 | 100. | 8 | 1 | 9 | 88.9 | 11.1 | 100 |


| TRSLE R109 ELAL |  |  |  |  |  |  | UATION OF RLL SIGHTINGS FOL ALL YEARS BY DURATION OESLGHTING |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | MON | Otas |  | of | Y |  | DUEATION NOT |  |  |  |  |  | STATEO. |  |  |  |  |  |
| Evauation | IANuPRY |  |  |  |  |  | - FEBCWARY |  |  |  |  |  | Number |  |  |  |  |  | Mumber |  |  |  |  |  |
|  | number |  |  | Percent |  |  | Muaber |  |  | Percat |  |  |  |  |  | Pecent |  |  |  |  |  | Percent |  |  |
|  | Certan | Dowben | Fobat | Certan | Doubtal | Total | Certain | Dowithio | Total | Cotrin |  | Total | certain | Dointud | Total | Certain |  | Totar | Centin | Dasktral | Total | Cortin | Doobitul | rax |
| O-azllican | 0 | 1 | 1 | 0.0 | 2.3 | 2.5 | 4 | 0 | 4 | 11.8 | 20 | $1 / 8$ | 4 | 0 | 4 | 6.2 | 00 | 6.2 | 1 | 2 | 3 | 1.6 | 5.2 | 4.8 |
| 1-Astiommici | 9 | 18 | 27 | 20.9 | 41.9 | 62.8 | -8 | 8 | 16 | 23.5 | 23.5 | 420 | 12 | 11 | 23 | 18.5 | 16.9 | 154 | 24 | 6 | 30 | 38.7 | 9.7 | 48.4 |
| 2-Atcrath | 2 | 0 | 2 | 4.1 | 0.0 | 47 | 5 | 1 | 6 | 147 | 2.9 | 17.6 | $\dot{8}$ | 3 | 11 | 12.3 | 4.6 | 16.9 | 6 | 0 | 6 | 9.7 | 0.0 | 9.7 |
| 3 Lugt Phenom. | 0 | 0 | 0 | 00 | 00 | a, 0 | 0 | 0 | 0 | 0.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Bind | 0. | 0 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 1.6 | 00 | 1.6 |
| s-Clowds, Dust, elc | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| © -nsatic mo. | 5 | 0 | 5 | 11.6 | 0.0 | 11.6 | 1 | 0 | 1 | 2.9 | 0.0 | 2.9 | 21 | 0 | 21 | 34.3 | 0.0 | 32.3 | 12 | 0 | 12 | 19:3 | 0.0 | 19.3 |
| T-Pryctionical | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | Q 0 | 100 | - | 0 | 1 | 1.6 | 0.0 | 1.6 |
| 8.unknom | 6 | 0 | 6 | 13.9 | 0.0 | 139 | 2 | 0 | 7 | 20.6 | 0.0 | 20.6 | 3 | 0 | 3 | 4.6 | 0.0 | 4.6 | $q$ | 0 | 9 | 14.5 | 0.0 | 14.5 |
| rother | 2 | 0 | 2 | 4.7 | 0.0 | 47 | 0 | 0 | 0 | 0.0 | $0 \cdot 0$ | 0.0 | 0 | 3 | 3 | 0.0 | 4.6 | 146 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 24 | 19 | 43 | 55.8 | 44.2 | 100. | 25 | 9 | 34 | 13:5 | 26.5 | 100. | 48 | 17 | 65 | 15.8 | 26.2 | 100. | 54 | 8 | 62 | 84.1 | 12.9 | 100. |


|  | MA4 |  |  |  |  |  | Junc |  |  |  |  |  | lucy |  |  |  |  |  | Aucusy |  |  |  |  |  |
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|  | Humber |  |  | Percent |  |  | Hunber |  |  | Pacent |  |  | Sumber |  |  | Percant |  |  | Munber |  |  | Per Cort |  |  |
| Evzlualion | Cerain | [Doubthu] | Total | Cerdion | Doubltul | Total | Certain | Doubtiol | Total | Certion | Dooutitul | Total | Cetraia | Dosobtul | Tobt | Cetsin | Dowbtruil | Total | Cotion | Dosilth | Total | Certain | Daubtiol | Tolal |
| D-Batioon | 4 | 0 | 4 | 80 | 0.0 | 8.0 | 7 | 0. | 7 | 12.5 | 0.0 | 12.5 | 29. | $1 /$ | 40 | 11.4 | 4.3 | 157 | 5 | 4 | 9 | 4.8 | 3.8 | 8.6 |
| -Astronomical | 1 | 2 | 13 | 22.0 | 40 | 240 | 7 | 3 | 10 | 12.5 | 5.4 | 17.9 | 29 | 12 | 39 | 11.4 | 3.9 | 15.3 | 4 | 8 | 17 | 8.6 | 71 | 14.3 |
| 2-Aicraft | 3 | 4 | 7 | 6.0 | 80 | 140 | 4 | 1 | 5 | 1.1 | 1.8 | 8.9 | 32 | 19 | 51 | 12.5 | 1.4 | 19.9 | 11 | 13 | 24 | 10.6 | 12.5 | 23.1 |
| 3-Light Pheoom. | 0 | 1 | 1 | 0.0 | 20 | 2.0 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 3 | 0 | 3 | 1.2 | 0.0 | 1.2 | 2 | 0 | 2 | 1.9 | 00 | 1.9 |
| 4 - Biras | 0 | 1 | 1 | 0.0 | 2.0 | 2.0 | 0 | 0 | 0 | e. 0 | 0.0 | 0.0 | 2 | 1 | 3 | 0.8 | 0.4 | 1.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $5_{5} 5$ Clouds, Dovst, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3. | 1.2 | 0.0 | 1.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gemsutic. mint. | 6 | 0 | 6 | 12.0 | 0.0 | 12.0 | 13 | 0 | 13 | 13.2 | 0.0 | 23.2 | 4 | 0 | 41 | 16.1 | 0.0 | 16.1 | 19 | 0. | 19 | 183 | 0.0 | 18.3 |
| 1.Psyctelogical | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 2 | 3.6 | 0.0 | 3.6 | 1 | 2 | 3 | 0.4 | 0.8 | 1.2 | 1 | 0 | 1 | 1.0 | 0.0 | 10 |
| BUnkrom. | - 2 | 0 | 17 | 34.0 | a.0 | 340 | 17 | 0 | 17 | 30.3 | 0.0 | 30.3 | 48 | 0 | 48 | 188 | 0.0 | 18.8 | 29 | 0 | 29 | 21.9 | 0.0 | 279 |
| Sother | 0 | 1 | 1 | 0. | 2.0 | 2.0 | 2 | 0 | 2 | 3.6 | 0.0 | 3.6 | 24 | 0 | 24 | 9.4 | 0.0 | 9.4 | 2. | 1 | 3 | 1.9 | 1.0 | 12.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totai | 41 | 9 | 501 | 82.9 | 18.0 | 100. | 52 | 4 | 56 | 42.9 | 1.1 | 100. | 212 | 43 | 255 | 83.1 | 16.9 | 100. | 78. | 26 | 104 | 75.0 | 25.0 | 100. |


| Evaluation | SEPTEMBER |  |  |  |  |  | QETORER |  |  |  |  |  | NOUEHIER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nunber |  |  | Percemt |  |  | Hunber |  |  | PeCat |  |  | mumber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  |
|  | Cention | Dowbttul | Total | Certain | Dowblitul | Total | Certain | Dastithl | Total | Cetrin | Doubtal | Tota | Centin | Dowbtul | Tolal | Centain | Doubtiol | Total | Certain | Dosdotul | Total | Certain | Daubtul | Total |
| -1-8allcon | 0 | 0 | 0 | 0.0 | ab | 0.0 | 3 | 4 | 7 | 6.5 | 8.7 | 15.2 | 1 | 9 | 10 | 2.1 | 18.7 | 20.8 | 1 | 1 | 2 | 2.2 | 2.2 | 4.4 |
| 1-Astronomical | 10 | 3 | 13 | 23.2 | 10 | 32.0 | 3 | 1 | 10 | 5 | 15.2 | 21.7 | 9 | 6 | 15 | 18.7 | 12.5 | 31.2 | 6 | $1 /$ | 17 | (3.0. | 23.9 | 36.9 |
| 2-Aitcrath | 1 | , | 2 | 2.3 | 2.3 | 4.6 | 3 | 4 | 7 | 6.5 | 8.1 | 15.2 | 5 | 2 | 7 | 10.4 | 4.2 | 14.6 | 4 | 1 | 5 | 8.7 | 2.2 | 10.9 |
| 3-Light Phanam | 0 | 0 | 0 | 00 | 0. | 0.0 | 0 | 1 | 1 | 0.0 | 2.2 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| +Birts | 0 | 0 | 0 | 0.0 | 00 | 00 | 2 | 0. | 2 | 43 | 0.0 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 |
| sclowds, Dust | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 1 | 1 | 00 | 2.1 | 2.1 | 0 | 0 | 0 | 10 | 0.0 | 00 |
| GInsuftic, mo. | 9 | 0 | 9 | 20.9 | 0.0 | 20.9 | 7 | 0 | 7 | 15.2 | 0.0 | 15.2 | 4 | 0. | 4 | 8.3 | 0.0 | 8.3 | 5 | 0 | 5 | 10.9 | 0.0 | 10.9 |
| 7.Psyythoiogical | 1 | 0 | 1 | 13 | 0.0 | 2. | 1 | 2 | 1 | 2.2 | 1.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | 0 | / | $2 \cdot 2$ | 0.0 | 2.2 |
| 2-unkoum | 1 | 0 | 11 | 25.6 | 0.0 | 25.6 | 9 | 0 | 9 | 20.0 | 0.0 | 20.0 | 9 | 0 | 9 | 18.1 | 0.0 | 18.7 | 12 | 0 | 12 | 26.1 | 0.0 | 26.1 |
| q-athet | 6 | 1 | 7 | 14.0 | 2.3 | 16.3 | 2 | 0 | 2 | 4.3 | 00 | 4.3 | 2 | 0 | 2 | 4.2 | ae | 4.2 | 4 | 0 | 4 | 8.7 | 0.0 | 8.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 38 | 5 | 43 | 88.4 | 11.6 | 100. | 30 | 16 | 46 |  | 34.8 | 100. | 30 | 18 | 48 | 62.5 | 37.5 | 100. | 33 | 13 | 46 | 11.8 | 28.2 | 100. |



| Evaluation | MAY |  |  |  |  |  | lune |  |  |  |  |  | vucy |  |  |  |  |  | Augost |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pet Cemt |  |  | Number |  |  | Pas cont |  |  | Number |  |  | Par Cent |  |  | Humber |  |  | Percant |  |  |
|  | Certain | Doubtul | Total | Cerabin | Dountioil | Tolal | Cerlain | Doubtiol | Total | Cetrin | Doobktuil | Totid | Cetain | Doobitul | Total | Cerixin | Doubthol | रotal | Certain | Douthol | Total | Certain | Dasitfol | Tola |
| a,ballion | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | ? 27 | 0.0 | 37 | 1 | 2 | 3 | $1 \cdot 1$ | 2.2 | 3.3 | 2. | 3 | 3 | 0.0 | 39 | 3.9 |
| 1.Astomanical | 5 | 2 | 7 | 26.3 | 10.5 | 36.8 | 0 | 8 | 18 | 32.0 | 29.6 | 66.6 | 36 | 18 | 54 | 38.1 | 12.5 | 58.6 | 13 | 35 | 48 | 16.9 | 45.4 | 623 |
| 2-Aircha | 4 | 1 | 5 | 21.1 | 53 | 26.4 | 3 | 1 | 4 | 11.1 | 3.7 | 14.8 |  | 9 | 17 | 817 | 9.8 | 18.5 | $?$ |  | 9 | 3.9 | 18 | 11.7 |
| 3. Light Phenan. $^{\text {a }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 11 | 0.0 | 1.1 | 0 | 1 | 1 | 0.0 | 1.3 | 1.3 |
| 4 4ints | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 2 | 3 | 1.1 | 2.2 | 3.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Cloods, Dost, exc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | - | 0.0 | 1.1 | 1.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 6/nspllic lath. | 3 | 0 | 3 | 15.8 | 0.0 | 15.8 | 2 | 0 | 3 | 11.1 | 0.0 | 11.1 | 2 | 0 | 2 | 2.2 | 0.0 | 2.2 | 6 | 0 | 6 | 7.8 | 0.0 | 1.8 |
| 7.Psycmolegical | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.3 | 0.0 | 1.3 |
| 8 Unkiom | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | 7 | 9.8 | 0.0 | 9.8 | 6 |  | 6 | 18 | 0.0 | 18 |
| 90ther | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 1 | 0 | 1 | 3.1 | 0.0 | 37 | 2 | 0 | 2 | 2.2 | 00 | 2.2 | 2 | , | 3 | 2.6 | 1.3 | 3.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 16 | 3 | 19 | 84. 2 | 15.8 | 100. | 18 | 9 | 27 | 66. $\lambda$ | 33.3 | 100 | 60 | 32 | 92 | 65.2 | 34.8 | 100. | 31 | 46 | 77 | 40.2 | 52.8 | 100. |


| Eviluation | SERTEMRER |  |  |  |  |  | Dcrobse |  |  |  |  |  | NOVEMRER |  |  |  |  |  | DECEMPER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cent |  |  | Mumber |  |  | Pacent |  |  | Number |  |  | Per Cent |  |  | Hunter |  |  | Percont |  |  |
|  | Certain | Dostifur | Total | Centain | Doabital | Totar | Certain | Dosutitul | Total | Certain | Doubtay | Tota | Certain | Dosititul | Totat | Certasin | Dosidtul | Total | Cortan | Dosiditu | Tota | Certain | Dabbtul | Tota |
| 0-8axloon | 0 | 0 | 0 | 0.0 | as | 0.0 | 0 | 2 | 0 | 00. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomical | $1 /$ | 1 | 12 | 55.0 | 5.0 | 60.6 | 12 | 5 | 17 | 42.9 | 17.9 | 60.8 | 7 | 7 | 14 | 333 | 33.3 | 66.6 | $1 /$ | 4 | 20 | 41.8 | 39.1 | 86.9 |
| 2-Aircrat | 1 | 2 | 3 | 50 | 10.0 | 15.0 | 1 | 3 | 4 | 36 | 10.7 | 14.3 | 2 | , | 3 | 9.5 | 4.8 | 14:3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Lidil Phenoa. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 36 | 3.6 | $\angle$ | 0 | 1 | 4.8 | 0.0 | 4.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Bids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 36 | 24 | 72 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clowds, Dust etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Glasylic. min. | 2 | 0 | 2 | 10.0 | 0.0 | 0.0 | 1 | 2. | 1 | 36 | 0.0 | 3.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 7Psyctolopica | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| (-Unknown | 2 | 0 | 2 | 100 | 0.0 | 10.9 | 3 | 0 | 3 | 10.7 | 0.0 | 10.7 | 2 | 0 | 2 | 9.5 | 0.0 | 9.5 | 3 | 0 | 3. | 13.0 | 0.0 | 130 |
| $9-0$ hee | 0 | 1 | $L$ | 0.0 | 50 | 5.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 1 | 0 | 1 | 4.8 | 0.0 | 4.8 | 0 | 0 | 0 | 00 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| roul | 16 | 4 | 20 | 80.0 | 20.0 | 100. | 18 | 101 | 28 | 64/3 | 35.7 | 100. | 13 | 8 | 21 | 61.9 | 38.1 | 100. | 14 | 9 | 23 | 60.9 | 39.1 | 100. |



| Evaluation | SEPTEMRER |  |  |  |  |  | Qetorer |  |  |  |  |  | NOYEMPER |  |  |  |  |  | DEEEMPER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | PaCent |  |  | Number |  |  | Peacat |  |  | Mumer |  |  | Pea cent |  |  | numbet |  |  | Per cost |  |  |
|  | Certain | Doubtal | Totai | Certin | Dastitul | Tolat | Cetain | Dostitul | Total | Certain | Doubttul | Toian | Certain | Dosotitu\| | Totai | Cetrain | Dosatioul | Tolat | Certin | Docitith | Tota | Certion | Doabtuil | Tota |
| O-Bation | 0 | $\angle$ | 1 | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomical | 2 | 2 | 3 | 20.0 | 10.0 | 30.0 | 4 | 3 | 7 | 44.4 | 333 | 77.7 | 3 | 0 | 3 | 75.0 | 0.0 | 75.0 | 0 | 2 | 2 | 0.0 | 100. | 1000 |
| 2-Aicraft | 0 | 2 | 2 | 0.0 | 20,0 | 20.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 3-Light Pherom. | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 4 Birds | 0 | 1 | 1 | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 S-Clouds, Oust, etc | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-ansticic into. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | - | 0.0 | 0.0 | 0.0 |
| 7.Psychoogical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8-Unknown | 3 | 0 | 3 | 300 | 0.0 | 300 | 2 | 0 | 2 | z2z | 0.0 | 22.2 | 1 | 0 | 1 | 25.0 | 0.0 | 25.0 | 0 | 0 | O | 0.0 | 0.0 | 0.0 |
| 9-0ther | 0 | 0 | - | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | O | 0.0 | 0.0 | 00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5 | 5 | 10 | 50, | 50.0 | 100. | 6 | 3 | 9 | 66.7 | 33.3 | 100. | 4 | 0 | 4 | 1000 | 0.0 | 100 -1 | 0 | 2 | 2 | 0.0 | 100.0 | 100. |



|  | May |  |  |  |  |  | JUuE |  |  |  |  |  | Jucy |  |  |  |  |  | AUgust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pet Cent |  |  | Number |  |  | Percent |  |  | Hunber |  |  | 7 Pescent |  |  | Number |  |  | Petcent |  |  |
| Evalusion | Centain | Doubthil | TOEI | Certain | Dowbltul | Total | Certain | Doubltol | Tolai | Certion | Dasibtan | Total | Certain | Doubtful | Total | Certain | Doubtrol | Total | Certain | Doolltitu | Total | Certain | Dauxthl | Tola |
| O-8*3100n | 1 | 1 | 2 | 47 | 6.7 | 13.4 | 1 | 0 | 1 | 59 | 0.0 | 59 | 3 | 3. | 6 | 4.1 | 41 | 8.2 | 0 | 1 | 1 | 0.0 | 2.9 | 2.9 |
| 1-Astrocomicat | 1 | 0 | 1 | 67 | 0.0 | 67 | 7 | 2 | 3 | 59 | 11.8 | 17.2 | 10 | 2 | 12 | 135 | 27 | 16.2 | 6 | 6 | 12 | 17.1 | 171 | $34^{\prime} 2$ |
| 2-Aircraft | 2 | 1 | 3 | 183 | 6.7 | 20.0 | 5 | 2 | 7 | 294 | 11.8 | 41.2 | 15 | 16 | 31 | 20.3 | 21.6 | 41.8 | 6 | 4 | 10 | 171 | 11.4 | 28.5 |
| 3-Light Pherom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 2.9 | 2.9 |
| 4 Binds | 0 | 1 | 1 | 0.0 | 6.7 | 67 | 0 | 0 | 0 | 00 | 20 | d.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 2 | 20 | 0.0 | 0.0 |
| 5-Clouids, Dosst, elc. | 0 | 0 | 0 | 20 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| GInsullic man. | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 | 3 | 0 | 3 | 17.6 | 0.0 | 11.6 | 3 | 0 | 3 | 411 | 0.0 | 41 | 2 | 0 | 2 | 5.7 | 00 | 5.7 |
| 7-Psyctological | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 2.0 | 4 | 2 | 6 | 5.4 | 2.7 | 8.1 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| BUnknom | $?$ | 0 | 3 | 20.2 | 100 | 10.0 | 3 | 0 | 3 | 17.6 | 00 | 11.6 | 15 | 0 | 15 | 20.3 | 00 | 20.3 | $q$ | 0 | 9 | 25.7 | 0.0 | 25.7 |
| sother | 1 | 0 | 1 | 6.7 | 0.0 | 67 | 12 | 0 | 0 | 0.0 | 0.0 | 20 | 1 | 0 | 1 | 14 | 0. | 1.4 | 0 | 0 | -e | 00 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12 | 3 | 15 | 80.0 | 20.01 | 100. | 13 | 4 | 17 | 16.5 | 23.5 | 100 | 51 | 23 | 74 | 68.9 | 31.1 | 100. | 23 | 12 | 35 | 65.7 | 34.3 | 100. |


|  | SEPTEMBER |  |  |  |  |  | DCTOBER |  |  |  |  |  | NOUEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pacem |  |  | Number |  |  | Pescont |  |  | Muaber |  |  | Per Cent |  |  | Number |  |  | Percost |  |  |
| Evalualion | Certrin | Doubtul | Total | Certin | Dablind | Tobil | Certrin | Doabthil | Total | Cerrain | Doubthll | Total | Cerrain | Doubticil | Total | Certain | Doiblful | Total | Cerlain | Dowith | Total | Certain | Dabithil | Total |
| O.Balloon | 0 | 2 | 2 | 0.0 | 13.3 | 133 | 0 | 0 | 0 | 120 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 16.7 | 16.7 |
| 1-Astromamical | 1 | 1 | 2 | 6.7 | 67 | 13.4 | 5 | 1 | 6 | 41.7 | 8.3 | 50.0 | 2 | 0 | 2 | 50.0 | 0.0 | 50.0 | 3 | 0 | 3 | 25.0 | 0.0 | 15.0 |
| 2-Airctaft | 4 | 3 | 2 | 24.7 | 200 | 作 7 | 1 | 2 | 3 | 8.3 | 16.1 | 25.0 | 2 | $\therefore 0$ | 2 | 50.0 | 0.0 | 500 | 1 | 3 | 4 | 83 | 25.0 | 33.3 |
| 3-Light Phenom. | 0 | 0 | 0 | 1.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 10.0 | 0.0 |
| 4 - Birds | 0 | 0 | O | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 10.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust enc | 0 | - | 1 | 00 | 6.7 | 67 | 0 | 1 | , | 0.0 | 8.3 | 8.3 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 6-Insuntic, into. | 2 | 0. | 2 | 19.3 | 0.0 | 13.3 | 1 | 0 | 1 | 83 | 0.0 | 8.3 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 02 | 20 |
| 7.Psycreological | 1 | 0 | 1 | 6.7 | 20 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 02 | 0.0 |
| 8 Untrown | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 |
| Folther | 0 | 01 | 0 | e0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | - - | 8.3 | 02 | 8.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8 | 7 | 15 | 5331 | 4/6.7 | 100 | 8 | 4 | 12 | 166.7 | 33.3 | 100. | 4 | 0 | 4 | 1000 | 0.0 | 100 | 7 | 5 | 12 | 58.3 | 41.7 | 100. |



| Evaluation | May |  |  |  |  |  | LUNE |  |  |  |  |  | lucy |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Perceit |  |  | munber |  |  | Pex cent |  |  | munter |  |  | Percent |  |  |
|  | Cerrain | Doubtiol | Total | Certain | Dowithil | Total | Certain | Doubtiol | Total | Cerrain | Doublioi | Total | Cetain | Dowbthl | Total | Certrin | Doubtin | Tutel | Corlain | Doultal | Tota | Certain | Doobthoil | Total |
| 0-Balion | 0 | 0 | 0 | 00 | 0.0 | 120 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 2 | 7 | 10. | 4.3 | 14.9 | $\angle$ | 4 | 5 | $?$ | 12.5 | 15.6 |
| 1-Astromamical | , | 0 | 3 | 42.8 | 00 | 41.8 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 0 | , | 2.1 | 00 | 2.1 | 3 | 3 | 6 | 9.4 | 9.4 | 18.8 |
| 2-Aicraft | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 | 3 | 2 | 5 | 375 | 250 | 12.5 | 12 | 12 | 24 | 25.5 | 25.5 | 510 | 3 | 2 | 5 | 9.4 | 6.3 | 15.7 |
| 3-Liptl Phenom. | 0 | 2 | 0 | 0.0 | 00 | 01 | 0 | 0 | 0 | $0 \cdot 0$ | 0.0 | 0.0 | 0 | 1 | :1 | 0.0 | 2.1 | 2.1 | 0 | 1 | 1 | 20 | 3.1 | 3.1 |
| 4 - ${ }^{\text {arats }}$ | 0 | 0 | 0 | 0 | 2 | 00 | 0 | 0 | 0 | 00 | 0.0 | 00 | 1 | 2 | 1 | 21 | 00 | 2.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5 Clowds, Dust, et | 0 | 0. | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 6 Insxfic, mio. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 3 | 0 | 3 | 6.4 | 00 | 4 | 4 | 0 | 4 | 12.5 | 0.0 | 12.5 |
| 7-P Pycthoogical | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0. | 00 | Q0 | 00 | 2 | 0 | 2 | -6. 3 | 0.0 | 6.3 |
| OUndrown | 2 | 0 | 2 | 28.6 | 0.0 | 28.6 | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 | 10 | 0 | 10 | 21.3 | 0.0 | 21.3 | 9 | 0 | 2 | 28.1 | Q.e | 28.1 |
| 90thes | 0 | 0 | 0 | a.0 | 0.0 | 0 | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 7 | 0 | 1 | $100 . d$ | 0.0 | 100. | 5 | 3 | 8 | 62.5 | 375 | 100 | 32 | 15 | 47 | 68.1 | 31.9 | 100. | 22 | 10 | 32 | 68.7 | 31.3 | 100 |


| Evaluation | SEPTEMQER |  |  |  |  |  | Detober |  |  |  |  |  | NQUEMBER |  |  |  |  |  | DEEEMPER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hunber |  |  | Pry Comt |  |  | Mumber |  |  | per cont |  |  | Munber |  |  | Pecment |  |  | Number |  |  | Percat |  |  |
|  | Certain | Doobtuil | Tout | Certain | Doobtiol | Total | Centrais | Dosithit | Total | Centin | Dowbltur | Tota | Centin | Doubtyol | Total | Centrin | Doubitiv | T<<al | Certain | Doutthi | Total | Certain | Doubtul | a |
| Q-Ballom | 0 | 1 | 1 | 0.0 | 17 | 7.7 | 1 | 2 | 1 | 14.3 | 0.0 | 14/3 3 | 0. | 1 | 1 | 0.0 | 20.0 | 200 | 1 | , | 2 | 6.7 | 6.7 | 13.4 |
| 1-Astronomical | 2 | 1 | 3 | 15.4 | 72 | 231 | 2 | 2 | 2 | 286 | 20 | 286 | 0 | 2 | 2 | 00 | 400 | 400 | 2 | 2 | 4 | 13.3 | 13.3. | 26.6 |
| 2-Aicarat | 3 | $L$ | 4 | 23.1. | 27 | 304 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 1 | 0 | 1 | 200 | 0.0 | 20.0 | 3 | 2 | 5 | 20.0 | 13.3 | 33.3 |
| 3-Light Phatom. | 0 | 2 | 0 | 10.0 | 120 | 00 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0. | 2 | 00. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 1 | 1 | 0.0 | 17 | 17 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds Doust atc | 0 | 12 | 0 | 10.0 | 10. | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-insuffic. Into. | 1 | 0 | 1 | 1.1 | 0.0 | 1.1 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 7-Psycmologica | 0 | 0 | 0 | 0.0 | Q0. | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| b-luniown | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 3 | 0 | 3 | 42.8 | 0.0 | 42.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 |
| 90ther | 0. | 0 | 0 | 0.0 | 0.0 | 2.0 | 0 | 0 | 0 | 0. | 0.0 | a, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tatal | 9 | 4 | 13 | 692 | 30.8 | 100 | 7 | 0 | 7 | 100.9 | 0.0 | 100. | 2 | 3 | 5 | 400 | 60.0 | 100. | 10 | 5 | 15 | 66.7 | 33.3 | 100. |


| TRALE Alllf |  |  |  |  |  |  | QTION OE UNT SLGHTINGS EAR ALC UEARS QY DURATION QE SIGHTNG |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | MONTHS OF YERL, |  |  |  |  |  | sirti one serouns to ETVE M |  |  |  |  |  |  |  |  |  |  |  |
|  | Conkfle |  |  |  |  |  |  |  |  |  |  |  | mumber |  |  | - |  |  |  |  |  |  |  |  |
|  | minbee |  |  | Pescort |  |  | - mumber |  |  | 1 Per Cont |  |  |  |  |  | Percent |  |  | number |  |  | Percent |  |  |
| Evaluation | Cantin | Dovibth] | Tobi | Centain | Doubthil | TOET | Cetain | Dostima | Toti | Catin | Dooutuil | Total | Certion | Dosistul | Total | Centin | Doovitil | Total | Certain | Doutixin | Total | Cerbin | Doubtur | Toda |
| Q-aillocm |  | 1 | 2 | 120. | 10 l | 20.0 | - | 0 | 1 | 9.1 | 0.0 | 91 | $\angle$ | 0 | 1 | 9.1 | 0.0 | 21 | 2 | 2 | 2 | 71 | 0.0 | 1.7 |
| 1-Astonomical | 2 | 0 | 2 | 20. | 0.0 | 20.2 | 0 | 11 | 1 | 0.0 | 91 | 91 | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aicradt | 2 | 1 | 3 | 20. | 10.0 | 30.0 | 2 | 0 | 2 | 18.2 | 300 | 18.2 | 2 | 2 | 4 | 18.2 | 18.2 | 36.4 | 7 | 2 | 9 | 26.9 | 7.1 | 346 |
| 3 Liotr Prenon | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4-Bicts | 2 | 0 | 0 | 20 | e 0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 3.8 | 0.0 | 3.8 |
| 5 Cloudx, Dast, ete | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 9.1 | 21 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 |
| Grasaficic mit. | 1 | 0 | 1 | 10.0 | 0.2 | 10.0 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 5 | 0 | 3 | 11.5 | 0.0 | 11.5 |
|  | 0 | 0 | 0 | Q0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 000 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 1 | 3.8 | 0.0 | 3.8 |
| OUn的的 | 1 | 0 | 1 | 10. | 0.0 | 100 | 3 | 0 | 3 | 27, | 30.0 | 17.3 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 9 | 0 | 9 | 34.6 | 0.0 | 34.6 |
| Fotuer | 1 | 0 | 1 | 1a0 | 0.0 | 100 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 0 | 3 | 3 | 0.0 | 27.3 | 213 | $\ell$ | 0 | 1 | 3.8 | 0.0 | 3.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tout | 8 | 2 | 10 | 180.0 | 20.0 | 100. | 10 | 1 | $1 /$ | 90.9 | 981 | 100 | 5 | 6 | 11 | 454 | 1546 | 100. | 24 | 2 | 26 | 92.3 | 71 | 100. |


| Eraluation | - MAY |  |  |  |  |  | JUNE |  |  |  |  |  | - 1044 |  |  |  |  |  | AUG05 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | minibe |  |  | Pes Cemt |  |  | mumber |  |  | Peg Cont |  |  | Muater |  |  | 7 parceat |  |  | Humber |  |  | Per Cont |  |  |
|  | Contin | Docubtiol | Tolal | Centain | Doobitul | Total | Certain | Dadituil | Tobid | Centin | Dasidial | Total | Cembin | Dowbth | T0EA | Centrin | Dooutiol | Tota | Certain | Doant | Tow | Cetrain | Dautitin | Total |
| O-Batlosa | 6 | 2 | 8 | 123 | 6.5 | 25.8 | 6 | 1 | 7 | 1201 | 3.4 | 24.1 | 19 | 14 | 33 | 14.4 | 10.6 | 15.0 | 10 | 12 | 22 | 14.9 | 17.9 | 32.8 |
| 1-Astronemial | 0 | 2 | 2 | 0.0 | 6.5 | 65 | $\angle$ | 2 | 3 | 3.4 | 6.9 | 10.3 | , | 3 | 4 | 0.8 | 2.3 | 3.1 | 1 | 1 | 2 | 1.5 | 15 | 3.0 |
| 2-Atiturn | 3 | 6 | 8 | 9.1 | 18.3 | 29.0 | 5 | 4 | 9 | 17.2 | 13.8 | 31.0 | 20 | 14 | 34 | $15: 1$ | 10.6 | 15.1 | 10 | 4 | 14 | 14.9 | 60 | 20.9 |
| 3-ifitit Pheom. | 0 | 0 | 0 | Q 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 1 | 7 | 4.5 | 0.8 | 5.3 | 0 | 3 | 3 | 0.0 | 4.5 | 4.5 |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $5-$ Clouds, Dost eta | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| SInsultic. mio. | 4 | 0 | 4 | 12.9 | 0.0 | 20. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 13 | 0 | 13 | 98 | 0.0 | 9.8 | 3 | 0 | 3 | 45 | 0.0 | 4.5 |
| 2Psycrological | 0 | 0 | 0 | 0.0 | 0.0 | 10.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 2 | 3 | 5 | 1.5 | 2.3 | 38 | 2 | , | 3 | 30 | 1.5 | 4.5 |
|  | 6 | 0 | 6 | 18.3 | 0.0 | 123 | y | 0 | 7 | 241 | 0.0 | 241 | 33 | 0 | 33 | 25.0 | 0.0 | 25.0 | 18 | 0 | 18 | 24.9 | 0.0 | 26.9 |
| Fother | 2 | 0 | 2 | 6.5 | 0.0 | 65 | 3 | 0 | 3 | 10.3 | 0.0 | 10.3 | 3 | 0 | 3 | 2.3 | 0.0 | 2.3 | 2 | 0 | 2 | 30 | 0.0 | 3.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 21 | 10 | $3 /$ | 61.7 | 32.3 | 100. | 22 | 7 | 29 | 15.9 | 24.1 | 100 | 97 | 35 | 132 | 13.5 | 26.5 | 100 | 46 | 21 | 67 | 68.7 | 31.3 | 100 |


|  | SEPTEMBER |  |  |  |  |  | DeTOREE |  |  |  |  |  | MOUEMEER |  |  |  |  |  | DEEEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Numbes |  |  | Put cent |  |  | Munber |  |  | Pex Cont |  |  | Humber |  |  | Percent |  |  | Mumber |  |  | Per cont |  |  |
| Evaluation | Contin | Dosblul | Tobil | Cention | Dandotil | O20] | Centio] | Dachiful | Tota | Cotrin | Doubtur | Tota | Certion | Dowbliol | Total | Cention | Dositicul | Foral | Catsin | Dowith | Tota | Certria | Daustul? | Tolal |
| D-Batione | $?$ | 5 | 8 | 83 | 139 | 222 | 2 | 4 | 6 | 72 | 15.4 | 23.1 | 2 | 0 | 2 | 250 | 0.0 | 25. | 2 | 1 | 3 | $11 / 2$ | 5.6 | 16.7 |
| 1-Astronomica | 1 | 1 | 2 | 2.8 | 2.8 | 5.6 | 2 | 2 | 2 | 0.0 | 2.1 | $7 \%$ | 1 | 0 | 1 | 125 | 00 | 12.5 | $<$ | 1 | 2 | 5.6 | 5.6 | 11.2 |
| 2-Aircrat | 1 | 12 | 13 | 2.8 | 33.3 | 36. 1 | 3 | 5 | 8 | 115 | 18.2 | 30.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 4 | 5 | 5.6 | 22.2 | 278 |
| 3 -Lipht Preme | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 12 | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 4ircs | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds, Dost exc | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 25.0 | 250 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Insitic mo. | 1 | 0 | 1 | 28 | 0.0 | 2.8 |  |  |  | 3.8 | 10.0 | 3.8 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 2 | 11.1 | 0.0 | 11.1 |
| RPsychological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| B-Uaknom | 12 | 0 | 12 | 33.3 | 0.0 | 33.3 | 8 | 0 | 8 | 30.8 | 0.0 | 30.8 | 2 | 0 | 2 | 25.0 | 00 | 15.0 | 6 | 0 | 6 | 333 | 0.0 | 33.3 |
| 90ther | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 3.8 | 0.0 | 3.8. | 0 | 0 | 0 | 0.0 | 0.0 | 100 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 18 | 18 | 36 | 50.0 | 50.0 | <02. | 15 | 11 | 26 | 517 | 42.31 | 100 | 6 | 2 | 8 | 15.0 | 25.0 | 100. | 12 | 6 | 18 | 66.7 | 33.3 | 100. |

TABLE AILS EKRLUATION OE WNLT SIGHTINGS FOR ALL YERES BY DURATION OF SIGHTING

| Eviturtion | Janyary |  |  |  |  |  | EERPUARY |  |  |  |  |  | sly Te thlety |  |  |  |  |  | WNUTES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | member |  |  | Per |  |  |  |  |  |  |  |  | Mm |  |  | Per Con |  |  | Munbee |  |  | Per Cent |  |  | Nunber |  |  | Per cmit |  |  |
|  | Crimian | Doubther | Tozal | Ceram | Doubtuol | Total | Certin | Doubtion | Totai | Cetrain | Docotiol | Total | Eertia | Douthth | Total | Certain | Doubitul | Yotal | Certain | Doublut | Total | Cettain | Dosotitio | Totz |
| aballocm | 1 | , | 2 | 11 | 71 | 14.2 | $?$ | 0 | 3 | 273 | 00 | 27.3 | / | 1 | 2 | 8.3 | 8.3 | 16.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 1-Astronomial | 3 | 0 | 3 | 21.4 | 0.0 | 21.4 | 1 | 0 | 1 | 91 | OR. | 9.1 | L | 0 | 1 | 83 | 0.0 | 83 | 2 | 0 | 2 | 154 | 00 | 15.4 |
| 2-Airceith | 2 | 1 | 3 | 14.3 | 7.1 | 21.4 | 0 | 2 | 2 | 0.0 | 18.2 | $1 / 2$ | 1 | 2 | 3 | 83 | 16.7 | 250 | $\underline{4}$ | 0 | 4 | 30.8 | 0.0 | 30.8 |
| 3 Ligigh Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Birds | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Cloods, Dost, elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 02 | 00 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-insuffic mb. | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 0 | 0 | 0 | 0.0 | Qo | 0.0 | 1 | 0 | , | 77 | 0.0 | 77 |
| 7. Psyctologial | 1 | 0 | 1 | 11 | 0.01 | 7.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| BUndroum | 4 | 0 | 4 | 286 | 0.0 | 28.6 | 2 | 0 | 2 | 182 | 0.0 | 18.2 | 5 | 0 | 5 | 41.5 | 0.0 | 41.5 | 6 | 0 | 6 | 46.2 | 0.0 | 46.2 |
| 9.0them | 1 | 0 | 1 | $7 / 1$ | 0.0 | 2.1 | 3 | 0. | 3 | 213 | 0.0 | 21.3 | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12 | 2 | 14 | 85.7 | 14.3 | 100. | 9 | 2 | $1 /$ | 81.8 | 18.2 | 100. | 8 | 4 | 12 | 66.7 | 33.3 | 100 | 13 | 0 | 13 | 1000 | 0.0 | 100. |


| Evaluation | MAY |  |  |  |  |  | lUNE |  |  |  |  |  | $10<4$ |  |  |  |  |  | Au6ys7 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | Humber |  |  | Pecent |  |  | Munder |  |  | Per Cent |  |  | Mwimber |  |  | Pet Cont |  |  |
|  | Certain | Doviltal | Total | Certain | Davabtyol | Total | Certion | Douttul | Total | Certain | Doubtha] | Total | Certain | Dooubtul | Totil | Certion | Doubtital | Toxal | Cêtzain | Doutituy | Tobal | Certia | Dowith! | Total |
| O-Eayliom | 7 | 2 | 9 | 24.1 | 6.9 | 31.0 | 7 | 3 | 10 | 18.9 | 81 | 27.0 | 24 | 12 | 36 | 20.0 | 10.0 | 300 | 17 | 13 | 30 | 195 | 14.9 | 34.4 |
| 1-Astoromimal | 2 | 1 | 3 | 6.9 | 34 | 10.3 | 2 | 0 | 2 | 54 | 0.0 | 5.4 | 7 | 4 | 11 | 5.8 | 3.3 | 9.1 | 8 | 2 | 10 | 92 | 2.3 | 115 |
| 2-Ainerat | 3 | 2 | 5 | 10.3 | 69 | 172 | 5 | 3 | 8 | 135 | 8.1 | 21.6 | 16 | 8 | 24 | 13.3 | 6.7 | 200 | 6 | L | 17 | 6.9 | 126 | 19.5 |
| 3-Ligul Pheno. | 3 | 0 | 3 | 10.3 | 0.0 | 123 | 1 | 0 | 1 | 2.7 | 00 | 2.7 | 3 | 2 | 5 | 2,5 | 1.7 | 4.2 | 4 | 0 | 4 | 4.6 | 00 | 46 |
| 4-Birts | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $5-\mathrm{Clowats}$, Dust, etc. | $\angle$ | 0 | 1 | 34 | 0.0 | 24 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.1 | $1 / 1$ |
| finsultic. min. | 3 | 0 | 3 | 10.3 | 0.0 | 10.3 | 3 | 0 | 3 | 8.1 | 0.0 | 8.1 | 16 | 0 | 16 | 13.3 | 0.0 | 13.3 | 6 | 0 | 6 | 6.9 | 0.0 | 69 |
| 7.Psycriologion | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 10.8 | 0.0 | 10.8 | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | 2 | 0 | 2 | 2.3 | 0.0 | 23 |
| AUntrown | 2 | 0 | 2 | 6.9 | 0.0 | 6.9 | 9 | 0 | 9 | 24:3 | 0.0 | 24.3 | 22 | 0 | 22 | 18.3 | 0.0 | 18.3 | c 2 | 0 | 12 | 13.8 | 0.0 | 13.8 |
| 90 then | 1 | 2 | 3 | 3.4 | 6.9 | 10.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 5 | 3.3 | 0.8 | 4.1 | 4 | , | 5 | 4.6 | 1.1 | 5.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 22 | 7 | 29 | 15.9 | 24.1 | 100. | 31 | 6 | 37 | 83.8 | 16.2 | 100. | 93 | 27 | 120 | 17.5 | 22.5 | 100. | 5.7 | 28 | 87 | 618 | 32.2 | 100. |


| Evaluation | SEPTEMRER |  |  |  |  |  | Derpeke |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DEEEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pacmi |  |  | Munber |  |  | Pacent |  |  | Munber |  |  | Percent |  |  | mumber |  |  | Per cont |  |  |
|  | Certain | Doubtitit | Tobal | Certain | Dowtitiol | Tobal | Certain | Doubtrol | Tota | Critain | Daubtitul | रुtal | Certion | Doubtuol | Total | Centain | Doutotul | Total | Certain | Doutibltu | Total | Certain | Daubtul | Total |
| O-Balloon | 3 | 2 | 5 | 10.0 | 6.7 | 16.7 | 0 | 6 | 6 | 0.0 | 30.0 | 30.0 | 2 | 4 | 6 | 8.7 | 17.4 | 26.1 | 2 | 1 | 3 | 8.0 | 4.0 | 13.0 |
| 1-Astomonical | 0 | 2 | 2 | 0.0 | 6.7 | 67 | 1. | 2 | 3 | 5.0 | 10.0 | 15.0 | 2 | 3 | 5 | 8.1 | 13.0 | 21.7 | 5 | 2 | 6 | 20.0 | 4.0 | 24.0 |
| 2-Aicraft | 1 | 8 | 9 | 3.3 | 26.7 | 300 | , | 2 | 3 | 5.0 | 10.0 | 15.0 | 0 | 3 | 3 | 0.0 | 13.0 | 13.0 | , | 2 | 3 | 410 | 8.0 | 12.0 |
| 3 -Light Phenom. | 1 | 1 | 2 | 3.3 | 3.3 | 6.6 | 1 | 2 | 3 | 5.0 | 10.0 | 15.0 | 1 | 1 | 2 | 4.3 | 4.3 | 8.6 | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 |
| 4 Bints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 5.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds, Dush etc | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | O | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insutic, min. | 3 | Q | 3 | 10.0 | 0.0 | 10.0 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 2 | 0 | 2 | 8.0 | 0.0 | 8.0 |
| 1.Psycriologial | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | < | 0 | 1 | 4.0 | 0.0 | 4.0 |
| 8Unksoum | 7 | 0 | 7 | 233 | 0.0 | 23.3 | 3 | 0 | 3 | 15.0 | 0.0 | 15.0 | 6 | 2 | 6 | 26.1 | 0.0 | 26.1 | 8 | 0 | 8 | 32.0 | 0.0 | 32.0 |
| 9-0ther | 1 | 1 | 2 | 3.3 | 3.3 | 6.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | C | 0 | 1 | 4.0 | 00 | 4.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 16 | 14 | 30 | 53.31 | 46.7 | 100. | 7 | 13 | 20 | $35.0]$ | 65.0 | 100. | 12 | 11 | 23 | 52:2 | 418 | 100. | 21 | 4 | 25 | 84.0 | 16.12 | col |




| Evalualion | May |  |  |  |  |  | luNE |  |  |  |  |  | lowe |  |  |  |  |  | Augest |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humbes |  |  | Pet Cent |  |  | Mumber |  |  | Pacent |  |  | number |  |  | Pag Cent |  |  | munber |  |  | $\mathrm{Paxam}^{\text {cm }}$ |  |  |
|  | Certain | Dowbltul] | Total | Certain | Dovoltul | Total | Certain | Doutitul | Total | Cotrain | Dowbtur | Total | Centain | babtiol | Tota | Centrin | Doustrit | Totad | Centrin | Doubtul | Tota | Centia | Dosititul | Tontal |
| a-balloon | 3 | 0 | 3 | 83 | 00 | 8.3 | 6 | 0 | 6 | 13.3 | 0.0 | 133 | 27. | $1 /$ | 38 | 12.7 | 5.2 | 179 | 5. |  | 8 | 5.8 | 3,5 | 23 |
| 1-Astronomical | 10. | 2 | 12 | 27.8 | 5.6 | 33.4 | 3 | 2 | 5 | 6.7 | 4.4 | $1 / 1$ | 27 | 7 | 34 | 12.1 | 3.3 | 16.0 | 6 | 8 | 14 | 70 | 8.3 | 16.3 |
| 2-Aimart | $?$ | 4 | 7 | 8.3 | 11.1 | 19.4 | 4 | 1 | 5 | 8.8 | 2.2 | 100 | 27 | 15 | 42 | 12.7 | 71 | 19.8 | 10 | 7. | 17 | 11.6 | 8.1 | 19.7 |
| 3-Light Phaven. | 0 | 1 | 1 | 0.0 | 2.8 | 2.8 | 0 | 0 | 0. | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 1.4 | 0.0 | 1.4 | 2 | 0 | 2 | 2.3 | 20 | 2.3 |
| 4 -irats | 0. | $\cdots$ | 1 | 00 | 2.8 | 2.8 | 0 | 0 | 2. | 00 | 0.0 | 0.0 | , | 1 | 2 | 0.5 | 0.5 | 10 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 5 Cliouds, Doust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | L | 0 | 1 | 0.5 | 0.0 | 0.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insertic. . Mro. | 6 | 0 | 6 | 16.7 | 0.0 | 16.7 | 12 | 0 | 12 | 26.7 | 0.0 | 26.7 | 38 | 0 | 38 | 11.9 | 0.1 | 17.9 | 19 | 0 | 19 | 22. | 0.0 | 22.1 |
| 7.Pspcravogich | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 2 | 0 | 2 | 44 | 0.0 | 4.4 | 1 | 2 | 3 | 0.5 | 0.9 | 1.4 | 1 | 0 | 1 | 12 | 00 | $1 \cdot 2$ |
| 8 Unknown | 6 | 0 | 6 | 16.7 | 0.0 | 16.7 | 13 | 0 | 13 | 28.9 | 0.0 | 28.9 | 35 | 0 | 3.5 | 165 | $0 \cdot$ | 165 | 22 | 0 | 22 | 25.6 | 00 | 25.6 |
| Solver | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 44 | 0.0 | 4.4 | 16 | 0 | 16 | 15 | 0.0 | 1.5 | 2 | 1 | 3 | 2.3 | 12 | 3.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 28 | 8 | 36 | 128 | 22.2 | 100. | $4 / 2$ | 3. | 45 | 93.3 | 6.7 | Lea. | 176 | 36 | 212 | 830 | 17.0 | 100. | 67 | 19 | 86 | 119 | 22.1 | 100. |


| Evaluation | SEPTEMBER |  |  |  |  |  | Detobee |  |  |  |  |  | NOKEMBER |  |  |  |  |  | DEEEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | mumber |  |  | Percent |  |  | Alumer |  |  | Per Comt |  |  | Number |  |  | Percat |  |  |
|  | Centain | Doobitul | Total | Centrin | Dosititul | Total | Certsin | Doubthol | Total | Certin | Doubthol | Totat | Certain | Doutrifu] | Total | Certain | Doubtrut | Totai | Cetrain | Doalditu | Totat | Cotrin | Daubthl | Toted |
| --Balloon | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 2 |  | 3 | 5.7 | 2.9 | 8.6 | $\angle$ | 7 | 8 | 25 | 12.5 | 20.0 | 1 | 2 | 2 | 3.4 | 3.4 | 6.8 |
| 1-Astromomical | 10 | 3 | 13 | 23.2 | 70 | 30.2 | 2 | 6 | 8 | 5.7 | 171 | 22.8 | 7 | 4 | 11 | 175 | 10.0 | 27.2 | 6 | 7 | 13 | 20.7 | 24.1 | 448 |
| 2 2-Aicart | 1 | 1 | 2 | 23. | 2.3 | 46 | 3 | 3 | 6 | 8.6 | 8.6 | 17.2 | 5 | 2 | 7 | 12.5 | 5.0 | 175 | 2 | 1 | 3 | 6.9 | 3.4 | 10.3 |
| 3Limat Phamm. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 | 1 | 0.0 | 2.9 | 1.9 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 5.Clouts, Dorst etc. | 0 | 0 | 0 | 00 | 0.0 | 120 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.2 | 00 |
| Grasulicic int. |  | 0 | 9 | 20.9 | 0.0 | 20.9 | 6 | 0 | 6 | 171 | 0.0 | 171 | 3 | 0 | 3 | 1.5 | 0.0 | 7.5 | 5 | 0 | 5 | $1 \% 2$ | 0.0 | 172 |
| IPsychologiay | 1 | 0 | 1 | 2.3 | 0.0 | 2.3 |  | 0 | 1 | 2.9 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 |
| SUnknom | $1 /$ | 0 | 11 | 25.6 | 0.0 | 25.6 | 8 | 0 | 8 | 22.9 | 0.0 | 22.9 | 9 | 0 | 4 | 22.5 | 0.0 | 22.5 | 2 | 0 | 2 | 6.9 | 0.0 | 6.9 |
| Yober | 6 | 1 | 7 | 14.0 | 2.3 | 16.3 | 2 | 0 | 2 | 5.7 | 0.0 | 57 | 2 | 0 | 2 | 5.0 | 0.0 | 5.0 | 3 | 0 | 3 | 10.3 | 00 | 10.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tonat | 38 | 5 | 43 | 88.4 | 11.6 | 102 | 24 | 11 | 35 | 68.6 | 31.4 | 100. | 27 | 13 | 401 | 675 | 32.5 | 100. | 20 | 9 | 29 | 690 | 31.0 | 100. |



| Evilution | May |  |  |  |  |  | Jupe |  |  |  |  |  | Jucy |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hunber |  |  | Per Cent |  |  | Nunber |  |  | Per Cont |  |  | Mumber |  |  | Pacent |  |  | munber |  |  | Percmit |  |  |
|  | Certin | [00ubton | Tobl | Certain | Dowbltuil | Total | Certain | Dosoticil | Total | Certain | Doubthal | fotal | Certain | Doubtioil | Total | Centain | Doubitul | Tơal | Cetrin | Doditiv | Total | Centrin | Daubthi | Tot |
| O-Ballom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 4.0 | 20 | 4.0 |  | 2 | 3 | 1.4 | 28 | $4 / 2$ | 0 | -3 | 3 | 0.2 | 5.0 | 5.8 |
| 1-Astramemial | 5 | 2 | 2 | 29.4 | 11.8 | 412 | 10 | 7 | 17 | 40.0 | 28.0 | 68.0 | 22 | 15 | 37 | 31.0 | 21.1 | 52.1 | 13 | 20 | 33 | 21.1 | 33.3 | 5 |
| 2-Alitrath | 4 | 1 | 5 | 23.5 | 5.2 | 29.4 | 2 | 0 | 3 | 12.0 | 0.0 | 12.0 | 7 | 2 | 16 | 9.9 | 12.1 | 22.6 | 3 | 6 | 2 | 50 | 10.0 | 15.0 |
| 3-Limith Phenom. | 0 | 0 | 0 | 20.0 | 0.0 | 10.0 | 01 | 0. | 0 | 20 | Q0 | 00 | 1 | 0 | 1 | 1.4 | 0.0 | 1.4 | 0 | 1 | 1 | 0.0 | 17 | 1.7 |
| 4 Bits | 0 | 0 | 0 | 00 | a, | 00 | 4 | 0 | 0 | 00 | 00 | 0.0 | , | 2 | 3 | 1.4 | 2.8 | 4.2 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 5-Clands Dust, Ac. | 0 | 0 | 0 | Q0 | 00 | 10.0 | $e$ | 0 | 0 | de 0 | al | 100 | 0 | , | 1 | 0.0 | 14 | 1.4 | 0 | 0 | 0 | 00 | 00 | 20 |
| G-insmicic mo. | 1 | 0 | 1 | 5.9 | ab | 5.9 | 3 | 0 | 3 | 12.0 | 0.0 | 12.0 | 2 | 0 | 2 | 2.8 | 0.0 | 2.8 | 4 | 0 | - | 6.7 | Q0 | 6.7 |
| 7.Psydiological | $a$. | 0 | 0 | 0.0 | 00. | 0.0 | 2 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 021 | 20 | 1 | 0 | , | 1.7 | 00 | 17 |
| 8 -Unknoum | 2 | e | 2 | 11.8 | 0.0 | 118 | 0 | 0 | 0 | 00 | 0.0 | 00 | 6 | 0 | 6 | 8.5 | a, | 8.5 | 6 | 0 | 6 | 10.0 | 20 | 10.0 |
| 9-ptis | 2 | 0 | 2 | 11.8 | 0.0 | 14.8 | 1 | 0 | 1 | 40 | 00 | 40 | 2 | 0 | 2 | 2.8 | 00 | 2.8 | 2 | 1 | 3 | 3.3 | 1.7 | 5.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 14 | 3 | 17 | 82.4 | 17.6 | 100 | 18 | 71 | 25 | 2 | 28.0 | 100 | 42 | 22 | 71 | 59.2 | 40.5 | 100. | 29 | 31 | 60 | 48.3 | 517 | 100 |


| Evaluation | SEPTEMPER |  |  |  |  |  | DCTORER |  |  |  |  |  | NOUEMBER |  |  |  |  |  | DECENRER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nuabem |  |  | Percent |  |  | minber |  |  | Percmit |  |  | Munber |  |  | Per cent |  |  | Munber |  |  | Percomt |  |  |
|  | Certhin | Dosubtur | Toud | Cartial | Dastotuil | Tolat | Certain | Doubltu | Tota | Certion | Doabtaid | Tom | Centia | Dovitut | T0017 | Certain | Dosidtal | Toxal | cetrain | Doodtitul | Total | Certain | Dabdtul | Total |
| O-Ballom | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 00 | 0.0 | 0. | 0 | 0 | 0.0 | 00 | 00 |
| bAstronamical | 8 | 5 | 15 | 33.3 | 20.8 | 5\%1 | 4 | 2 | 4 | 33.3 | 00 | 33.3 | 4 | 4 | 8 | 26.1 | 24.7 | 53.4 | 9 | 8 | 17 | 4.4 | 512.1 | 89.5 |
| 2-Aitarath | 1 | 3 | 4 | $4 / 2$ | 12.5 | 16.7 | 1 | 2 | 3 | 8.3 | 16.7 | 25.0 | 2 | 1 | 2 | $13: 3$ | 6.7 | 20.0 | 0 | 0 | a | 00 | 0.0 | 0.0 |
| 3-Licht Phemen | 0 | 1 |  | 0.0 | 4.2 | 4.2 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | ae | 0.0 |
| 4 Birss | 1 | 1 | 2 | 4.2 | 4.2 | 8.4 | 0 | 2 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 5 clows, Oust 4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 10 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | no | 00 | 0.0 |
| Elasutice mo. | $\checkmark$ | 0 | 1 | 4.2 | 0.0 | 4.2 | 2 | 0 | 2 | 1h7 | 12.0 | 16.7 | 0 | 0 | 0 | 00 | L0 | 0.0 | 0 | 0 | 12 | 00 | 00 | 0.0 |
| 1. Psychologios | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 34theom | 3 | 0 | 3 | 12.5 | 0.0 | 12.5 | 2 | 0 | 2 | 16.7 | Qo | 16.7 | 2 | 0 | 2 | 13.3 | do | 1.3 | 2 | 0 | 2 | 10.5 | 20 | 10.5 |
| Sother | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0. | 1 | 1 | 0.0 | 8.3 | 8.3 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 2 | 00 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tous | 14 | 10 | 24 | 58 | 41.7 | 100. | 9 | 3 | 12 | 750 | 25.0 | 100. | 10 | 5 | 15 | 667 | 33.3 | 100. | $1 /$ | 8 | 19 |  | 42.1 | 100. |

TARLE AUG EVALVATION OF QBVERT SIGHTINGS FOR ALL YEABS BK DUBATIRN OF SUGLING

|  | fer. M |  |  |  |  |  | qentics |  |  |  |  |  | S/X TO TEN |  |  |  |  |  | SECONOS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lanvary |  |  |  |  |  | EERRUARY |  |  |  |  |  | MARCN |  |  |  |  |  | APRLC |  |  |  |  |  |
|  | Mumber |  |  | Percont |  |  | Mumber |  |  | Percont |  |  | Humber |  |  | Per Cent |  |  | Mumbel |  |  | Percent |  |  |
| Evluation | Cenion | [Doubtiol | Totat | Centrin | Dooubtici | Toun | Certain | Doubitur | Tote | Centain | Doubltas] | Tota | Eentin | Dosithal | Tobi | Certsin | Dowidfol | Tobit | Certaia | [Doubtion] | Tobal | Cobain | Dastiol | Tod |
| O-Ballion | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | Qa | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astomonial | 0 | 1 | 1 | 0.0 | 25.0 | 250 | 1 | 0 | 1 | 100 | 20 | 1000 | 1 | 0 | 1 | 25.0 | 10.0 | 25.0 | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 |
| 2-Alcrent | 0 | 1 | $\angle$ | 0. 0 | 25.0 | 250 | 0 | 0 | Q | cio | 0.0 | 0.0 | 0 | 0 | 0 | 120 | 00 | a, | -1 | 1 | 2 | 12.5 | 12.5 | 250 |
| 3-Ligh Pheno. | 0 | Q | 0 | 0.0 | 0.0 | 0.2 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0. | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {dides }}$ | 0 | 0 | 0 |  | 0.0 | ab | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 00 | 00 | 0.0 |
| S-Clouds, Dust, itc. | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-1asantic mo. | 1 | R | , | 150 | 00 | 25.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -1 | 0 | 1 | 12.5 | 0.0 | 12.5 |
| 7. Psychological | 0 | 0 | 0 | 00 | 20 | 0.0 | 0 | 0 | 0 | 100 | 0.0 | 100 | 0 | 0 | 0 | 0.0 | 00 | 20. | 0 | 0 | 0 | 0.0 | 00 | 20 |
| a Unomoiom | 1 | 0 | 1 | 25.0 | 0.0 | 25.0 | 0 | 0 | 0 | 00 | a0 | 0.0 | 3 | 0 | 3 | 150 | 00 | 150 | 3 | 0 | 3 | 375 | 00 | 31.5 |
| 9.0 the | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | Qe | 0.0 | 20 | 0 | 0 | 2 | 0.0 | 0.0 | a0 | - | 0 | 0 | 0.0 | Qo | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2 | 2 | 4 | 50.0 | 500 | 100. | 1 | 0 | 1 | 1000 | 20 | 100. | 4 | 0 | 4 | road | 0.0 | 102 | 7 | 1 | 8 | 875 | 12.5 | 100. |


|  |  |  |  |  |  |  | luxe |  |  |  |  |  | 1044 |  |  |  |  |  | 2u605 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Peicent |  |  | Munber |  |  | Parcat |  |  | munter |  |  | Pes Cent |  |  | Mombes |  |  | Pecmit |  |  |
| Evalation | Certain | Doubtion | Tobal | Certain | Dosebtow | Total | Certbin | Dooblitul | TGET | Certain | Doubtiol | Toter | Centaia | Doubltul | Total | Cettin | Dabtrol | Totaid | Cetion | Doutbive | Totail | Certin | Dowiff | Total |
| 0.-asloon | $\angle$ | 2 | 1 | 12.5 | 0.0 | 125 | , | 0 | 1 | $5: 2$ | 0.0 | 5.9 | 0 | 0. | 0 | Q0 | 0.0 | ad | 0 | 3 | 3 | 0.0 | 115 | 11.5 |
| 1-Astronomica! | 2 | 0 | 2 | 250 | 0.0 | 25.0 | $?$ | 6 | 2 | 17.6 | 35.3 | 52.9 | 9 | 6 | 15 | 33.3 | 22.2 | 55.5 | 3 | 3 | 6 | 115 | /1. 5 | $2: 0$ |
| 2-Airaft | 1 | 1 | 2 | 12.5 | 12.5 | 250 | 3 | 0 | 3 | 17.6 | 0.0 | 176 | 5 | 2 | 7 | 18.5 | 1.4 | 25.9 | 8 | 2 | 10 | 30.8 | 12 | 38.51 |
| 3-Limt Phenom. | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 | 0 | 1 | 1 | 0.0 | 5.9 | 5.8 | 0 | 0 | 0 | den | 20 | 20 | 1 | 0 | 1 | 3.8 | 0.0 | 3.8 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 20 | 0.01 | 20 | 0 | 0 | 0 | 00 | 00 | 0.0 |
| 5-Clouns, Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 2.e | 2 | 0 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 00 | 0.0 | 00 |
| 6-1nsuffic ink. | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 | 4 | 0 | $<$ | 37 | a0 | 3.7 | 1 | 0 | 1 | 38 | 00 | 3.8 |
| 7.Psyctalogial | 0 | 0 | 0 | 120 | a0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 120 | 0 | 0 | 0 | 120 | Q0 | 40 | 0 | 0 | 0 | Q0 | 0.0 | 0.0 |
| -Uundrown | 0 | 0 | 0 | 20 | 00 | 20 | $L$ | 0. | 1 | 5.9 | 0.0 | 5.9 | 3 | 0 | 3 | 11.1 | al | 11.1 | 4 | 0 | 4 | 15.4 | 00 | 15.4 |
| Solther | 0. | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | $\angle$ | 37 | a0 | 3.7 | 1 | 0 | 1 | 38. | 00 | 38 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 6 | 2 | 8 | 175.0 | 25.0 | 100 | 10 | 7 | -7 | 58.8 | 4/1.2 | 100. | 19 | 8 | 27 | 70.4 | 296 | 100. | 18 | 8 | 26 | 69.2 | 30.8 | 100 |


|  | SEPTEMBER |  |  |  |  |  | DeToreR |  |  |  |  |  | NOKEMPER |  |  |  |  |  | DECEMRER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hunber |  |  | Percent |  |  | munder |  |  | Parcout |  |  | Aumber |  |  | Percont |  |  | Uumber |  |  | Percart |  |  |
| Evaluation | Certbin | Doubthul | Total | Cerrain | Dasobut | Total | Cerdin | Doobithel | Total | Catain | Daubtal | Tota | Certain | Doubtrou | Total | Celiain | Doublutu | Toxal | Cerain | Doutitul | Totan | Certain | Daubint | Total |
| O-balloon | 2 | 1 | 1 | 102 | 11.1 | LLC | 0 | 0 | $\ell$ | 0.0 | 0.0 | a0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomica | 2 | 0 | 2 | 22.2 | 0. | 222 | 1 | 2 | 3 | 1200 | 40.0 | 60.0 | 2 | 0 | 2 | 66.7 | 0.0 | 66.7 | 0 | 1 | 1 | 00 | 1000 | 100.0 |
| 2-Airctath | 0 | 2 | 2 | 00 | 22.2 | 22.2 | 0 | 0 | 0 | 00 | 00 | al | 0 | 0 | 0 | 00 | 0.0 | a0 | 0 | 0 | 0 | a0 | 0.0 | 0.0 |
| 3-Light Phemom | 0 | 0 | 0 | a. 0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 12 | 100 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 4 -inds | 0 | 1 | 1 | 0.0 | 11.1 | 111 | 0 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0 | 0 | O | 20 | 0.0 | 20 | 0 | 0 | 0 | 20 | a0 | 0.0 |
| 5 -Clouds Dust, etc. | 0 | 0. | 0 | 100 | 0.0 | 0.0 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | a0 | 00 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 6-Insutic. mio. | 0 | 0 | 0 | 100 | 00 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | a | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | Q0 |
| 7.Psyctiolopiol | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 4.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8.Unkenom | 3 | 0 | 3 | 333 | 0.0 | 333 | 2 | 0 | 2 | 400 | 0.0 | 400 | 1 | 0 | 1 | 33.3 | 0.0 | 33.3 | 0 | 0 | 0 | 00 | 0.0 | 00 |
| P-0, | 0 | a | $\dot{0}$ | 0.0 | aR | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 120 | ge | 0.0 | 0 | 0 | 0 | 0.0 | a0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolay | 5 | 4 | 9 | 556 | , | 100. | 3 | 2 | 5 | 60.0 | 40.0 | 100. | 3 | 0 | 3 | 1000 | 0.0 | 100 | 0 | 1 | $\prime$ | 0.0 | 1000 | 02 |



| Evaluation | MA4 |  |  |  |  |  | JUNE |  |  |  |  |  | lecy |  |  |  |  |  | AUGUST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Ceml |  |  | Nunber |  |  | Percent |  |  | Munser |  |  | Per Cend |  |  | number |  |  | Percat |  |  |
|  | Certain | Doibltul | Tobla | Certain | [Dowtitul | Tolat | Certain | Douthlul | Total | Centin | Doublful | Tota | Certain | Dowiotut | Tomb | Cerkin | Doobstiul | Total | Cention | Doctund | Total | Centia | Davilud | Tota |
| a-basloon | 1 | 0 | 1 | 83 | 0.0 | 8.3 | / | 0 | 1 | 5.9 | 0.0 | 5.9 | 3 | 3 | 6 | 4.8 | 4.8 | 9.6 | 0 | 1 | 1 | 0.0 | 30 | 3.0 |
| 1-Astronomical | 1 | 0 | 1 | 83 | 0.0 | 83 | 1 | 2 | 3 | 5.9 | 11.8 | 177 | 6 | 1 | 1 | 9.7 | 16 | 11.3 | 6 | 5 | 1 | 18.2 | 15.1 | 33.3 |
| 2-Aicrint | 1 | 1 | 2 | 8.3 | 8.3 | 146 | 5 | 2 | 7 | 29.4 | 11.8 | $4 / 2$ | 14 | 15 | 29 | 22.6 | 24.2 | 46.8 | 6 | 3 | 9 | 18.2 | 9.1 | 273 |
| 33Libt Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 00 | 20 | 2 | 1 | 1 | 0.0 | 3.0 | 30 |
| 4 Binds | 0 | 1 |  | 0.0 | 83 | 83 | 0 | 0 | 0 | 20 | 0.0 | 00 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | Q0 |
| 5-Clouds, Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | Q0 | a0 | 0.0 | 0. | 0 | 0 | 0. | 0.2 | e0 |
| S-Insulfic. mbs. | 4 | 0 | 4 | 333 | 10 | 33.3 | 3 | 0 | 3 | 176 | a0 | 17.6 | 2 | 0 | 2 | 32 | el | 3.2 | 2 | 0 | 2 | 61 | 0.0 | 6.1 |
| 1.Psychotogiax | 0 | 0 | 0 | a0 | 20 | 00 | 0 | 0 | 0 | 00 | 00 | 00 | 3 | 2 | 5 | 4.8 | 32 | 8.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| S-Unlmoun | 2 | 0 | 2 | 1.7 | 0.0 | 16.7 | 3 | 0 | 3 | 176 | al | 17.6 | 12 | 0 | 12 | 124 | 00 | 18.4 | 9 | 0 | 9 | 273 | al | 273 |
| 90ther | 1 | 0 | 1 | 8.3 | 00 | 83 | 0 | 0 | 0 | 10 | 20 | 0.0 | 1 | 0 | 1 | 16 | 0. | 16 | 0 | 0 | 0 | 00 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10 | 2 | 12 | 83.3 | 16.7 | 100 | 13 | 4 | 17 | 76, 5 | 23.5 | 100. | 41 | 21 | 62 | 66.1 | 33.9 | 100. | 23 | 10 | 33 | 69.7 | 30.3 | 100. |


| Evaluation | SEPTEMBER |  |  |  |  |  | DeTOPER |  |  |  |  |  | NOVEMRER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cem |  |  | mumber |  |  | Pacent |  |  | Munber |  |  | Per Cent |  |  | Number |  |  | Pet Cat |  |  |
|  | Certin | Doubtal | Tobil | Cemtin | Dostibul | Tota | Certion | Dositful | Tota | Cetrian | Dowitivil | Total | Cention | Doubtul | Total | Certain | Doubitul | Total | Certain | Doubtur | Total | Centain | Davilul | Total |
| A-Balloon | 0 | 2 | 2 | 20 | 14.3 | 14:3 | 0 | 0 | 0 | 20 | 00 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 2 | 2 | a0 | 22.2 | 22.2 |
| 1 -Astronoalich | 0 | 1 | 1 | 100 | 71 | 7.1 | 2 | 1 | 3 | 12.2 | 11.1 | 33.3 | 2 | 0 | 2 | 500 | 0.0 | 50.0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 |
| 2-Aitratt | 4 | 3 | 7 | 28.6 | 21.4 | 50.0 | -1 | 2 | 3 | 11.1 | 22.2 | 33.3 | 2 | 0 | 2 | 500 | 00 | 520 | 0 | 3 | 3 | 0.0 | 33.3 | 333 |
| 3-Light Pheron. | 0 | 0 | 0 | 00 | 0.0 | 20 | 0 | 0 | 0 | 00 | 00 | 0.0 | Q | -0 | 0 | 12 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | Qo |
| 4 Birds | 0 | 0 | 0 | 20 | 00 | 0.0 | 0 | 0 | 0 | 00 | 00 | ac | e | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5-Clours, Dust, etc | 0 | 1 | 1 | 20 | 71. | 71 | 0. | 1 | 1 | 00 | 11.1 | 11.1 | 0 | 0 | 0 | 40 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $6-$-nsutic, mo. | 2 | 0 | 2 | 14.3 | 00 | 14.3 | < | 0 | 1 | 11.1 | 0.0 | 11.1 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psychologiol | 1 | 0 | , | 71 | 00 | 1.1 | 0. | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 02 | 0.0 | 00 |
| 8. Unlonom | 0. | 0 | 0 | Q0 | 0.0 | 20 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 |
| Pother | 0. | 0. | 0 | 00 | 20 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | 0 | 1 | 11.1 | 0.0 | 11.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 1 | 7 | 14 | 50.0 | 50.0 | 100 | 5 | 4 | 9 | 55.4 | 44.4 | 100. | 4 | 0 | 4 | 1000 | 0.0 | 100 | 4 | 5 | 9 | 44.4 | 55.6 | 100. |



| Ericastion | Lanubry |  |  |  |  |  | HONTHS DE YERPUARY YEAR |  |  |  |  |  | THLeTr |  |  |  |  |  | sitty serenes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | Me | CCH |  |  |  |  | , |  |  |  |
|  | Morbeer |  |  | Per Cont |  |  |  |  |  |  |  |  | number |  |  | Percent |  |  | Munbee |  |  | Pencent |  |  | Mamber |  |  | Peacorl |  |  |
|  | Certin | Doouthil | Tobal | Cerrain | Doubthrn | Total | Cerrain | Daubtios | Tomil | Cetain | Dasititul | Tolar | Certan | Doabtion | Total | Certain | Dosution | Total | Certin | Doulifiol | Tobela | Cention | Doutbod | Total |
| O-Ballome | 0 | 0 | 0 | 0.0 | 00 | 20 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 |
| 1-Astionomical | 0 | 0 | 0 | 00 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | a0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aitadt | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 1 | 2 | 3 | 20.0 | 40.0 | 690 | , | 0 | 1 | 14.3 | 0.0 | 14.3 | e | 1 | 1 | 0.0 | 8.3 | 8.3 |
| 3Lioth Phenom. | 0 | e | 0 | ae | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 4 -Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 0 | 3 | 42.9 | 0.0 | 42.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Clioust, Dust, etc. | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6insamic mio. | 0 | 0 | e | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | a0 | 00 | 2 | 0 | 2 | 16.7 | 00 | 16.7 |
| 7. Psycrological | 0 | 0 | e | 0.0 | 00 | 0.0 | 0. | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 20 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Butheom | 1 | 0 | 1 | 1000 | 0.0 | L0ar | 1 | 0 | 1 | 20.0 | 0.0 | 200 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 8 | 0 | 8 | 66.7 | 0.0 | 66.7 |
| 304me | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 0 | , | 1 | 0.0 | 14.3 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1 | 0 | 1 | 10 |  |  | 3 |  | 5 | 20 | 40.0 |  | 6 | , | 7 |  | 143 |  | 10 | $z$ | 12 | 33 | . 7 |  |


|  | May |  |  |  |  |  | JUNE |  |  |  |  |  | Nucy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Pex Cent |  |  | nomber |  |  | Pex Cont |  |  | mubue |  |  | Percont |  |  |
| Evaluation | Certrin | Doubluil | Tota | Certain | Dowbtul | Toal | Certain | Doubitul | Total | Cetrain | Doubttan | Ţota | Centain | Doubtul | Total | certain | Dombtul | Total | Cartin | Dochtol | Tobel | Cention | Doutiker | Tota |
| O-Buclion | 0 | 0 | 0 | 0.0 | 0.0 | a | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 5 | 2 | 7 | 11.1 | 4.4 | 15. | 1 | 4 | 5 | 3.1 | 12.5 | 15.6 |
| 1-Astronosical | 2 | 0 | 2 | 33.3 | 0.0 | 323 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 3 | 3 | 6 | 9.4 | 9.4 | 8 |
| 2-Aitrart | 2 | 0 | 2 | 33.3 | 0.0 | 323 | $p$ | 2 | 5 | 375 | 25.0 | 62.5 | 12 | 10 | 22 | 26.7 | 22.2 | 48.8 | 3 | 2 | 5 | 9.4 | 6.3 | 15.7 |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0. | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 2.2 | 2.2 | 0 | 1 | 1 | 0.0 | 31 | 3.1 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | aO | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 5 -Clouds, Oust, etc. | 0 | 1 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | Qo | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | a |
| Gransulice, min. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | $?$ | 0 | 3 | 6.7 | 0.0 | 6.7 | 4 | 0 | 4 | 12.5 | 0.0 | 12.5 |
| XPsycriologica | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 6.3 | 0.0 | 63 |
| SUnskoin | 2 | 0 | 2 | 33.3 | 0.0 | 333 | 2 | 0 | 2 | 250 | 0.0 | 25.0 | 10 | 0 | 10 | 22.2 | 0.0 | 22.2 | 9 | 0 | 9 | 28.1 | 0.0 | 28. |
| 900mer | 0 | 0 | 0 | 0.0 | 0.0 | 0. | 0 | 1 | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rowal | 6 | 0 | 6 |  | 0. |  | 5 | 3 | 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Evaluation | SEPTEMAER |  |  |  |  |  | Detpece |  |  |  |  |  | NOUEMEER |  |  |  |  |  | DECEMEER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbe ${ }^{\text {a }}$ |  |  | Pracht |  |  | Hunbes |  |  | Percmit |  |  | muaber |  |  | Paycent |  |  | Muaber |  |  | Per cait |  |  |
|  | Certain | Ooubtulu | roba | Certrain | Dowitral | Tobal | Certia | Dastriol | Tota | Catrin | Doubktul | Tola | Certain | Doubthil | Total | Certain | Doubtruid | Total | Certain | Docidtu1 | Totas | Certion | Dsabitun | Tot |
| Q-azalioon | 0 |  | 1 | 0.0 | 77 | 7.7 | 1 | 2 | 1 | 20.0 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | do | L | 1 | 2 | 8.3 | 8.3 | 16.6 |
| 1-Astramamical | 2 | 1 | 3 | 15.4 | 7.7 | 23.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | $z$ | 0.0 | 50.0 | 500 | $\angle$ | 1 | 2 | 8.3 | 8.3 | 166 |
| 2 2-imath | 3 | 1 | 4 | 23.1 | 47 | 30.8 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | - | 0 | 1 | 25.0 | 0.0 | 25.0 | 3 | 1 | 4 | 25.0 | 8.3 | 33.3 |
| 3 3-Lighl Phenoal | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 48ints | 2 | 1 | 1 | 0.0 | 77 | 17 | 0 | 0 | 0 | Q0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | Q | 0 | 0.0 | 0.0 | 20 |
| 5 5Clouds. Dust eta | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GInsulicic mbe. | 1 | - | 1 | 17 | 0.0 | 1.7 | 0 | 0 | 0 | 0.0 | -0.0 | 0.0 | 1 | -0 | 1 | 25.0 | 0.0 | 250 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psycrabogici | 0 | 0 | 0 | 0.0 | ao | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 90 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| AUnenown | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 3 | 0 | 3 | 600 | 0.0 | 60. | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 |
| 9-0ther | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | aO | 001 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 16.7 | 00 | 16.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Told | 9 | 4 | 13 | 69.2 | 30.8 | 100. | 5 | 0 | 5 | 1040 | 0.0 | 100. | 2 | 2 | 4 | 50.0 | 50.0 | 100. | 9 | 3 | 12 | 75.0 | 25.0 | 100. |


| Endurtion | lanvary |  |  |  |  |  | MONTHS OF GEAR, EEBRVARY |  |  |  |  |  | SUTY ONE SECONOS TO. FIVE MINUTES |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | SLTY ONE SECONMARCH | PRRC |  |  |  |  |  |
|  | Munber |  |  | Percorl |  |  |  |  |  |  |  |  | Humber |  |  | Per Coort |  |  | Eentin ${ }^{\text {a }}$ Number |  |  |  | Per Cent |  |  | Nunber |  |  | er Cont |  |
|  | Cersin | Douthtul | Total | Cerrain | Doubtur | Total | Certain | Doubltur | Tomb | Certain | Dosblul | roter | Tolal | Cortain | Doubtioi | Total | Certin | Douthel |  |  | Total | Catain | Doustul | TMa |
| O-Ballionn |  |  | 2 | 10. | 10.0 | 200 | - 1 | 0 | , | 10.0 | 0. | 100 | 1 | 0 | 1 | 11.1 | 00 | 11.1 | 2 | 0 | 2 | 72 | 0.0 | 7.7 |
| 1-Asturomical | 2 | 0 | 2 | 200 | 0.0 | 20.0 | 2 | 1 | 1 | 0.0 | 10.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.04 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Airciat | 2 | 1 | 3 | 200 | 100 | 30.0 | 1 | 0 | , | 10.0 | 0.0 | 100 | 2 | 2 | 4 | 22.2 | 27.2 | 44.4 | 7 | 2 | 9 | 26.9 | 77 | 34.6 |
| 3 3Lidut Promom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | 0 | 0 | 0 | 00 | D0 | 0.0 | 0. | 0 | 0 | 0.0 | 00 | 0.0 |
| 4 4-iirds | 0 | 0 | 0 | 0 | 00 | 20. | 0 | 0 | 0 | 0.0 | ae | 00 | 0 | 0 | e | 0.0 | 0. | a0 | 1 | 0 | 1 | 3.8 | 0.0 | 38 |
| 5Clouts, Dust, ela | 0 | 0 | 0 | 0. | ad | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 1 | 1 | 00 | $11 /$ | 11.4 | 0 | 0 | 0 | 00 | 00 | 0.0 |
| Elasutice mo. | L | 0 | 1 | 10.0 | 0.0 | 10.0 | 2 | a | 2 | 200 | 0.0 | 200 | 0 | 0 | - | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 11.5 | a | 11.5 |
| 7.Pryctovogial | 0 | 0 | 0 | 0.0 | Q | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 00 | 1 | 0 | 1 | 5.8 | 0.0 | 3.8 |
| 8-4.annom | 1 | 0 | 2 | 10.0 | 00 | 10.0 | 3. | 0 | 3 | 300 | 2.0 | 30.0 | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 | 2 | 0 | 9 | 34.6 | 0.0 | 34.6 |
| gother |  |  | 1 | 10.0 | 0.0 | 10.0 | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 0 | 1 | 1 | 00 | 11.1 | 11.1 | 1 | 0 | $\angle$ | 38 | 00 | 3.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 8 | 2 | 10 | 80. | 20.01 | 102 | 2 | 1 | 10 | 90.0 | 10.0 | 100. | 5 | 41 | 2 | 55. | 4.4 | 100 | 24 | 2 | 26 | 92.3 | 17 | 100 |


|  | MAL |  |  |  |  |  | JUNE |  |  |  |  |  | Juc 4 |  |  |  |  |  | All6ust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cenl |  |  | Number |  |  | Per Cenl |  |  | mumer |  |  | Pescint |  |  | minmer |  |  | Perconl |  |  |
| Evalution | Certaia | Dosebtiu] | Total | Certain | Doabital | Tolat | Certain | Dowithly | Total | Centin | Ooultay | Tota | Cetain | Dooubtin] | Total | Ceftran | [Doubitu] | Total | Centrin | Doutity | Total | Certain | Doubitul | Tota |
| O-Bayllosa | 6 | 1 |  | 25.0 | 4.2 | 29.2 | 6 | 1 | 7 | 21.4 | 2.6 | 25.0 | 11 | 10 | 27 | 14.9 | 8.8 | 23.7 | 10 | 12 | 22 | 15.6 | 18.7 | 34.3 |
| 1-Astroomical | 0. | 4 | 1 | 0.0 | 4.2 | 4.2 | 1 | 2 | 3 | 3.6 | 71 | 10.7 | D | 2 | 2 | 0.0 | 1.8 | 1.8 | - | 1 | 2 | 16 | 1.6 | 3.2 |
| 2-Airctath | 3 | 5 | 8 | 12.5 | 20.8. | 33.3 | 4 | 4 | 8 | 14.3 | 14.3 | 28.6 | 18 | 12 | 30 | L5.8 | 10.5 | 26.3 | 10 | 4 | 14 | 15.6 | 6.2 | 21.8 |
| 3-Ligtr Pheroa. | 0 | 0 | 0 | 0.0 | 0.2 | 02 | 0 | 0 | 0 | 0.0 | 0.0 | 100 | 5 | 1 | 6 | 4.4 | 0.9 | 5.3 | 0 | 2 | 2 | 0.0 | 3.1 | 3.1 |
| 4 - ${ }^{\text {dints }}$ | 0 | 0 | 0 | 0.0 | 00 | 20 | 0 | 0 | 0. | 0.0 | 0.0 | 120 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 |
| 5-Clows Dust, etc. | 0. | 0 | 0 | 0.0 | 0.0 | 0.2 | 0 | 0 | 0 | 00 | 0.0 | 100 | 0 | 0 | 0 | 0.0 | 2.0 | 0. | 0 | 0 | 0 | 20 | 00 | 00 |
| 6-Insuflic. Inso. | 1 | 0 | 1 | 4.2 | 0.0 | 42 | 0 | 0 | 0 | ao | 0.0 | 0.0 | 12 | 0 | 12 | 105 | 0.0 | 105 | 3 | 0. | 3 | 4.7 | 0.0 | 4.7 |
| 1-Psydralogical | 0 | 0 | 0 | 20 | a0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | a0 | 2 | 3 | 5 | 1.8 | 2.6 | 44 | 2 | 1 | 3 | 31 | 1.6 | 4.7 |
| 8-Unknown | 6 | 0 | 6 | 250 | 0.0 | 25.0 | 4 | 0 | 1 | 25.0 | 0.0 | 25.0 | 29 | 0 | 29 | 25.4 | 0.0 | 25.4 | 16 | 0 | 16 | 25.0 | 0.0 | 25.0 |
| 9 90ther | 1 | 0 | 1 | 4.2 | 0.0 | 42 | 3 | 0 | 3 | 10.7 | 0.0 | 10.7 | 3 | 0 | 3 | 2.6 | 0.0 | 2.6 | 2 | 0 | 2 | 3.1 | 0.0 | 3.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| tal | 17 | 7 | 24 | 10. | 29.2 | L00. | 21 | $z$ | 28 | 75.0 | 25.0 | 1OQ | 86 | 28 | 114 | 55.4 | 24. | 100. | 44 | 201 | 641 | 168.8 | 31.2 | 100. |


| Evaluation | SEPTEMBER |  |  |  |  |  | Qetober |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMGER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nurber |  |  | Pes Cent |  |  | Number |  |  | Parcomi |  |  | Munber |  |  | Pex Cenl |  |  | Number |  |  | Percari |  |  |
|  | Cention | Doubtiol | Toul | Centain | Ooutitil | Total | Ceftrin | Dabatriu] | Total | Centrin | Doubtuol | Tota | Certain | Doubthol | Total | Centain | Doutwol | Total | Certain | Doutitul | Total | Certrin | Doubtul | Tola |
| a-Batloon | 2 |  | 8 | 8. | $14 /$ | 22.9 | 2 | 4 | 6 | 8.7 | 18.4 | 26.1 | 2 | 0 | 2 | 250 | 0. | 25.0 | 2 | 1 | 3 | 11.8 | 5.9 | 17.7 |
| 1-Astrononical | 1 | , | 2 | 2.9 | 2.9 | 5 | 0 | 2 |  | 00 |  | 8.7 | \% | 0 | 7 | 12.5 | 0.0 | 5 | 0 |  | , | ab | 5.9 | 59 |
| 2-Ailcrath | $L$ | 2 | 13 | 2.9 | $34 / 3$ | 5 | 3 | 3 | 6. | 13 | 13.0 | 26.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 1 | 4 | 5 | 5.9 | 23.5 | 29.4 |
| 3-Limit Pherom | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 1 | 12. | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 12.0 | 0.0 |
| 4 -irds | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Cloous, Dost, ete | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0. | 0 | 00 | 0.0 | 2.0 | 0 | 2 | 2 | 0.0 | 25.0 | 250 | 0 | 2 | 0 | 0.0 | 2.0 | 20 |
| Ginsutic, into. | 1 | 0 | 1 | 2.9 | 0. | 2.9 | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 |
| 7.Psycrological | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | O | 0 | 0 | 0.0 | 0.0 | 0.0 |
| B-Unknown | 1 | 0 | 11 |  | -0. | 314 | 7 | 0 | 1 | 30.4 | e.0 | 30.4 | 2 | 0 | 2 | 250 | 0.0 | 15:0 |  | 0 | 6 | 35.3 | 0. | 35.3 |
| 9 -thes | 0 | 0 | 0. | 0 | 0.0 | 0.0 | 1 | 0 | 1 | 4.3 | 0.0 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totad | 17 | 18 | 35 | 48.6 | 514 | 100. | 14 | 9 | 23 |  | - | 100 | 6 | 2 | 8 | 75 | 25.0 |  | $1 /$ | 6 | 17 | 64.7 | 35.3 | 100. |

TABLE A 12, EVALUATIDN OF DBNERT SIGHTLNGS FOR ALL YEARS RY DURATION OF SIGHTING

|  |  |  |  |  |  |  | MONTHS |  |  | af |  |  | 518 |  |  |  |  |  | MINUTE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Janvary |  |  |  |  |  | EERRUARY |  |  |  |  |  | MAREH |  |  |  |  |  | APRIL |  |  |  |  |  |
|  | Munder |  |  | Per Cort |  |  | Number |  |  | Percent |  |  | Numbet |  |  | Percert |  |  | Munber |  |  | Percent |  |  |
| Evaluation | Centain | Dosoltai | Total | Certain | Doubitul | Total | Certain | Doubtrel | Total | Cestin | Datatiol | Totala | Certain | Douttoin | Total | Certain | Dowotul | Total | Cortin | Doubtbil | Total | Centin | Doveittol | Ta |
| a-Balloon |  |  | 2 | 172 | 121 | 154 | 2 | 0 | 2 | 250 | 0.0 | 25.0 | 1 | 1 | 2 | 10. | 10.0 | 20.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1 1-Astronomial |  | 0 | , | 23.1 | 0.0 | 123.1 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | $\angle$ | 0 | 1 | 10.0 | 0.0 | 10.0 | 2 | 0 | 2 | 15.4 | 0.0 | 15.4 |
| 2-Airctan | 2 | 1 | 3 | 15.4 | 77 | 23.1 | 0 | 2 | 2 | 0.0 | 25.0 | 250 | $\angle$ | 2 | 3 | 100 | 20.0 | 30.0 | 4 | 0 | 4 | 30.8 | 0.0 | 30.8 |
| 3 Lipit Phenon. | 0 | 0 | 0 | 10.0 | 0.0 | 20 | 0 | 0 | 0 | 100 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 |
| 4 - -iins | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5 Clioves, Dust etc | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | Q0 | 0.0 | 00 |
| $G$ Insaffic mo. | 0 | 0 | 0 | a0 | a0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 0 | 0 | 00 | 00 | 0.0 | 1 | 0 | , | 27 | 0.0 | 717 |
| 7. Prycological | 1 | 0 | 1 | 1.7 | 0.0 | 7.7 | 0 | 0 | 0 | 0.0 | 00 | a0 | 0 | 0 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 0.0 | 00 | 102 |
| 8 Sunkom | 3 |  | 3 | 23.1 | 0.0 | 23.1 | 0 | 0 | 0 | 20 | A. 0 | 0.0 | 3 | 0 | 3 | 20.0 | 0.0 | 300 | 6 | 0 | 6 | 442 | 0.0 | 462 |
| gotues |  | 0 | 1 | 1.7 | 0.0 | 17 | 3 | 0 | 3 | 375 | 0.0 | 37.5 | 0 | 1 | 1 | 0.0 | 10.0 | 100 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolad | $1 /$ | 2 | 13 | 84.6 | 15.4 | 100. | 6 | 2 | 8 | 150 | 25.0 | 100. | 6 | 4 | 10 | 60.0 | 400 | va | 13 | 0 | 13 | 1000 | 0.0 | 100 |


|  | MAY |  |  |  |  |  | lune |  |  |  |  |  | Jucy |  |  |  |  |  | AU6UST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | Munber |  |  | Patcent |  |  | mumber |  |  | Per Cat |  |  |
| Evaluation | Certain | Doubthen | Tobs | Certain | Dowidall | Tobat | Cernain | Doubtrul | Total | Certaia | Daubihe | Tola | ertain | Doabtan | Tolal | Certain | Doubtiod | Toteral | Certrin | Doubitic | Total | Cantin | Dosbuth | Total |
| 0-8alloon | I | 2 | 9 | 26.9 | 17 | 34.6 | 7 | 2 | 9 | 20.6 | 5.9 | 26.5 | 21 | $1 /$ | 32 | 18. | 10.3 | 29.9 | 17 | 10 | 27 | 21.3 | 12.5 | 33.8 |
| 1-Astonnaical | 2 | 1 | 3 | 17 | 38 | 11.5 | 2 | 0 | 2 | 5.9 | 0.0 | 5.9 | 5 | 4 | 9 | 4.7 | 3.7 | 8.4 | 8 | 2 | 10 | 10.0 | 2.5 | 12.5 |
| 2-Airctaft | 1 | 1 | 4 | 11.5 | 38 | 15.3 | 4 | 9 | 7 | 11.7 | 8.8 | 20.5 | 15 | 8 | 23 | 14.0 | 1.5 | 21.5 | 6 | 10 | 16 | 7.5 | 12.5 | 20.0 |
| 3-Litat Phenom | 3 | 0 | 3 | 11.5 | 00 | 11.5 | 1 | 0 | 1 | 2.9 | 0.0 | 2.9 | 3 | 2 | 5 | 2.8 | 19 | 4.7 | 3 | 0 | 3 | 38 | 0.0 | 3.8 |
| 4 Birts | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clowds Dust etc | 1 | 0 | 1 | 38 | 0.0 | 18 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 1 | 1 | 0.0 | 13 | $1 \times 3$ |
| f-lnsuric mic. | 2 | 0 | 2 | 17 | 00 | 27 | 2 | 0 | 2 | 5.9 | 00 | 5.9 | 15 | 0 | 15 | 14.0 | 00 | 14.0 | 6 | 0 | 6 | 75 | 0.0 | 7.5 |
| 7. Psyctological | 0. | 0 | e | 0.0 | 00 | 80 | 4 | 0 | 4 | 8.8 | 0.0 | 8.8 | 1 | 0 | 1 | 0.9 | 0.0 | 0.9 | 2 | 0 | 2 | 2.5 | Q0 | 2.5 |
| Buabmova | 1 | 0 | 1 | 3.8 | 0.0 | 3.8 | 9 | 0 | 4 | 26.5 | 20.0 | 26.5 | 17 | 0 | 17 | 15.9 | 0.0 | 15.9 | 10 | 0 | 10 | 12.5 | Q0 | 12.5 |
| وother | 1 | 2 | 3 | 3.8 | 71 | 11.5 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 4 | 1 | 5 | 37 | 0.9 | 4.6 | 4 | 1 | 5 | 50 | 13 | 6.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20 | 6 | 26 | 26.9 | 23.1 | 100. | 19 | 5 | 34 | 85.3 | 14.7 | 100 | 81 | 26 | 107 | 15.7 | 24/3 | 100. | 56 | 24 | 80 | 70.0 | 30.0 | 100. |


|  | SEPTEMBER |  |  |  |  |  | DCTORER |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMBEE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number |  | Per Cent |  |  | Humber. |  |  | Pax cont |  |  | Humber |  |  | Percent |  |  | Nunber |  |  | Per Cont |  |  |
| Evaluation | Certain | Doubtuil | Total | Certain | Doabith] | Total | Certain | Doubtrul] | Total | Certain | Doubltu\| | Total | Certain | Doobthul | Total | Certain | - Doubtiol | Total | Certain | Doustutay | Total | Cotsin | Doubtul | Total |
| O-Balloon | 3 | $<$ | 4 | 13.6 | 4.5 | 18. 1 | 2 | 6 | 6 | 0.0 | 33.3 | 33.3 | 2 | 3 | 5 | 9.5 | 14.3 | 23.8 | 2 | 1 | 3 | 8.3 | 4.2 | 12.5 |
| 1-Astronomical |  | 2 | 2 | 0.0 | 9.1 | 9.1 | 1 | 2 | 3. | 56 | 11.1 | 16.7 | 2 | 3 | 5 | 9.5 | 14.3 | 23.8 | 4 | 1 | 5 | 16.7 | 4.2 | 20.9 |
| 2-- itrerath |  | 4 | 5 | 4.5 | 18.2 | 22.7 | $\angle$ | $\angle$ | 2 | 5.6 | 5.6 | $1 / 2$ | 0 | 3 | 3 | 0.0 | 14.3 | 14.3 | C | 2 | 3 | 4.2 | 8.3 | 12.5 |
| 3.Light Phenom |  |  | 2 | 45 | 4.5 | 90 | $\angle$ | 1 | 2 | 5.6 | 5.6 | $1 / 2$ | 1 | 1 | 2 | 4.8 | 4.8 | 4.6 | 1 | 0 | 1 | 42 | 0.0 | 4.2 |
| 4 Birss | 0 | 0 | 0 | 0.0 | 0.0 | 120 | 0 | 1 | 1 | 0.0 | 5.6 | 5.6 | 0 | 0 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 20 | 0.0 | 00 |
| focloods, Dust etc | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | a0 | 0 | 0 | 0 | 00 | 00 | 00 | 0. | 0 | 0 | 00 | 0.0 | 00 |
| Ginsuitic, min. | 2 | 0 | 2 | 9.1 | 00 | 81 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 | 1 | 0 | 1 | 4.8 | 00 | 4.8 | 2 | 0 | 2 | 8.3 | 20 | 8.3 |
| 7.Psychalogioa | 1 | 0 | ? | 20 | Q0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 |
| 8 Uninown | 6 | 0 | 6 | 27.3 | 0.0 | 27.3 | 3 | 0 | 1 | 16.7 | 0.0 | 16.7 | 5 | 0 | 5 | 23.8 | 10 | 23.8 | 8 | 0 | 8 | 33.3 | 0.0 | 33.3 |
| 9-Othee | 1 | 0 | 1. | 4.5 | 0.0 | 4.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 1 | 0 | $\angle$ | 4.2 | 0.0 | 4.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 14 | 8 | 22 | 63.6 | 36.41 | 100 | 7 | 11 | 18 | 38.9 | 61.1 | 100. | 11 | 10 | $2 /$ | 52.4 | 476 | 100. | 20 | 4 | 24 | 83.3 | 16.7 | 100. |




| Evrluation | May |  |  |  |  |  | June |  |  |  |  |  | Jucy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbes |  |  | Percmi |  |  | Number |  |  | Pecmit |  |  | Mumber |  |  | Peecent |  |  | momes |  |  | Pencent |  |  |
|  | Certin | Doviffor | Total | Certain | Davibut | Total | Certain | Doibitul | Total | Cataid | Dastutail | Total | Certain | Doubtul | Total | Centain | Doubtita | Total | Centain | Dosidtal | Total | Certain | Dasithl | Tods |
| a-Balloon | 2 | 0 | 2 | 5.9 | 0.0 | 5.9 | 6 | 0 | 6 | 15.8 | 0.0 | 15.8 | 20 | 9 | 29 | 12.3 | 5.6 | 17.4 | 5 | 3 | 8 | 6.7 | 4.0 | 107 |
| 1-Astronmical | 10 | 2 | 12 | 284 | 5.9 | 35.3 |  | 0 | , | 2.6 | 0.0 | 2.6 | 9 | 6 | 15 | 5.6 | 3.7 | 93 | 2 | 5 | 7 | 2.7 | 6.7 | 4.4 |
| 2-Aircran | 3 | 4 | 7 | 8.8 | 11.8 | 20.6 | 4 | 1 | 5 | 10.5 | 2.6 | 13.1 | 21 | 12 | 33 | 120 | 44 | 20.4 | 2 | 7 | 16 | 12.0 | 2.3 | 21.3 |
| 3-Lidat Phenom. | 0 | 1 | 1 | e. 0 | 29 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 1.9 | 0.0 | 1.9 | 2 | 0 | 2 | 2.7 | - 0.0 | 2.7 |
| 4 Birds | 0 | 1 | 1 | 0.0 | 2.9 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | L | , | 2 | 0.6 | 0.6 | 1.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S.Clouds, Dust, atc | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 06 | 00 | 0.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insuflic: mio. | 6 | 0 | 6 | 17.6 | 0.0 | 17.6 | 12 | $a$ | 12 | 31.6 | 0.0 | 31.6 | 35 | 0 | 35 | 21.6 | 00 | 21.6 | 19 | 0 | 19 | 253 | 0.0 | 25.3 |
| 7.psyctalogical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2. | 0 | 2 | 5.3 | 20 | 5.3 | 1 | 2 | 3 | 2.6 | 1.2 | 1.8 | 1 | 0 | 1 | 1.3 | 0.0 | 1.3 |
| 2 2Unknom | 5 | 0 | 5 | 44.7 | 0.0 | 14.7 | 10 | 0 | 10 | 26.3 | 00 | 26.3 | 30 | 0 | 30 | 185 | 00 | 18.5 | 19 | 0 | 19 | 253 | 0.0 | 25.3 |
| Sother | 0 | 0 | Q | 0.2 | 0.0 | 0.0 | 2 | 0 | 2 | 5.3 | 0.0 | 5.3 | 11 | 0 | 11 | 6.8 | 0.0 | 6.8 | 2 | 1 | 3 | 2.7 | 1.3 | 40 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tatal | 26 | 81 | 34 | 1h: 5 | 23.5 | 100. | 371 | 1 | 38 | 474 | 2.6 | 100. | 132 | 30 | 162 | 81.5 | 18.5 | 100. | 59 | 16 | 15 | 78.7 | 21.3 | 00. |


|  | SEPTEMPER |  |  |  |  |  | Detober |  |  |  |  |  | NOVEMPER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbes |  |  | Pacent |  |  | munber |  |  | Pement |  |  | Number |  |  | Peacent |  |  | manter |  |  | Pea Cent |  |  |
| Eviluation | Certin | Doobitul | Tobl | Centain | Daciotul | Total | Certain | Dobititul | Tolay | Cotain | Dabbtui | Total | Cembin | Doubtrui] | Total | Centrin | Doubtul | Tozal | Certain | Doubtul | T0Ea | Centaia | [Daubtul | rotal |
| -2,balloan | 0 | 0 | 0 | a0 | 0.0 | 0.0 | 2 | 1 | 3 | 4.5 | 3.2 | 4.7 | 1 | 6 | 7 | 2.6 | 158 | 18.4 | $\angle$ | 0 | 1 | 5.0 | 0.0 | 50 |
| 1-Astronomical | 6 | 3 | 9 | 15.8 | 29 | 23.7 | 2 | 6 | 8 | Les | 12.4 | 25.8 | 7 | 4 | $1 /$ | 18.4 | 10.5 | 28.9 | 2 | 2 | 5 | 10.0 | 15.0 | 25.0 |
| 2-Aircratt | 1 | 1 | 2 | 2.6 | 2.6 | 5.2 | 2 | 2 | 4 | 65 | 6.5 | 13.0 | 5 | 2 | 7 | 13.2 | 5.3 | 185 | 2 | 1 | 3 | 12.0 | 5.0 | 150 |
| 3-Light Pherom. | 0 | - 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {indts }}$ | 0 | 0 | 1 | 0.0 | 0. | eo | R | 0 | 0 | 0.0 | $0 \cdot$ | a0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 -Clouss, Dust, ets | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | -0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 -Iasuntic, int. | 4 | 0 | 4 | 23.7 | 0.0 | 23.7 | 6 | 0 | 6 | 194 | 0.0 | 18.4 | 3 | 0 | 3 | 19 | 0.0 | 1.4 | 5 | 0 | 5 | 25.0 | 0.0 | 25.0 |
| 7.Psychological | 1 | 0 | 1 | 2.6 | 0.0 | 2.6 | 1 | 0 | 1 | 22 | 0.0 | 52 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $<$ | 0 | 1 | 50 | 0.0 | 5.0 |
| 2-Uaknoma | 10 | 0 | 10 | 26.3 | 0.0 | 26.3 | 8 | 0 | 8 | 25.8 | 0.0 | 25.8 | 8 | 0 | 8 | 21.0 | 0.0 | 21.0 | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 |
| 9-0her | 6 | 1 | 1 | 15.8 | 2.6 | 18.4 | 1 | 0 | 1 | 3.2 | 0.0 | 32 | 2 | 0 | 2 | 5.3 | 0.0 | 5.3 | 3 | 0 | 3 | 15.0 | ao | 15.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 33 | 5 | 38 | 86.8 | 13.2 | 100. | 22 | 9 | 131 | 71.0 | 29.0 | 100 | 26 | 12 | 38 | 68.4 | 31.6 | 100 | 16 | 4 | 20 | 80.0 | 20.0 | 100 |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  | Per Cert |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | Nunber |  |  | Pés Cent |  |  |  |  |  |  |  |  |
| Evaluation | Certain | Doubtioul | Tobat | Ceribin | Doubtrol | Tolat | Centain | Doubitul | Totai | Certain | Daubitul | Tota | Certain | Dastrtur | Tolai | Centain | Doustful | Total | Centain | Dooubitul | Total | Cetain? | Daublaul | Total |
| O-Baslioon | 18 | 2. | 20 | 13.3 | 15 | 14.8 | 5 | 1 | 6 | 10.9 | 2.2 | 13.1 | $1 / 15$ | 90 | 205 | 11.3 | 89 | 20.2 |  |  |  |  |  |  |
| 1-Astronmical | 13 | 7 | 20 | $2: 6$ | 52 | 148 | 4 | 2 | 11 | 19.6 | 43 | 23.9 | 110 | 55 | 165 | 10.8 | 5.4 | 162 |  |  |  |  |  |  |
| 2-Aircrath | 15 | 2 | 1 | 111 | 1.5 | 12.6 | 4 | 1 | 5 | 8.7 | 2.2 | 109 | 142 | 128 | 270 | 14.0 | 12.6 | 26. 6 |  |  |  |  |  |  |
| 3.Liett Pheron. | 0 | 0 | 0 | 0.0 | 00 | 00 | 0 | 1 | 1 | Qe | 2.2 | 2.2 | -14 | 11 | 25 | 1.4 | 11 | 2.5 |  |  |  |  |  |  |
| 4 Einds | 0 | e | 0 | 0.0 | 0.0 | 20 | 0 | $\angle$ | 1 | 0.1 | 22 | 2.2 | 6 | 2 | 8 | 0.6 | 2.2 | 0.8 |  |  |  |  |  |  |
| 5-Clowds, Dust, ex. | 0 | 0 | 0 | ad | 00 | a0 | 12 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 4 | 7 | 0.3 | 04 | 0.1 |  |  |  |  |  |  |
| G-insurfic. Into. | 33 | 0 | 33 | 34 | 20 | 24.4 | 4 | 0 | 4 | 8.7 | 0.0 | 8.7 | 6.5 | 0 | 65 | 6.4 | 0. | 6.4 |  |  |  |  |  |  |
| 1.Psycralo enical | 4 | 0 | 4 | 3.0 | 00 | 30 | 0 | 1 | 1 | 0.0 | 2.2 | 2.2 | 8 | 5 | 13 | 0.8 | 0.5 | 1.3 |  |  |  |  |  |  |
| g.enknown | 36 | 0 | 36 | 26.6 | $0 \cdot 1$ | 26.6 | 17 | - | 17 | 37.0 | 0.0 | 31.0 | 228 | 0 | 228 | 22.5 | 0.0 | 22.5 |  |  |  |  |  |  |
| 9-0ther | 3 | 2 | 5 | 2.2 | 13 | 37 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 22 | 6 | 28 | 2.2 | 0.6 | 2.8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1221 | 13 | 135 | 90.4 | 9.6 | 100 | 39 | 1 | 46 | 184. 8 | 15.2 | 100. | 7/3 | 301 | 1014 | 10.3 | 297 | 100 |  |  |  |  |  |  |




FALE ALRB EVALVATIOR DE ALL SIGMILNGS FOR ALL YEARS

| Evalustion | Ase Yedes |  |  |  |  |  | 1-144, |  |  |  |  |  | METEOE OR COMET |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | maner |  |  | PeCOm |  |  |  |  |  |  |  |  | Number |  |  | Pet Cent |  |  | Number |  |  | Per Cent |  |  | Munber |  |  | Percent |  |  |
|  | Cerlma | Dowitu1 | Total | Centin | Doubtiol | Totad | Cerain | Doublitul | Total | Catmin | Davotion | 7olat | Eettion | Dasabtitu | Total | Certain | Doundetul | Totas | Certin | Douvxtul | Total | Cestrin | Doubtiol | Totai |
| aballion | 4 | 0 | 4 | 43 | 0.0 | 4.3 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1.Astronmial | 48 | 25 | 13 | 51. | 26.6 | 77.7 | 2 | 0 | 2 | 100.4 | Q 0 | 1000 | 5 | 8 | 13 | 312 | 50.0 | 812 | 2 | 5 | 7 | 25.0 | 62.5 | 81.5 |
| 2-Airctar | 2 | 2 | 4 | 2.1 | 2.1 | 42 | 0 | 0 | 0 | 0. 0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 3 Light Phenom | 0 | 1 | 1 | en | 1. | 1.1 | e | 0 | , 0 | 10. | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\bigcirc$ | Q0 | 0.0 | 0.0 |
| 4 4-1inds | 0 | 1 | 1 | 0 | $1 \cdot 1$ | $1 /$ | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | de | 0.0 | 0.0 | 0 | 1 | 1 | el | 12.5 | 12.5 |
| s-Cioods, Dush, etc. | 0 | 1 | 1 | 0.0 | 1.1 | 1.1 | 0 | 0 | 0 | el | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 00 |
| Ginsulfic mo. | 2 | 0 | 2 | 2.1 | 0.0 | 2.1 | 0 | 2 | 0 | 0. | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | Q0 | 0.0 | 20 |
| 7.Psyctiogica | 0 | 0 | 0 | 0.0 | ad | 0.0 | e | a | 0 | ad | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Bubunom | 8 | 0 | 8 | 85 | 0.0 | 8.5 | 0 | 0 | 0 | 00 | 2.0 | 0.0 | 3 | 0 | $\underline{6}$ | 18.8 | 0.0 | 18,8 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| gotren | 0 | 0 | 0 | 0.0 | 0.0 | 0.4 | 0 | 0 | 0 | ne | 0.0 | 0.0 | 0 | - | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 64 | 30 | 44 | 681 | 31.9 | 100. | 2 | 0 | 2 | 100.d | 000 | 100. | 8 | 8 | 16 | 500 | 50.0 | 100. | 2 | 6 | 8 | 250 | 15.0 | 100 |


|  | 1950 |  |  |  |  |  | 195 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
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|  | minua |  |  | Pecmit |  |  | Certor munden |  |  | PaCml |  |  | Murbet |  |  | Pactant |  |  | momber |  |  | Pecemt |  |  |
| Evaluation | Certin | Doabtiol | Total | Centain | Dasiliul | Total | Certain |  | Total | Catain | Ooubthin | Tola | Cetbin |  | Tout | Certain | Doubltul | To大al | Cettin | Doubitu | Total | Certin | Davitiol | Tote |
| 0.Batloon | 1 | 0 | 1 | 50.0 | 0.0 | 500 | 0 | 0 | 0 | 00 | 20 | 0.0 | 3 | 0 | 3 | 4.7 | 0.0 | 4.7 |  |  |  |  |  |  |
| 1-Astrononica | 1. | 0 | 1 | 50.0 | 00 | 50.0 | 4 | 1 | 2 | 50.0 | 50.0 | 100.0 | 37 | $1 /$ | 48 | 51.8 | 17.2 | 75.0 |  |  |  |  | c |  |
| 2-Aircram | 0 | 0 | 0 | 20 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | ae | 2 | 2 | 4 | 3.1 | 3.1 | - 2 |  |  |  |  |  |  |
| 3-Light Phanon | 0 | e | 0 | 0.0 | al | 00 | O | 0 | 0 | a0 | 0.0 | 0.0 | 0 | 1 | 1 | 00 | 1.6 | 1.6 |  |  |  |  |  |  |
| 4 -8inds | 0. | 0 | 0 | 20 | 80 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |
| 5-Cloonds, Dust, at. | 0 | 0 | 0 | 20 | 00. | 00 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 1 | 1 | 0.0 | 16 | 1.6 |  |  |  |  |  |  |
| G-nsuntic. mfo. | 0 | e | 0 | 0.0 | 0.0 | a0 | 0 | e | 0 | 00 | 0.0 | 0.0 | 2 | 0 | 2 | 31 | 0.0 | 3.1 |  |  |  |  |  |  |
| 1.Psyctobegical | 0 | 0 | 0 | 0.0 | 00 | a0 | 0 | 0 | 0 | 00 | 0.0 | 20. | 0 | 0 | 0 | 00 | 2.0 | 0.0 |  |  |  |  |  |  |
| 8.Unknown | 0 | 0 | 0 | 0.0 | 00 | Q0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 5 | 0 | 5 | 18 | 0.0 | 18 |  |  |  |  |  |  |
| Y-other | 0 | 0 | 10 | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | de | 0.0 | 0.0 | 0 | 0 | 0 | . 00 | 0.0 | 0.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 2 | 0 | 2 | 10ad | 0.0 | 100 | $\angle$ | 1 | 2 | 50.1 | 50.01 | 108. | 49 | 15 | 44 | 16.6 | 23.4 | 100. |  |  |  |  |  |  |





|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Per Cent |  |  | Humbes |  |  | Pacat |  |  | Mumber |  |  | Per Cent |  |  |  |  |  | Per Cant |  |  |
| Eviluation | Cemisin | Doobitfoul | Total | Certain | Dowbituil | Total | Certain | Doubitul | Total | Cettin | Dosibluid | Total | Cataing | Dosibtal | T041 | Certain | Dovbtay | T¢0] | Certion | Doultha | Toted | Certain | Doublil | Total |
| --bailloon | 0 | 0 | Q | 00 | 0.2 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 2 | 3 | 5 | 2.4 | 3.6 | 60 |  |  |  |  |  |  |
| 1-Astronomical | 11 | 3 | 14 | 647 | 476 | 83.3 | 1 | 3 | 4 | 14.3 | 42.9 | 512 | 28 | 1 | 35 | 33.7 | 84 | 42.2 |  |  |  |  |  |  |
| 2.Aicatat | 2 | 0 | 2 | 11.8 | 0.0 | 11.8 | 1 | 0 | 1 | 443 | 0.0 | 14.3 | 12 | 8 | 20 | 14.5 | 9.6 | 24.1 |  |  |  |  |  |  |
| 3-4igit Pherom. | 5 | 0 | 0 | 0.0 | 02 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.2 | 0.0 | 1.2 |  |  |  |  |  |  |
| 4 + inds | 0 | 0 | 0 | 100 | 00 | 00 | 0 | 0 | 0 | 10.0 | 00 | 0.0 | 0 | 1 | 1 | 00 | 1.2 | 12 |  |  |  |  |  |  |
| 5.Clauds, Dust etc. | 0 | 0 | 0 | de | 0.1 | 0.0 | 0 | 0 | 0 | 120 | 0.0 | 00 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 6-rinseficic mfa. | 0 | 0 | 0 | 0.0 | a0 | 0.0 | 0 | 0 | 0 | 10.0 | 0.0 | a0 | 1 | 0 | 1 | 1.2 | 0.0 | 1.2 |  |  |  |  |  |  |
| 2.Psycalogica | 0 | 0 | 0 | 0.0 | 0.0 | a0 | 0 | - 0 | 0 | 0.0 | 0.0 | 00 | 2 | e | 2 | 2.4 | 0.0 | 2.4 |  |  |  |  |  |  |
| Buluncoum | 1 | 0 | 1 | 5.9 | 0.0 | 5.2 | 2 | 0 | 2 | 286 | 0.0 | 28.6 | 9 | e | 2 | 10.8 | 0.0 | 10.8 |  |  |  |  |  |  |
| g-othes | 0 | 0 | 0 | 0.0 | 0.0 | 100 | 0 | 0 | 0 | el | 0.0 | 0.0 | 8 | 1 | 9 | 46 | 12 | 10.8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todel | 14) | 3 | 4 | 82.4 | 17.6 | 100. | 4 | 3 | 7 | 15\% | 42.9 | 100. | 631 | 20 | 83 | 75.9 | 24.1 | 100 |  |  |  |  |  |  |



| Evalualion | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 4952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Nunber |  |  | Percent |  |  | Aumber |  |  | Per Cent |  |  |  |  |  | Per Cont |  |  |
|  | Cerdan | Doubtrel | Total | Centain | Doubtru1 | Total | Certain | Doubtri] | Tobal | Certain | Doubtitul | Total | Certain | Doditul | Total | Cerlain | Doubtiul | Total | Cerain | Doubtiol | Total | Cotain | Doubtitul | Trota |
| Qasalloon | 7 | 2 | 4 | 18.7 | 48 | 21.5 | 3 | 0 | 3 | 13.6 | 0.0 | 13.6 | 21 | 14 | 35. | 10.9 | 73 | 182 |  |  |  |  |  |  |
| 1.Astionomical | 4 | 3 | 7 | 2.5 | 71 | 14.6 |  | 3 | 4 | 45 | 136 | 181 | 20 | 13 | 33 | 10.4 | 68 | 11.2 |  |  |  |  |  |  |
| 2-Arctiat | 8 | 5 | 13 | 19.0 | 11.9 | 30.9 | 4 |  | 5 | 182 | 45 | 221 | 21 | 22 | $4 / 3$ | 10.9 | $1 / 5$ | 22.4 |  |  |  |  |  |  |
| 3-Light Phemom. | 2 | 0 | 0 | 0.0 | 20 | 00 | 0 | 0 | 0 | 100 | 00 | 00 | 4 | 3 | 7 | 2.1 | 16 | 37 |  |  |  |  |  |  |
| 4.8 inc S | 0 | 0 | 0 | 00 | a0 | 20 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 1 | 2 | 0.5 | 05 | 1.0 |  |  |  |  |  |  |
| Sclowids, Dust elc | 0 | 0 | 0 | 00 | 02 | 00 | 0 | 0 | 0 | -0. | 0.0 | 0.0 | 4 | 3 | 2 | 2.1 | 1.6 | 3.7 |  |  |  |  |  |  |
| 6 6-nsutic mo. | 5 | 0 | 5 | 11.9 | 0.0 | 119 | 2 | 0 | 2 | \% 1 | 0.0 | 4.1 | 9 | 0 | 9 | 4.1 | 0.0 | 4.7 |  |  |  |  |  |  |
| 3.Pyutoligical | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e0 | ee | 0.0 | 6 | 0 | 6 | 31 | 00 | 31 |  |  |  |  |  |  |
| 4 Unicrom | 5 | 0 | 5 | 11.9 | 0.2 | 11.9 | 6 | 0 | 6 | 113 | Qe | 213 | 43 | 0 | 43 | 22.4 | 0.0 | 22.4 |  |  |  |  |  |  |
| sothe | 0 | 3 | 3 | 00 | 71 | 11 | 2 | 0 | 2 | \%1 | 0.0 | 21 | 5 | 2 | 7 | 2.6 | 1.0 | 3.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 24 | 13 | 42 | 690 | 310 | 100 | 18 | - 4 | 22 | 81.8 | 1/. 2 | 100. | 134 | 58 | 192 | 69.8 | 30.2 | 100. |  |  |  |  |  |  |



| Evraution |  |  | 195 | Pescomt |  |  |  |  | 19 |  |  |  |  |  | 195 |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mrimea |  |  |  |  |  | Number |  |  | Pacmort |  |  | Munber |  |  | Pactemt |  |  | munber |  |  | Pacal |  |  |
|  | Certain | Dasbotul | Tobi | Cembin | Doatital | Totil | Centan | Doatitu | Toiad | Cotrin | Dastur | 70061 | Cention | Doovitu | Toba | Cetrin] | Dowbtbo | Tuat | Centiol | Dostor | Totat | Cotion | Daubtal | fode |
| Qasalicen | 4 | 2 | 6 | 4.1 | 1.4 | 11 | 0 | 2 | 2 | 0.0 | 3.6 | 3.6 | 30 | 33 | 63 | 6.2 | 68 | 130 |  |  |  |  |  |  |
| 1-Astomamat | 19 | 4 | 23 | 22.3 | 4.7 | 210 | 12 | 6 | 18 | 21.8 | 10.9 | 32.7 | 53 | 22 | 15 | 10.9 | 45 | 15.4 |  |  |  |  |  |  |
| 2-Aicran | 12 | 8 | 19 | 12.9 | 9.4 | 22.3 | 2 | 2 | 4 | 3.6 | 36 | 72 | 50 | 34 | 89 | 12.3 | 80 | 18.3 |  |  |  |  |  |  |
| 3.Lidit Prema | 0 | 0 | 0 | 2.0 | 00 | 0.8 | 2 | 0 | 2 | 3.6 | 00 | 3.6 | 5 | 0 | 5 | 1.0 | 0.0 | 1.0 |  |  |  |  |  |  |
| 4 Eints | 0 | - | $\bigcirc$ | 0.0 | 20 | 0.0 | 0 | 0 | 0 | e. | 0.0 | 0.0 | 6 | 0 | 6 | 1.2 | 0.0 | 1.2 |  |  |  |  |  |  |
| 5 Cclouds Dust tc | 0 | 0 | 2 | 0.0 | ee | 20 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 0 | 5 | 1.0 | 0.0 | 1.0 |  |  |  |  |  |  |
| Gloseltic min. | 9 | 0 | 9 | 10.6 | 0.0 | 10.6 | 4 | 0 | 4 | 13 | 0.0 | 1.3 | 77 | 0 | 77 | 15.8 | 0.0 | 15.8 |  |  |  |  |  |  |
| 2P9yctrobiad | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | , | 1.8 | 0.0 | 1.8 | 0 | 2 | 2 | 2.0 | 0.4 | 0.4 |  |  |  |  |  |  |
| Suntiom | 23 | 0 | 23 | 27. | eo | 271 | c | - 0 | 18 | 34.5 | 0.0 | 34.5 | 131 | 0 | 131 | 26.9 | 0.0 | 26.9 |  |  |  |  |  |  |
| Pamm | 3 | 2 | 5 | 3.5 | 2.4 | 5.9 | 5 | 0 | 5 | 9 | 0.0 | 41 | 25 | ? | 34 | 5.1 | 18 | 6.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tout | 691 | 16 | 85 | 2.2 | 18.8 | 100. | 45 | 10 | 55 | 81.8 | 18.2 | 100. | 382 | 105 | 487 | 78.4 | 21.6 | 100. |  |  |  |  |  |  |



|  | -1450 |  |  |  |  |  |  |  |  |  |  |  | 1952 |  |  |  |  |  | Mumber |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number |  |  | Per Cent |  | Number |  |  | Paccat |  |  | Mumber |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Evoluation | Certain | Doubthil | Total | Cemain | Doubtrail | Total | Certain | Doastitul | Total | Cerlain | Doubliton | Tota | Cotain | Doubthal | Tolal | Cerdin | Doublitul | Tox+ | Cention | Doutitu | Total | Certain | Daubind | Totat |
| 0-Ealloon | 0 | 1 | II | 12.7 | 1.3 | 140 | 4 | 1 | 5 | 10.8 | 2.7 | 13.5 | 97 | 77 | 174 | 11.5 | 9.2 | 20.7 |  |  |  |  |  |  |
| 1-Astronmical | 10 | 4 | 14 | 137 | 5.1 | 128 | 8 | 2 | 10 | 21:6 | 54 | 210 | 102 | 54 | 156 | 12.1 | 6.4 | 18.5 |  |  |  |  |  |  |
| 2-Aitcrath | 11 | 2 | 13 | 139 | 2.5 | 16.4 | 4 | 1 | 5 | 10.8 | 2.7 | 13.5 | 113 | 109 | 222 | 13.4 | 13.0 | 26.4 |  |  |  |  |  |  |
| 3-Light Phemom. | 0 | 0 | 0 | 00 | 0.0 | 20 | 0 | 1 | 1 | 0.0 | 1.7 | 2.7 | 14 | 11 | 25 | 1.7 | 43 | 130 |  |  |  |  |  |  |
| 4 Birts | 2 | 0 | 0 | 0.0 | 0.0 | 20 | 2 | 1 | 1 | 2.0 | 2.7 | 2.7 | 6 | 2 | 8 | 0.1 | 0.2 | 0.9 |  |  |  |  |  |  |
| 5-Cloods, Oust, etc, | 1 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 100 | 0 | 3 | 3 | 0.0 | 0.4 | 0.4 |  |  |  |  |  |  |
| $6-$ nustic. mo. | 15 | 0 | 15 | 180 | 0.0 | 19.0 | 4 | 0 | 4 | 10.8 | 0.0 | 10.8 | 6 | 0 | 61 | 13 | 0.0 | 2.3 |  |  |  |  |  |  |
| 7-Psychlogical | 2 | 0 | 2 | 2.5 | 0.0 | 25 | 0 | 1 | $\angle$ | 120 | 2.7 | 2.7 | 8 | 5 | 13 | 10 | 0.6 | 1.6 |  |  |  |  |  |  |
| 8 8.Ununomn | 20 | 2 | 20 | 25.3 | 0.0 | 25.3 | 10. | 0 | 10 | 210 | 0.0 | 210 | 159 | 0 | 158 | 18.9 | 0.0 | 18.9 |  |  |  |  |  |  |
| 9-0ther | 2 | 2 | 4 | 25 | 2.5 | 50 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | 5 | 20 | 18 | 0.6 | 2.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20 | 9 | 72 | 88.6 | 11.4 | 100 | 30 | 7 | 37 | 81.1 | 18.9 | 100 | 575 | 266 | 841 | 68.4 | 31.6. | 100 |  |  |  |  |  |  |



|  | 1250 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Humber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | member |  |  | Percorl |  |  | Nanber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Eraluaton | Certain | Doubfitul | Tolat | Ceramin | Doubtrus] | Total | Certain | Dowititol | Tolal | Certain | Dountiv\| | Tolad |  |  |  | Certain | Doubtroi | Total | Celtaing | Dowbthl | Total | Pertain \|Doubthil |  | Tota |
| O-Ballion | 1 | 0 | 1 | 11.1 | 2.0 | 11.0 | 0 | 1 | 1 | 0.0 | 5.3 | 5.3 | 1 | 1 | 2 | 15 | 1.5 | 3.0 |  |  |  |  |  |  |
| 1-Astronomical | 1 | 2 | 3 | 111 | 22.2 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 3 | 5 | 3:0 | 45 | 7.5 |  |  |  |  |  |  |
| 2-Alcart | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 4 | 9 | 26.3 | 24.1 | 44.4 | 9 | 17 | 26 | 13.6 | 25:8 | 39.4 |  |  |  |  |  |  |
| 3-L witt Pherom | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | e | 00 | 0.0 | 0.0 | 2 | 1 | 3 | 3.0 | 1.5 | 4.5 |  |  |  |  |  |  |
| 4 4-Girct | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | - | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 02 | 0.0 |  |  |  |  |  |  |
| ScClows, Dast etc. | 0 | 0 | 0 | 02 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 1 | 1 | 0.0 | 15 | 1.5 |  |  |  |  |  |  |
| Glasalice tho. | 1 | 0 | 1 | 11 | 0.0 | 11.1 | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 | 4 | 0 | 4 | 61 | 0.0 | 6.1 |  |  |  |  |  |  |
| 7. Psyctolopical | 0 | 0 | 0 | 00 | 00 | 0.0 | e | 0 | 0 | 100 | 0.0 | 00 | 6 | 0 | 6 | 9.1 | 00 | 9.1 |  |  |  |  |  |  |
| 8 tym mom | 3 | 0 | 3 | 33.3 | 0.0 | 3,3 | 6 | 0 | 6 | 31.6 | 0.0 | 31.6 | 15 | 0 | 15 | 22.7 | 0.0 | 22.7 |  |  |  |  |  |  |
| 904hes | 1 | 0 | 1 | 111 | 00 | 11. | 1 | 0 | 1 | 5.3 | 0.0 | 5.3 | 3 | 1 | 4 | 4.5 | 1.5 | 60 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 7 | 2 | $\varepsilon$ | 1718 | 22.2 | 100 | 14 | 5 | 12 | 12.7 | 26.3 | 100 | 42 | 24 | 66 | 63.6 | 36.4 | 100. |  |  |  |  |  |  |

TARLE ALBS ENALUATION QE UNLI SIGHTLNGS FOR ALL YERRS

|  | ALL YEals |  |  |  |  |  | 1947 |  |  |  |  |  | $\text { - } 1948$ |  |  |  |  |  | 1949 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Conl |  |  | Munber |  |  | Per Cenl |  |  | Number |  |  | Peicent |  |  | Number |  |  | Percent |  |  |
| Ervication | Cortain | Doubtul | Tolat | Certan | Doubter | Totat | Certin | Doubtrol | Total | Cention | Dowblol | Toसt | Seltain |  | Tolal | Certain |  | T001 | Certain | Daubthil | Total | Cutain | Dosbltal | Tog |
| a-gathon | 2 | 0 | 2 | 2.6 | 0.0 | 2.6 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | Q2 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1 -Astronmial | 11 | 21 | 62 | 53.9 | 27.6 | 81.5 |  |  |  |  |  |  | 4 | 4 | 8 | 40.0 | 40.0 | 80.0 | 1 | 5 | 6 | 143 | 11.4 | 85.7 |
| 2 -Arciat | 2 | 2 | 4 | 2.6 | 2.6 | 5.2 |  |  |  |  |  |  | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 3 Limmphemon | 0 | 1 | 1 | 0.0 | 1.3 | 1.3 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 4-Birds | 0 | 1 |  | 0.2 | 63 | 1.3 |  |  | $N$ |  |  |  | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 | . 1 | 00 | 143 | 14.3 |
| Sclowats, Dust, etic | 0 | 0 | 0 | 100 | 00 | 00 |  |  |  |  |  |  | 0 | 0 | 0. | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 10.0 | Q0 |
| Ginsettic mo. | 1 | 2 | 1 | 1.3 | 0.0 | 1.3 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Prycrological | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |  | N |  |  |  |  | 0 | 0 | 0 | 0.0 | 00 | 100 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| Aluthom | 5 | 0 | 5 | 66 | 00 | 16.6 |  |  |  |  |  |  | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 0 | 0 | 0 | 20 | 00 | 00 |
| Forter | e | 0 | $\bigcirc$ | 00 | a. 0 | 0.0 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e. 0 | 00 | 00 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 51 | 25 | 16 | 671 | 32.91 | Vod. |  |  |  |  |  |  | 6 | 4 | 101 | 60.0 | 40.0 | 100. | 1 | 6 | 7 | 143 | 85.7 | 100. |


| Evaluation | 1950 |  |  |  |  |  | $\text { Number } 1951$ |  |  | Pecent |  |  | 1952 |  |  |  |  |  | Hunber |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  |  |  |  | Hunter | Percent |  |  |  |  |  |  |  |  |
|  | Certain | Doubitiol | Total | Centain | Dovoltu | Tolal | Ceriain | Doubitul | Toial |  |  |  | Cettain | Doubitul | Toial | Cettio | Dowbthil | Total | Centain | Doubtitu | Totad | Catran | Douditil | Total | Centain | Dabitul | Tola |
| O-Balloon | < | 0 | 1 | 50.0 | 00 | 50. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 48 | 0.0 | 1.8 |  |  |  |  |  |  |
| 1-Astronomical | $\angle$ | 0 | 1 | 500 | 20 | 50.0 | 1 | 1 | 2 | 50.0 | 50.0 | 100.0 | 34 | 11 | 45 | 61.8 | 20.0 | 81.8 |  |  |  |  |  |  |
| 2-Aictrat | 0 | 0 | 2 | 0.0 | 0.0 | 00 | 2 | -0 | 0. | 00 | 0.0 | 00 | 2 | - 2 | 4 | 36 | 36 | 7.2 |  |  |  |  |  |  |
| 3-Light Pheman. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.8 | 1.8 |  |  |  |  |  |  |
| 4 Bircs | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | -0. | 0 | 00. | 100 | 100 | 0 | 0 | 0 | 0.2 | 00 | 10 |  |  |  |  |  |  |
| 5 SClowds, Dust etc. | 0 | 0 | 2 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |  |  |  |  |  |  |
| Ginsulficic. mbo. | 0 | 0 | 0 | 00 | 0a | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 4.8 | 0.0 | 1.8 |  |  |  |  |  |  |
| 2.Psycrolagical | 0 | 0 | 0 | a0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |  |  |  |  |  |  |
| 8Uakinom | 0 | 0 | - | 0.0 | 00 | 0.0 | 0. | 0 | 0 | 00 | 0.0 | 00 | 3 | 0 | 3 | 5.4 | 0.0 | 5.4 |  |  |  |  |  |  |
| 9006es | 0 | 0 | 0 | al | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tocal | 2 | 0 | 2 | 1000 | 0.0 | 100. | 1 | 1 | 2 | 50.0 | 50.0 | 100. | $4 / 1$ | 14 | 55 | 74.5 | 25.5 | 100. |  |  |  |  |  |  |

TARLE ALB6 EURLUATIOR OE UNT SLGHTINGS FOR AGL YERES

| Evalualion | $A \angle C$ Years |  |  |  |  |  | sHAPE DE DBlECT, |  |  |  |  |  | LENTIULAR, CONICAE OR TEARDROP |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Par cent. |  |  | Humber |  |  | Per Conl |  |  | Mumber |  |  | Per Cent |  |  | Humber |  |  | Pet Cont |  |  |
|  | Certain | Dowitful | Total | Cerlain | Dowdtul | Tolat | Certain | Dowithil | Otal | Cetrion | Doubtiol | 1a | 2in | Doubitiou | Total | Certain | Doubltul | Total | Centain | Doulditul | Totad | artain | Doubtiol | Total |
| OBatloon | 26 | 4 | 30 | 12.0 | 29 | 21.9 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 26.0 | 00 | 250 | 5 | 0 | 5 | 55.6. | 0.0 | 55 |
| 1.Astronomical | 13 | 13 | 26 | 9.5 | 0.5 | 19.0 | 0 | 1 | 1 | 0.0 | 161 | 16.7 | 3 | 0 | 3 | 375 | 0.0 | 31.5 | 0 | 2 | 2 | 0.0 | 22.2 | 22.2 |
| 2-Aircratt |  | 3 | 29 | 11.7 | 2.5 | 21.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 2 | 2 | 0.0 | 22.2 | 12.2 |
| 3-Ligti Phenom. | 0 | 1 | 1 | 00 | 0.1 | 0,1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 10 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Binds |  | , | 2 | 07 | 0.1 | 1.4 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 12.5 | 20 | 12.5 | 0 | 0 | 0 | 00 | 0 |  |
| 5 Clouss, Doust et | 0 | 2 | 2 | 0.0 | 1 | 1.5 | 0 | -0 | 0 | ee | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | ao |
| S-Insublic. Mro. | 13 | 0 | 13 | 45 | 0.0 | 9.5 | 2 | 0 | 2 | 333 | 0.0 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 7-Psyctrological | 4 | 0 | 4 | 29 | al | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| $8.14 n k$ mown | 26 | 0 | 26 | 19.0 | 00 | 19. | 2 | 0 | 2 | 333 | 0.0 | 333 | L | 0 | , | 12.5 | 0.0 | 12.5 | 0 | 0 | 0 | 0.0 | 00 | 02 |
| \%othee | 3 | 1 | 4 | 2.2 | 0.7 | 2.9 | 1 | 2 | 1 | 16.7 | 00 | 16:7 | 1 | 0 | 1 | 12.5 | 0.0 | 125 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toan | 102 | 35 | 1371 | 14.5 | 255 | 100 | 5 | -1 | 6 | 83.3 | 16.7 | 100. | 8. | 0 | 8 | 100.0 | 0.0 | 100 | 5 | $\leq$ | $\xi$ | 55.6 | 44.4 |  |




|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pexcme |  |  |  |  |  | PaCmi |  |  | Cembin Duobeeral |  |  | Pacent |  |  | Munber |  |  | Petcat |  |  |
| Eraluation | Certhin | Douthers | Toba | Certain | Dostulu | Total |  |  |  | Celtain | Doubtal | Tola |  |  |  | Certain |  | Toxal | Cattion |  | Total | Cention |  | Total |
| $0 \cdot 981000$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 3. | 5 | 2.5 | 3.8 | 6.3 |  |  |  |  |  |  |
| 1-Astromamial | 4 | 3 | 12 | 60.0 | 20.0 | 80.0 | 1 | 1 | 2 | 200 | 10.0 | 40.0 | 26 | 1 | 33 | 32.9 | 8.9 | 41.8 |  |  |  |  |  |  |
| 2-Aiman | 2 | 0 | 2 | 13.3 | 0.0 | 133 | \% | 0 | , | 200 | 0.0 | 20.0 | 12 | 8 | 20 | 15.2 | 10.1 | 25.3 |  |  |  |  |  |  |
| 3 Lipto Phame | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | e | 0 | 2. 0 | 0.0 | 0.0 | -1 | 0 | 1 | 1.3 | 0.0 | 1.3 |  |  |  |  |  |  |
| 4 Sints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 | 1 | 0.0 | 13 | 13 |  |  |  |  |  |  |
| 5 Clouss, oust ect | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 20 | 0. | 0 | $\bigcirc$ | 0 | e. 0 | 0.0 | Q 0 |  |  |  |  |  |  |
| Ginsulicic mio. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 10.0 | 20 | 0.0 | 1 | 0 | 1 | 1.3 | 0.0 | 13 |  |  |  |  |  |  |
| 7.P9ydmologital | $\bigcirc$ | 0 | 0 | 1.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 2.5 | 0.0 | 2.5 |  |  |  |  |  |  |
| OUnkwom | 1 | 0 | , | 6.7 | -20 | 6.7 | 2 | 0 | 2 | 40.0 | 0.0 | 40.0 | 9 | 0 | 9 | 14.4 | 0. | 11.4 |  |  |  |  |  |  |
| Souter | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | e | 00 | 0.0 | Q0 | 6 | , | 7 | 76 | $1 \cdot 3$ | 8.9 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toul | 12 | 3 | 15 | 8a0 | 20.0 | 100. | 4 | 1 | 5 | 1800 | 20.0 | vos. | [59] | 20 | 12 | 747 | 25:3 | 1100. |  |  |  |  |  |  |

TRBLE ALSR ELQLUATION QE UNIT SIGHTINGS FOR ALL YEARS

| 84 |  |  |  |  |  |  | SHAPE |  |  |  |  |  | OTHER |  |  |  |  |  | 2e |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ALL Y/EARS |  |  |  |  |  | -1947 i. |  |  |  |  |  | 1948 |  |  |  |  |  | 1949 |  |  |  |  |  |
|  | Number |  |  | Peg Cont |  |  | Munder |  |  | Pescont |  |  | Number |  |  | Pexcent |  |  | Mumbes. |  |  | Pers Cont |  |  |
| Evaluation | Certin | Doviblou | Tobi | Centrin | Doubluil | Toxal | Centain | Dosatrol | Totan | Centain | Doubtrol | Tola | Certain | Doubtiou | Total | Centain | Doobttul | Total | Certain | Dowithil | Tota | Certain | Dabithul | Tots |
| Q-Basiloon | 32 | 15 | 47 | 12.0 | 5.6 | 17.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | $L$ | / | 2 | 38 | 28 | 16 |
| 1-Astronomical | 29 | 21 | 50 | 12.9 | 80 | 18.9 | 1 | 2 | 3 | 20.0 | 40.0 | 620 | 1 | 0 | 1 | 6.7 | 0.0 | 67 | 6 | 3 | 9 | 23.1 | 11.5 | 34.6 |
| 2-Aicrath | 31 | 29 | 120 | 11.7 | 10.9 | 22.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 2 | 3 | 67 | 193 | 20.0 | 3 | 2 | 5 | 11.5 | \%7 | 192 |
| 3-Light Pheman. | 4 | 3 | 1 | 1.5 | 11 | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 10.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 |
| 4 -inds | 2 | 2 | 4. | 0.8 | 0.8 | 1.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 1 | 2 | 67 | 6.7 | 13.4 | 0 | 0 | 0 | 0e | 0.0 | 0.0 |
| 5-Cloods, Dust et. | 1 | 1 | 2 | 0.4 | 0.4 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 |
| G-Insuffic, mio. | 21 | 0 | 21 | 80 | 0.0 | 8.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 3 | 0 | 3 | 20.0 | 0.0 | 120 | 4 | 0 | 4 | 15.4 | 20 | 15.4 |
| 7.Psythologicas | 6 | 0 | 6 | 2.3 | 0.0 | 2.3 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | Q | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 02 |
| B-Unkrom | 55 | 0 | 55 | 20.1 | 0.0 | 207 | 2 | - | 2 | 40.0 | 20 | 40.0 | 2 | 0 | 2 | 133 | 0.0 | 13.3 | 5 | 0 | 5 | 19.2 | 0.0 | 19.2 |
| groter | 8 | 6 | 4 | ¢ 0 | 2.3 | 5.3 | 0 | 0 | 0 | 0.0 | a0 | 0.0 | 0 | 2 | 2 | 00 | 19.3 | 193 | 1 | 0 | 1 | 28 | 00 | 3.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totw | 189 | 7 | 266 | 71.1 | 28.9 | 100. | 3 | 2 | 5 | 60.0 | 40.0 | 100. | 10 | 5 | 15 | 66.7 | 33.3 | 100. | 20 | 6 | 26 | 169 | 23.1 | 100. |


| Evadution | 950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wuber |  |  | Percat |  |  | Munber |  |  | Per Cont |  |  | Munber |  |  | Per Cent |  |  |  |  |  | Per Cent |  |  |
|  | Certain | Doobbtul | Total | Centain | Dauthi] | Total | Centain | Doubtiou | Total | Cerrain | Doobtru] | Total | Certin | Dooutho | Total | Cerrain | Doubth! | Tota | Certain | Doubthol | Tobit | Cortin | Dousthl | Tota |
| -Balloon | 6 | 1 | 1 | 18.2 | 30 | 21.2 | 3 | 0 | 3 | 14.3 | 0.0 | 14.3 | 20 | 13 | 33 | 12.0 | 18 | 19.8 |  |  |  |  |  |  |
| 1-Astronomici | 3 | 3 | 6 | 9.1 | 9.1 | 18.2 | , | 3 | 4 | 4.8 | 14.3 | 19.1 | 17 | 10 | 27 | 10.2 | 6.0 | 16.2 |  |  |  |  |  |  |
| 2-Alicradt | 7 | 5 | 10 | 21.2 | 21 | 30.3 | 4 | 1 | 5 | 19.0 | 4.8 | 23.8 | 16 | 21 | 37 | 9.6 | 12.7 | 22.3 |  |  |  |  |  |  |
| 3Liom Prenoen. | 0 | 0 | -0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 4 | 3 | 7 | 24 | 1.8 | 4.2 |  |  |  |  |  |  |
| 4-8iits | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 1 | 2 | 0.6 | 0.6 | 1.2 |  |  |  |  |  |  |
| 5-Cloonds, Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 1 | 2 | 0.6 | 06 | 1.2 |  |  |  |  |  |  |
| Ginsunfici min. | 3 | 0 | 3 | 9.1 | 0.0 | 9.1 | 2 | 0 | 2 | 4,5 | 0.0 | 9.5 | 9 | 0 | 9 | 5.4 | 00 | 5.4 |  |  |  |  |  |  |
| 7.Pegctuogian | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 00 | 6 | 0 | 6 | 3.6 | 0.0 | 36 |  |  |  |  |  |  |
| 2-unkrom | 5 | 0 | 5 | 15.2 | 00 | 15,2 | 5 | 0 | 5 | 238 | 00 | 23.8 | 36 | 0 | 36 | 217 | 00 | 21.7 |  |  |  |  |  |  |
| 9-0tion | 0 | 2 | 2 | 0.0 | 6.1 | 6.1 | 2 | 0 | 2 | 45 | el | 25 | 5 | 2 | 7 | 3.0 | 1.2 | 42 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 241 | 7 | 33 | 12.1 | 213 | 100 | 17 | 4 | 21 | 810 | 12.0 | 100. | $1 / 5$ | 51 | 166 | 69.3 | 30.1 | 100. |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  |  |  |  |  |  |  | 4952 |  |  |  |  |  | Mminter |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Parcmi |  |  | Manber |  |  | Pefomt |  |  | Certain Duaberton Total |  |  | PaCat |  |  |  |  |  | Petcmt |  |  |
| Evaluation | Centain | Oewithy | Tobi | Centin | Doabtail | Total | Certion | Oomethy | Total | cetian | Doubtay | Tota |  |  |  | Centin | Dosobtal | Totil | Cention | Dooblm | Tota | Catran | Dowith | Tona |
| OBasloan | 2 | 2 | 4 | 33 | 33 | 6.6 | 0 | i | 1 | 00 | 2.1 | 2.1 | 29 | 33 | 62 | 6.9 | 1.9 | 14.8 |  |  |  |  |  |  |
| 1-Atmonmial | 18 | 4 | 22 | 30.0 | 6.7 | 3 k .7 | 10 | 6 | 16 | 21.2 | 12.8 | 340 | 48 | 17 | 65 | 11.5 | $4 / 1$ | 15.6 |  |  |  |  |  |  |
| 2-Aicrat | 7 | - 6 | 13 | 14.7 | 10.0 | 21.7 | 2 | 2 | 4 | $4: 3$ | 4.3 | 86 | 46 | 30 | 76 | (11.0 | 12 | 18.2 |  |  |  |  |  |  |
| 3-Liat Phema | 0 | 0 | - | 00 | 20 | 28 | 2 | 0 | 2 | 4.3 | 0.0 | 43 | 5 | $\bigcirc$ | 5 | 1.2 | 20 | 1.2 |  |  |  |  |  |  |
| 4 Binds | 0 | 0 | e | $a 0$ | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 0.5 | 0.0 | 05 |  |  |  |  |  |  |
| 5 Clloust Dostste | 0 | 0 | 2 | 00 | 0.0 | Oe | 0 | 0 | e | an | 0.0 | 0.0 | 2 | 0 | 2 | 0.5 | 0.0 | 25 |  |  |  |  |  |  |
| Stasaticicmot. | 6 | e | 6 | 10.0 | ob | 10. | 4 | 0 | 4 | 85 | 0.0 | 8.5 | 75 | 0 | 15 | $1 \% 9$ | 0.0 | 118 |  |  |  |  |  |  |
| 1.Psyctabgical | 0 | 0 | - | 0.0 | ab | 0 D | 1 | 0 | 1 | 27 | 20 | 2.4 | 0 | , | 1 | 0.0 | 0.2 | 0.2 |  |  |  |  |  |  |
| Bumbene | $1 /$ | 0 | ir | 18.3 | aO | 183 | 14 | 0 | 14 | 29.8 | 0.0 | 29.8 | 102 | 0 | 12 | 24.4 | 0.0 | 24\% |  |  |  |  |  |  |
| 9-04mes | 3. | 1 | 4 | 5.0 | 17 | 67 | 5 | 0 | 5 | 10.6 | 90 | 10.6 | 22 | 6 | 28 | 5.3 | 14 | 6.7 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 47 | 13 | 60 | 78.3 | 21.7 | 100. | 38. | 9 | 42 | 80.9 | 181 | 100 | 331 | 87 | $4 / 8$ | 19.2 | 20.8 | 100. |  |  |  |  |  |  |


|  | CABLE | $\varepsilon-A$ | A140 |  |  | - | OF DBNECT |  |  |  |  |  |  | FOR ALSI YERRS |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | SHARE |  |  |  |  |  | ELLIPTKCRL |  |  |  |  |  |  |  |  |  |  |  |
|  | ALL YEARS |  |  |  |  |  | Number |  |  |  |  |  | Number 194 |  |  | Pet Cent |  |  | 11.1949 |  |  |  |  |  |
|  | momber |  |  | Percont |  |  |  |  |  |  | Pel Cent |  |  |  |  |  | Number |  |  | Percent |  |
| Eviution | Certain | [Doultul | Tolat | Centain | Doubliw | Total | Ceftain | Doubltal | Tolas | Centain | Doubtiol | Total | Cerimin | Doubthil | Total |  |  |  | Certain | Doubtul | Total | Certain | Doubltol | Total | Cotain | [Doubtol] | Ton |
| 10-8alicon | 113 | 85 | 126 | 10.9 | 80 | 18.9 | 5 | 0 | 5 | 11.9 | 0.0 | 11.8 | 6 | 8 | 14 | 4.5 | 12.7 | 22.2 | 4 | 1 | 5 | 4.8 | 2 | 6.0 |
| 1.Astionomial | 115 | 91 | 206 | III | 88 | 19.9 | 3 | 4 | 7 | 71 | 8.5 | 16.6 | /L | 11 | 22 | 17.5 | 17.5 | 342 | 8 | 26 | 34 | 4.5 | 31.0 | 40.5 |
| 2-Aucrath | -30 | 108 | 238 | 12.6 | 10.5 | 23.1 | - | 1 | 2 | 2.4 | 2.4 | 4.8 | 6 | 0 | 6 | 4.5 | 0.0 | 9.5 | 1 | 5 | 12 | 8.3 | 6.0 | 14.3 |
| 3 Limt Phenom, | 16 | 18 | 30 | 1.5 | 14 | 2.9 | 2 | 0 | 2 | 4.8 | Q. 0 | 48 | 0 | 3 | 3 | 00 | 48 | 4.8 | 0 | 0 | 0 | .0.0 | 00 | ao |
| 4 -Bids | 7 | 4 | 11 | 27 | 0.4 | 1.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 16. | 1.6 | 2 | 0 | 2 | 2.4 | 0.0 | 2.4 |
| 5 Clowds, Dust ele | 0 | 3 | 3 | 0.0 | 03 | 03 | 0 | 0 | 0 | 0.2 | 00 | 00 | 0 | 0 | 0 | 00 | .0.0 | a0 | 2 | 0 | 0 | 00 | 0.0 | 0.0 |
| Ginstlic mmo. | 46 | 0 | 96 | 93 | 00 | 93 | 6 | 0 | 6 | 14.3 | 0.0 | 14.3 | 6 | 0 | 6 | 45 | 0.0 | 9.5 | 14 | 0 | 14 | 16.7 | 0.0 | 16.7 |
| 7.-Pyydolopical | 14 | 8 | 22 | 14 | 08 | 2.2 | 2 | 2 | 4 | 4.8 | 4.8 | 4.6 | 1 | 0 | 1 | \% 6 | 0.0 | 1.6 | 2 | 0 | 2 | 2.4 | 0.0 | 2.4 |
| A-Uncrown | 145 | 0 | 195 | 182 | 00 | 189 | 8 | 0 | 8 | 14.0 | 0.0 | 180 | 7 | 0 | 7 | 11.1 | 02 | 11.1 | 12 | 0 | 12 | 143 | 0.0 | 14.3 |
| 90the | 30 | 6 | 36 | 2.9 | 8.6 | 3.5 | 8 | 0 | 8 | 140 | 00 | 180 | 2 | 1 | 3 | 3.2 | 1.6 | 4.8 | 3 | 0 | 3. | 36 | 0.0 | 3.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 716 | 317 | 1033 | 69:3 | 30.7 | 100. | 35 | 7 | 42 | 183, | 16.7 | 100 | 34 | 24 | 63 | 61.9 | 381 | 100 | 52 | 32 | 84 | 61.91 | 38.1 | 100. |


|  | 1850 |  |  |  |  |  |  |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  | Percont |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pet Cent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Evaluation | Cenxin | Doouliful | Totel | Cential | Dowbluil | Total | Cetain | Douttril | Total | Cestain | Doobtul | Total | Certain | Dowithu1 | Total | Certain | Doubtrui | Totat | Certain | Doubitul | Total | Certain | Dabitiol | Tolal |
| Q-Balloon | 10 | 1 | 11 | 14.3 | 1.4 | 15.7 | 3 | 人 | 4 | 10.7 | 3.6 | $14 / 3$ | 85 | 72 | 157 | 11.4 | 9.7 | 21.1 |  |  |  |  |  |  |
| 1-Astronomical | 4 | 3 | 12 | 12.2 | 4.3 | 112 | 3 | 2 | 5 | 10.7 | 71 | 178 | 81 | 45 | 126 | 10.9 | 60 | 16.9 |  |  |  |  |  |  |
| 2-Aicritt | 8 | 2 | 10 | 11.4 | 2.9 | 14.3 | 3 | 0 | 3 | 10.7 | 0.0 | 10.7 | 105 | 100 | 205 | 141 | 13.4 | 215 |  |  |  |  |  |  |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $L$ | 1 | 0.0 | 36 | 36 | 14 | 10 | 24 | 1.9 | 1.3 | 3.2 |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | 120 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 56 | ? 6 | 5 | 2 | \% | 0.7 | 0.3 | 1.0 |  |  |  |  |  |  |
| 3-Cloust, Dust, etc. | 0 | 0 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 5 | 3 | 00 | 0.4 | 0.4 |  |  |  |  |  |  |
| G-1nsytic. Into. | 13 | 0 | 13 | 18.6 | 00 | 18.6 | 4 | 0 | 4 | 14.3 | 0.0 | 14.3 | 53 | 0 | 53 | 11 | 0.0 | 7.L |  |  |  |  |  |  |
| 7. Syelolo gital | 2 | 0 | 2 | 2.9 | 00 | 2.9 | 0 | 1 | 1 | 0.0 | 3.6 | 36 | 7 | 5 | 12 | 0.9 | 0.7 | 1.6 |  |  |  |  |  |  |
| BUnkrowi | 12 | 0 | 19 | 271 | 00 | 271 | 9 | 0 | 9 | 32.1 | e0 | 32.1 | 146 | 0 | 146 | 18.8 | 00 | 18.8 |  |  |  |  |  |  |
| Yother | 2 | 1 | 3 | 2.9 | 14 | 4.3 | 0 | 0 | 0 | 0. | 00 | 0.0 | 15 | 4 | 19 | 2.0 | 0.5 | 2.5 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 631 | 7 | 72 | 920 | 10.0 | 100. | 22 | 6 | 28 | 18. 6 | 21.4 | 100. | 505 | 241 | 746 | 67.7 | 32.3 | 100. |  |  |  |  |  |  |

TABLE ALI EVALUATION AE AQVEET $5 L G H T N G S$ FOR ALE YEARS


|  | 1450 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Per Coml |  |  | Humber |  |  | Pertent |  |  | Number |  |  | Percent |  |  |  |  |  |  |  |  |
| Evaluation | Certain | Doubtal | Total | Centan | Doubtail | Total | Certain | Dowobliol | Totai | Cention | Doubitul | Tolat | Cendin | Oocubitut | Total | Certain | Doobitil | Tolal | Certain | Doutthil | rotal | Cerbinin Dointitul |  | Total |
| 0, Batloon | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | 0 | 1 | 1 | Q0 | 63 | 6.3 | 1 | 0 | 1 | 67 | 4.2 | 1.2 |  |  |  |  |  |  |
| 1-Astronmial | 0 | 2 | 2 | 10 | 25.0 | 1250 | 0 | 0 | 0 | ne | 0.0 | 0.0 | 2 | 1 | 3 | 3.3 | 1.7 | 5.0 |  |  |  |  |  |  |
| 2-Aictopl | 0 | 0 | 0 | al | 00 | 0.0 | 5 | 3 | 8 | 31.3 | 18.8 | 50.0 | 8 | 15 | 23 | 13.3 | 25.0 | 38.3 |  |  |  |  |  |  |
| 3 Livan Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 3.3 | 12 | 5.0 |  |  |  |  |  |  |
| -Biras | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5 CClouds, Dost, elc. | 2 | 0 | 0 | 00 | 00 | le | 0 | 0 | 0 | 0.1 | 02 | 0.0 | 0 | 1 | 1 | e0 | 1.7 | - 7 |  |  |  |  |  |  |
| G-Insulic no. | , | 0 | 1 | 12.5 | 0.0 | 12.5 | 2 | 0 | 2 | 125 | 00 | 12.5 | 4 | 0 | 4 | 6.7 | 0.0 | 6.7 |  |  |  |  |  |  |
| 7. Psyculogial | R | 0 | 0 | 0.0 | 100 | 0.0 | 0 | 0 | 0 | 0.2 | 00 | 00 | 6 | 0 | 6 | 10.0 | 0.0 | 10.0 |  |  |  |  |  |  |
| 8 8unnom. | 3 | 0 | 3 | 34.5 | 0.0 | 31.5 | 4 | 0 | 2 | 25.0 | 20 | 250 | 15 | 0 | 15 | 25.0 | 0.0 | 25.0 |  |  |  |  |  |  |
| sothee | 1 | 0 | 1 | 12.5 | 00 | 12.5 | 1 | 0 | 1 | 6.3 | 0.0 | 6.3 | 3. | 1 | 4 | 5.0 | 1.7 | 6.1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  | . |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 6 | 2 | 8 | 75.0 | 15.0 | 100. | 12 | 4 | 16 | 750 | 25.0 | 100. | 41 | 19 | 60 | 68.31 | 31.7 | 100. |  |  |  |  |  |  |



| Evaustion |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | pe -omet |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ALL GEARS |  |  |  |  |  | -1942 |  |  |  |  |  |  |  |  | Percent |  |  | Nunbel |  |  |  |  |  |
|  | nemeer |  |  | Percent |  |  | Hember |  |  | Percent |  |  |  |  |  | Percmil |  |  |  |
|  | Cerlitin | Doubtrol | Total | Celtain | Doubthi | Total | Cerain | Doubitul | Total | Cerrain | Doubtril | Total | Cetrain |  |  |  |  |  | Certain | Doubitul | Total | Certain | Doultoi | Totat | Cutain | Doubital | Tota |
| lo-galloon | 2 | 0 | 2 | 34 | 20 | 3.4 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | e | 0 | 0 | 20 | 0.0 | 0.0 |
| 1-Astrommical | 28 | 18 | 46 | 41.5 | 30.5 | 18.0 |  |  |  |  |  |  | 4 | 4 | 8 | 40.0 | 40.0 | 800 | 1 | 3 | 4 | 20.0 | 60.0 | 80.0 |
| 2-Averath | 2 | 2 | 4 | 34 | 34 | 16.8 |  |  |  |  |  |  | 0 | 0 | 0 | e0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3 3-40t Phemon. | 2 | 1 | 1 | ae | 1.7 | 172 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Brics | 2 | 1 | $\angle$ | 20 | 17 | 1.7 |  |  |  | , |  |  | 0 | 0 | 0 | 8.0 | 02 | 0. | 0 | 1 | 1 | 20 | 20.0 | 20.0 |
| f-Clouds. Oust elc. | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  | N |  |  | 2 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 00 |
| G-nsstrica mo. | 1 | 0 | 1 | 111 | 0.01 | 1.7 |  |  |  |  |  |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 7. P3yctologicer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | 2 | 0 | 0 | 0.0 | $0 \cdot$ | 20. | 0 | 0 | 0 | 0.0 | 20 | 0.0 |
| B-Unknom | 4 | 0 | 4 | 68 | 0.0 | 6.8 |  | N |  |  |  |  | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 |
| 900the | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  | e | 0 | 0 | Re | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 37 | 22 | 52 | 62.7 | 313 | 100. |  |  |  |  |  |  | 6 | 4 | 10 | 60.0 | 40.0 | 100 | , | 4 | 5 | 20.0 | 80.0 | 100. |


| Evaluation | 1950 |  |  |  |  |  | - |  |  |  |  |  | 1952 |  |  |  |  |  | Humber |  |  |  |  |  |
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|  | Number |  |  | Per cent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  |  |  |  | Per Cant |  |  |
|  | Certain | Ocoubtoul | Total | Centain | Dowiltul | Tolat | Certain | Doobthil | Tota | Certian | Doubitul | Total | Certain | Doubtiol | Totai | Certain | [Doubtam] | Total | Cortin | Doubthit | Told | Cortrin | Daritiol | Tota |
| 0-Batlocn | , | 0. | 1 | 1000 | 00 | 1000 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | , | 24 | 0.0 | 2.4 |  |  |  |  |  |  |
| 1-Astronomical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 50.0 | 50.0 | 100.0 | 22 | 10 | 32 | 537 | 24.4 | 18.1 |  |  |  |  |  |  |
| 2-Aicrath | 0 | 0 | 0 | a0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 2 | 4 | 49 | 49 | 9.8 |  |  |  |  |  |  |
| 3-Lidet Phemon. | 2 | 0. | 0 | 2.0 | 00 | 0.0 | 0 | a | 0 | Q 0 | 0.0 | 00 | 0 | $L$ | 1 | 00 | 2.4 | 2.4 |  |  |  |  |  |  |
| 4 Birds | 0 | 0. | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.01 | 20. |  |  |  |  |  |  |
| 5 -Cloods, Doust eta. | 0 | 0 | 0 | 20. | ne | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | a0 |  |  |  |  |  |  |
| 6 Ginsoltic. Mfo. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.4 | 00 | 2.4 |  |  |  |  |  |  |
| 17.9.9ycmologial | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| B-Uaknom | 0 | 0 | 0 | 00 | 0.0 | 0.2 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 4.9 | 0.0 | 4.9 |  |  |  |  |  |  |
| Yother | $\bigcirc$ | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 2 | 0 | eo | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1 | 0 | $<$ | 1000 | 0.0 | 100 | 1 | 1 | 2 | 50.0 | 150.0 | 100. | 28 | 13 | $4 /$ | 683 | 31.7 | 100. |  |  |  |  |  |  |

TARLE AIYS EKALUATION OE DRNECT SIGHTINGS FOR ALL YEARS


| Erasuation | 1950 |  |  |  |  |  | 1451 |  |  |  |  |  | 1952 |  |  |  |  |  | Nunber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pacent |  |  | Number |  |  | Percent |  |  | Numbet |  |  | Per Cent |  |  |  |  |  | Per Cent |  |  |
|  | Certain | [Doubitit] | Total | Centrin | Doubtion | Total | Certain | Doubtelal | roial | Certain | Dosttrul | Totes | Centain | Dasbltal | Tolal | Certain | Doutthil | Total | Centain | Doustiou | Total | Certio | Doubtul | Tota |
| O-Balloon | 1 |  | 2 | $14 / 3$ | 14.3 | 286 | 2 | 0 | 2 | 333 | 00 | 33.3 | 15 | 2 | 11 | 16.5 | 2.2 | 18.7 |  |  |  |  |  |  |
| 1-Astronomial | 0 | 2 | 2 | 0.0 | 28.6 | 28.6 | 0 | 1 | 1 | 0.0 | 16.7 | 167 | 10 | 6 | 16. | 11.0 | 66 | 176 |  |  |  |  |  |  |
| 2-Aitreat | 1 | 0 | 1 | 14/3 | 201 | 14.3 | 0 | 0 | 2 | 0.0 | 0.0 | 00 | 13 | 11 | 24 | 14.3 | 12.1 | 264 |  |  |  |  |  |  |
| 3Lictit Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 00 | 0.0 | 0 | 0 | 0 | -0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 4 4-iids | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 02 | 0.0 | 0.0 | 0 | 1 | L | 0.0 | 1.1 | 11 |  |  |  |  |  |  |
| 5-Clooeds, Duss, etc | Q | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 2 | 2 | 0.0 | 2.2 | 2.2 |  |  |  |  |  |  |
| Grasutic mio. | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 2 | 0 | 2 | 33.3 | 0.0 | 313.3 | 8 | 0 | 8 | 8.8 | 0.0 | 8.8 |  |  |  |  |  |  |
| 7.PPy+ciological | 0 | 0 | - 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 4.4 | 20 | 4.4 |  |  |  |  |  |  |
| Blakroum | 1 | 0 | 1 | $4{ }^{4} 3$ | 0.01 | 14.3 | 1. | 0 | 1 | <k. 7 | 0.0 | 16.7 | 17 | 0 | 11 | 18.7 | 0.0 | 18.7 |  |  |  |  |  |  |
| Yothee | 0 | 0 | 0 | 20 | 0.0 | a0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.1 | , | 1 | 1 | 1:1 | $\cdots$ | 2.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 4 | 3 | 7 | 51.1 | 42.9 | 100. | 5 | 1 | 6 | 83.3 | 16.7 | 100. | 68 | 23 | 91 | 74.7 | 25.3 | 100.1 |  |  |  |  |  |  |






| Evalustion | 1950 |  |  |  |  |  | -4, |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Per Cent |  |  | Mumbet |  |  | Percent |  |  | Humber |  |  | Pet cent |  |  |  |  |  | Per Cont |  |  |
|  | Certain | Dosbtur | Total | Centain | Docuitur] | Totat | Celain | Dovbtrin | Total | Certain | Doobtitul | Total | Certain | Dowters] | Total | Catrais | Douttion | Total | Cerain | Dexathel | Total | Catain | Doubtrul | Total |
| CBasilion | 6 | 1 | 7 | 20.7 | 34 | 24.1 | 3 | 0 | 3 | 114.3 | 0.0 | 14.3 | 20 | 12 | 32 | 13.1 | 18 | 20.9 |  |  |  |  |  |  |
| 1-Astionomical | 3 | 3 | 6 | 10.3 | 10.3 | 206 | 4 | 3 | 4 | 48 | 14.3 | 19.1 | 11 | 9 | 20 | 72 | 5.2 | 13.1 |  |  |  |  |  |  |
| 2-Aitceat | 4 | 2 | 6 | 13.8 | 6.9 | 20.7 | 4 | 1 | 5 | 190 | 48 | 23.8 | 16 | 20 | 36 | 10.5 | 13.1 | 23.6 |  |  |  |  |  |  |
| $3-\mathrm{Light} \mathrm{Phemom}$. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 2 | 5 | 2.0 | 13 | 3.5 |  |  |  |  |  |  |
| 4 - Birds | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 1 | $\angle$ | 2 | 0.7 | 47 | 14 |  |  |  |  |  |  |
| 5-Clowds, Dust, elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.7 | 07 | 1.4 |  |  |  |  |  |  |
| Grasylic me. | 3 | 0 | 3 | 10.3 | 0.0 | 10.3 | 2 | 0 | 2 | 125 | 00 | 9.5 | 8 | 0 | 8 | 5.2 | le | 5.2 |  |  |  |  |  |  |
| 7. Pyydaloition | 0 | 0 | 0 | 0.0 | 0. 0 | 0.0 | 0. | 0 | 0 | 0.0 | 00 | 0.0 | 6 | 0 | 6. | 3.9 | 0.0 | 3.9 |  |  |  |  |  |  |
| 8. | 5 | 0 | 5 | 17.2 | Q0 | 11.2 | 5. | 0 | 5 | 23.8 | 0.0 | 23.8 | 35 | 0 | 35 | 22.9 | 0.0 | 22.9 |  |  |  |  |  |  |
| Sotwe | 0 | 2 | 2. | 0.0 | 6.9 | 62 | 2. | 0 | 2 | 9.5 | a0 | 9.5 | 5. | 2 | 7 | 33 | 13 | 4.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 21 | 8 | 29 | 72.4 | 1216 | 100. | 17 | 4 | 21 | 81.0] | 19.0 | 100. | 1061 | 47 | 153 | 693 | 30.7 | 100. |  |  |  |  |  |  |





|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1912 |  |  |  |  |  | Nunbor |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Humber |  |  | Per cont |  |  | Hurter |  |  | Pex Cent |  |  |  |  |  | Percent |  |  |
| Evaluation | Certain | Doubitul | 7061 | Cerdain | Dosedttu: | Totad | Certain | Docioth] | Toted | Contin | Dowith | Tota | Cerain | Doubtur\| | Tobit | Certain | Dowbitul | T¢0¢ | Centain | Doation | Total | Cortain | Doabtur | Totaí |
| 0-Eallocn | 6 | 0 | 8 | \% 4 | 0.0 | 36.4 | 4 | 0 | 4 | 23.5 | 0.0 | 23,5 | 18 | 50 | 123 | 21.1 | 14.8 | 36, 5 |  |  |  |  |  |  |
| 1-Astronomial | N- | 0 | 5 | 212 | 0.0 | 22.7 | 2 | 3 | 5 | 11.8 | 17.6 | 19.4 | 22 | 18 | 40 | 6.51 | 5.3 | 11.8 |  |  |  |  |  |  |
| 2-Airaft | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 4 | 59 | 5.9 | 11.8 | 22 | $\angle 7$ | 44 | 8.0 | 5.0 | 13.0 |  |  |  |  |  |  |
| 3.Limi Pheron. | 0 | 0 | 0 | 0.0 | 0.0 | Q. 0 | $\Delta$ | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 4 | 3 | 7 | 1.2 | 0.9 | 2.1 |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | ${ }^{\circ}$ | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5-Clowds, Dust ete. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 4 | 6 | 10 | 1.2 | 1.8 | 3.0 |  |  |  |  |  |  |
| 5-Instric.e. mro. | 2 | 0 | 2 | 9.1 | 0.0 | 91 | 4 | 0 | 1 | 5.9 | 0.0 | 5.9 | 19 | 0 | 19 | 5.6 | $0 \cdot$ | 5.6 |  |  |  |  |  |  |
| 7.Psyctological | 3 | 0 | 3 | 13.6 | 0.0 | 13.6 | D | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 1 | 8 | 211 | 0.3 | 24 |  |  |  |  |  |  |
| BUnknown | 2 | 0 | 2 | 9.1 | 0.0 | 9.1 | ${ }^{-}$ | 0 | 5 | 29.4 | 0.0 | 29.4 | 20 | - | 70 | 20.8 | 0.0 | 208 |  |  |  |  |  |  |
| 9 90ther | 0 | 2 | 2 | 0.0 | 9.1 | 91 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 12 | 4 | 16 | 3.6 | 1.2 | 4.8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20 | 2 | 22 | 90.9 | 9.1 | 100. | 13 | 4 | $\stackrel{7}{ }$ | 76. 5 | 23.5] | 100. | 238 | 99 | 357 | 70.6 | 29.4 | 1003 |  |  |  |  |  |  |




| Evalution | $19 \sqrt{0}$ |  |  |  |  |  | 1951 |  |  |  |  |  | -195-2 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Comt |  |  | Munber |  |  | Par Cent |  |  | Numbet |  |  | Per Cent |  |  |  |  |  | Per Cent |  |  |
|  | Cortin | Dovitul | Total | Centin | Doubthl | Toba | Certain | Doubthar | Total | Cembin | Dosistral | Toted | Cetrain | Doubttal | Total | Certain | Doubttul | Total | Certain | Doobtital | Total | Caxtion | Douttol | Tota |
| O-Balioon | 5 | 1 | 6 | M. 2 | 3.4 | 10.6 | 1 | $\bigcirc$ | 1 | 20.0 | 0.0 | 20.0 | 33 | 23 | 56 | 20.1 | 14.0 | 34.1 |  |  |  |  |  |  |
| 1-Astionomial | 1 | 0 | , | 3.4 | 0.0 | 3.4 | 0 | 1 | 1 | 0.0 | 20.0 | 20.0 | 9 | 8 | 17 | 5.5 | 4.9 | 10.4 |  |  |  |  |  |  |
| 2-Aictath | 6 | O | 6 | 20.7 | 0.0 | 20.7 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 12 | 20 | 32 | 7.3 | 12.2 | 19.5 |  |  |  |  |  |  |
| 3-Ligh Phown. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 2. ${ }^{\text {a }}$ | 0 | 3 | 3 | 0.0 | 1.6 | 1.8 |  |  |  |  |  |  |
| 4 4, irics | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 6 | 1 | 7 | 17 | 0.6 | 4.3 |  |  |  |  |  |  |
| Sc-Ciwos, Dust, etc: | O | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 7 | 3.0 | 1.2 | 42 |  |  |  |  |  |  |
| G-nweltic mo. | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 0 | 5 | 3.0 | 0.0 | 3.0 |  |  |  |  |  |  |
| 7-Pyydolojiar | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | Re | 0.0 | 2 | 0 | 2 | 1.2 | 0.0 | 1.2 |  |  |  |  |  |  |
| Hudinom | 14 | 0 | 14 | 48.3 | 0.0 | 48.3 | 2 | 0 | 2 | 40.0 | 0.0 | 40.0 | 29 | 0 | 29 | 11.1 | 0.0 | 17.7 |  |  |  |  |  |  |
| 5040 | 1 | 0 | 1 | 3.4 | 0.0 | 3.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 1 | 6 | 3.01 | 0.6 | 3.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 28 | 1 | 29 | 96.6 | 3.4 | 100. | 4 | 1 | 5 | 80.0 | 20.0 | 109 | 106 | 58 | 164 | 64.6 | 3.4 | 100: | . |  |  |  |  |  |

TABLE ALAQ EVALVATON OE ALK SIGHTINGS FOR ALL YERRS BY REPORTED -

| Erumation | ALL YEARS |  |  |  |  |  | R⿴囗 1947 |  |  |  |  |  | HUNPEED TO FOUR |  |  |  |  |  | HWPREO MILES DER HOUR |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Munber |  |  | Pesceat |  |  |  |  |  |  |  |  |
|  |  |  |  |  | 1 Per Coml |  |  |  |  | Humber |  |  |  | Number |  |  | Percent |  |  |
|  | Cerimin | Dovithol | Total | Certain | Doublibil | Total | Cetbin | Doubith | Tolal |  |  |  | Certain | Doabtinu | Totat | ertain | Doubtul | Total | Cert | Doubit | Total | Certain | Dovikoly | Total | Cation | Doub | Total |
| O-Basloon | 26 | 10 | 36 | 8.2 | 3.2 | $1 / 4$ | 3 | 0 | 3 | 1 1.0 | 0.0 | 15.0 | 1 | $1^{-}$ | 6 | 9.3 | 21.7 | 26.0 | 2 | 0 | 2 | J1 | 0.0 | 5.1 |
| 1-Astromamial | 16 | 4 | 35 | 50 | 6.01 | 1110 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | , | 4 | 13.0 | 4.3 | 17.3 | 0 | 4 | 4 | 0.0 | 10.3 | 10.3 |
| 2-Aimerat | 22 | 3.5 | 107 | 22.7 | 11.0 | 13.7 | 1 | 0 | 1 | 5.0 | 0.0 | 1.0 | 4 | 1 | 5 | 17.4 | 4.3 | 21.2 | 6 | 6 | 12 | 15.4 | 15.4 | 30.1 |
| 3 Lidut Pbeman | 4 | 3 | 6 | 13 | 0.6 | 19 | 1 | 0 | 1 | 10 | 0.0 | 5.0 | 1 | 1 | 2 | 43. | 43 | 8.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Biras | 0 | 1 | 1 | 0.0 | 0.3 | 0.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 4.3 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5.clowas, Dost, etc | 0 | 2 | 2 | 0.0 | 0.6 | 0.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gmatic mo: | 23 | 0 | 26 | 6.2 | 0.0 | 8.2 | 1 | 0 | 1 | 5.0 | 0.0 | 50 | 2 | 0 | 2 | 8.7 | 0.0 | 8.7 | 8 | 0 | 8 | 20.5 | 20 | 20.15 |
| 7-Pydelogial | 6 | 2 | 8 | 1.9 | 0.6 | 2.5 | 4 | 1 | 2 | 5.0 | J.R | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2lstionm | 88 | 0 | 88 | 27.8 | 0.0 | 27.8 | 11 | 0 | 11 | 55.0 | 0.0 | r5.0. | 3 | 0 | 3 | 13.0 | 0.0 | 13.0 | 13 | 0 | 13 | 33.3 | 0.0 | 33.3 |
| 900me | 7 | 1 | 8 | 2.2 | 0.3 | 2.5 |  | - | 1 | 50 | 0.0 | 1.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 245 | 72 | 1/7 | 17\% | 22.7 | 100. | 19 | 1 | 20 | 98 | S.0 | 100. | 14 | 9 | 23 | 60.9 | 391 | 100 | 29 | 10 | 39 | 74.4 | 21.6 | 100 |


|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Coml |  |  | Number |  |  | Percent |  |  | musber |  |  | Percent |  |  | Muber |  |  | Pacat |  |  |
| Erivazaion | Certbin | Ooibtbl | Total | Certain | Dowittul | Total | Certain | Docitul | Total | Certain | Dosititu | Total | Cefria | Dobtul | Tobl | Certin | Dointul | Tate | Cation | Dovitul | Toba | Certin | Daputal | Tod |
| a-aricom | 6 | 1 | 7 | 17.6 | 2.9 | 20.5 | 2 | 0 | 2 | 14.3 | 0.0 | 14.3 | 12 | 4 | 16 | 6.4 | 2.1 | 8.5 |  |  |  |  |  |  |
| PAstrocmical | 1 | 3 | 4 | 2.9 | 8.8 | 11.2 | 1 | 1 | 2 | 7.1 | 1.1 | 142 | $1 /$ | 10 | 21 | 5.9 | 53 | 11.2 |  |  |  |  |  |  |
| 2-Airom | 6 | 0 | 6 | 17.6 | 0.0 | 17.6 | 4 | 1 | 5 | 28,6 | 2.1 | 35, | $\sqrt{7}$ | 27 | 78 | 27.3 | 14.4 | 41.1 |  |  |  |  |  |  |
| 3-List Phemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.01 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 1.1 | $0.1{ }^{-1}$ | 1.6 |  |  |  |  |  |  |
| 4 Biras | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | -0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5 Cloods Dust, et, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 1.1 | 1.1 |  |  |  |  |  |  |
| Ginsulfic. int. | $\checkmark$ | 0 | -5 | 14.7 | 0.0 | 14.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 10 | 0 | 10 | 5.3 | 0.0 | 5.3 |  |  |  |  |  |  |
| IPsycholotical | 1 | 0 | 1 | 2.9 | 0.0 | 29 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 5 | 21 | 0.5 | 2.6 |  |  |  |  |  |  |
| 8 PUhnown | 10 | 0 | 10 | 29.4 | 0.0 | 294 | 4 | 0 | 4 | 28.6 | 0.0 | 18.6 | 47 | 0 | 47 | 25.1 | 0.0 | 25.1 |  |  |  |  |  |  |
| Fother | 0 | 1 | 1 | 0.01 | 2.9 | 29 | 1 | 0 | 1 | 7.1 | 0.0 | 71 | $\sqrt{-}$ | 0 | 5 | 2.7 | 0.0 | 2.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 29 | 5 | 34 | 81.3 | 14.7 | 100 | 12 | 2 | 14 | 85.7 | 14.3 | 100 | 142 | 45 | 187 | 17.9 | 24.1 | 100. |  |  |  |  |  |  |

IABLE ALSO EUALUATION AF ALL SUGILNGS FOR ALL YEARS BY REPDRTER

| Evalualion | ALL YEAPS |  |  |  |  |  | DBNEETS |  |  |  |  |  | OVER |  |  |  |  |  | MILES PER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | 8 |  |  |  |  |  |  |  |  |
|  | Number |  |  | Percemt |  |  |  |  |  |  |  |  | Munber |  |  | Percent |  |  | Humber |  |  | Pag Cant |  |  | Muaber |  |  | Pet cant |  |  |
|  | Certain | Doobltul | Tobal | Centoin | Dosothy | Total | Certain | Davitul | Total | Centio | Dowbtal | Tolat | Certain | Doublut | Tob | Certain | Doubthu | Total | Catrin | Doouthit | Total | Certain | Daubitul | Tota |
| O-Baxloon | 24 | 31 | 25 | 3.2 | 4.1 | 2 |  | 0 | 1 | 2.6 | 0.0 | 2.6 | 2 | 5 | 7 | 4.0 | 10.0 | 14.0 | 0 | 1 | $L$ | 0.0 | 1.5 | 15 |
| 1 -Astonomical | 98 | 74 | 172 | 13.1 | 9.9 | 23.0 | 10 | 4 | 14 | 26.3 | 10.5 | 36.8 | 7 | 7 | 14 | 19.0 | 14.0 | 28.0 | 3 | 21 | 28 | 4.4 | 36.8 | 41.2 |
| 2-Aitcatt | 101 | 94 | $195^{-}$ | 13.5 | 12.5 | 26.0 | 0 | 1 | 2 | 0.0 | 53 | 1.3 | 3 | 2 | 5 | 6.0 | 4.0 | 10.0 | 6 | 7 | 13 | 8.8 | 10.3 | 19.1 |
| 3 Light Phenom | 1 | 4 | 11 | 0.9 | 0.5 | 1.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | 2.0 | 6.0 | 8.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Biicts | 5 | 2 | 7 | 0.7 | 0.3 | 10 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 1 | 1 | 2 | 2.0 | 2.0 | 40 | 2 | , | 3 | 2.9 | 15 | 44 |
| 5-Clowss, Dost, etc | 1 | 0 | 1 | 0.1 | 0.0 | 0.1 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-Insulfic. mio. | $\sqrt{4}$ | 0 | 54 | 7.2 | 0.0 | 7.2 | 2 | 0 | 2 | 1.3 | 0.0 | 5.3 | , | 0 | 5 | 10.4 | a.0 | 10.0 |  | 0 | r. | 1.4 | 0.0 | 2.4 |
| 1.Psycratogica | 7 | 3 | 10 | 0.9 | 0.4 | 1.3 | 0 | 1 | 1 | 0.0 | 2.6 | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 15 | 0.0 | 1 |
| SUnknow | 214 | - | 214 | 28.5 | 0.0 | 28.5 | 13 | 0 | 13 | 34.2 | 0.0 | 34.2 | $1 /$ | 0 | 11 | 22.0 | 0.0 | 220 | $\angle 1$ | 0 | 15 | 22.1 | 0.0 | 22. |
| 90, | 21 | 4 | 31 | 3.6 | 0.5 | 4,1 |  | 0 | 5 | 13.2 | 0.0 | 13.2 | 1 | 1 | 2 | 2.0 | 2.0 | 40 | 2 | 0 | 2 | 2.9 | 0.0 | 2.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 538 | 212 | 750 | 117 | 28.3 | 102. | 3/1 | 7 | 38 | 81.6 | 18.4 | 100. | 31 | 19 | 50 | 62.01 | 38.0 | 100. | 34 | 34 | 68 | 50.0 | 50.0 |  |



TABLE ALSL EVRLUALION RE ALL SIGHINGS FOR ALL YERRS BY REEDETER

| Evamation | A |  |  | YEARS |  |  | 1942 |  |  |  |  |  | 1948 |  |  |  |  |  |  |  | 19 | 49 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Pecat |  |  | Cetinin Dimmer |  | Toun | Pet Cont |  |  | Number |  |  | Percemt |  |  | Number |  |  | Per Cont |  |  |
|  | Coman | Doubifue | roba | cetain | Dooutmil | Tral |  |  | Cetrain |  |  |  | Doobl\| | Tobil | catain | Dowitul |  |  |  |  |
| Qasalion | e | 3 | 3 | 0.0 | 2.0 | 2.0 | 0 | 0 |  | 0 | 2. 0 | 0.0 |  |  |  | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astiomaxial | 5 | 34 | 91 | 38.3 | 22.8 | 611 | 3 | - | 3 | nae | 0.0 | 100. | 6 | 7 | 13 | 37.5 | 438 | 813 | 0 | 6 | 6 | 0.0 | 100 |  |
| 2-Actat | 10 | 2 | 12 | 6.7 | 13 | 8.0 | 0 | 0 | 0 | ee | 0.0 | 0.0 | , | 0 | 0 | 0,0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Ligtt Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot 0$ | e | 0 | - | ee | 0.0 | 0.0 | 0 | $\bigcirc$ | - | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4-Birss | 0 | 1. | 1 | 0.0 | 27 | 0.7 | 0 | 0 | - | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| 5 clious Dust etc | 1 | 0 | 1 | 0.2 | 0.0 | 0.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0,0 | 0 | 0 | 0 | 0.0 | 0.0 |  |
| Stansilic mbe. | 9 | 0 | 9 | 6.0 | 0.0 | 6.0 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | $0: 0$ | 0 | - | - 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20.0. |
| 1.Psycralofial | 0 | , | 1 | 0.0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | eo | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 |  |
| 2unimam | 22 | 0 | 27 | 18.1 | 0.0 | 18.1 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 18.7 | 0.0 | 18.7 |  | 0 | 0 | 0. | 0.0 | 0.0 |
| 20mer | 4 | $\bigcirc$ | 4 | $2 \cdot 7$ | 0.0 | 2.2 | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | $\bigcirc$ | 0 | 0.0 | 0.0 | e | 0 | 0 | d. 0 | 0. |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 108 | 4) | 149 | 27.5 | 27.5 | 100. | 3 | 0 | 3 | 1000 | 0.0 | 100. | 9 | 7 | 16 | 58.2 | 43.8 | 100. | 0 | 6 | 6 | 0.0 | 100.0 | 100. |


|  | 1950 |  |  |  |  |  | $19 \sqrt{1}$ |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pectent |  |  | Number |  |  | Per Cent |  |  | Nunber |  |  | Per Cent |  |  | Aumber |  |  | Percent |  |  |
| Evaluation | Cetrain | Oovbitos | Total | Centain | Doubtrul | Total | Ceratain | Doubtuit | Total | Centain | Doubthil | Total | Centain | Doubtrol | Tolal | Certain | Doubtral | Toxal | Certain | Doubtiol | Total | Certain | Dabitul | Total |
| Q.8nlion | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 3 | 3 | 0.0 | 3.1 | 1.1 |  |  |  |  |  |  |
| 1-Astormmical | 9 | 7 | 16 | 56.6 | 43.8 | 100.0 | 3 | 3 | 6 | 30.0 | 30.0 | 60.0 | 36 | 11 | 47 | 56.7 | 11.2 | 419 |  |  |  |  |  |  |
| 2-Airratt | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 10 | 2 | 12 | 10.2 | 2.0 | 12.2 |  |  |  |  |  |  |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e. 0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 4 Binds | 0 | 0 | 0 | 0.0 | ce | 0.0 | 0 | 0 | - | 0.0 | 0.0 | 40 | 0 | 1 | 1 | 0.0 | 1.0 | 1.0 |  |  |  |  |  |  |
| 5-Clouds, Ous, elc | 0 | 0 | 0 | 0.0 | 0.0 | 8e | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.0 | 0.0 | 1.0 |  |  |  |  |  |  |
| Grinsultic. mino. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 10.0 | 0.0 | 10. | 8 | 0 | 8 | 8.2 | 0.0 | 8.2 |  |  |  |  |  |  |
| 7.Psychological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.0 | 10 |  |  |  |  |  |  |
| BUUnkom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 20.0 | 0.0 | 20.0 | 22 | 0 | 22 | 22.4 | 0.0 | 224 |  |  |  |  |  |  |
| Souner | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 10.0 | 0.0 | 10. | 3 | 0 | 3 | 3.1 | 0.0 | 3.1 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | . |  |  |  |  |  |  |
| Tota | 9 | 7 | 16 | 56.2 | 43.8 | cog | 7 | 3 | 10 | 170.0 | \$0.0 | 100. | 80 | 18 | 98 | 816 | 18.4 | 100 |  |  |  |  |  |  |

TRGLE ALSZ EKALUATINN RE ALL SLGATLNGS EDR ALL YEARS BY REPRETED


| Evalusion | 190 |  |  |  |  |  | 19 |  |  |  |  |  | 1952 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humbee |  |  | Per Cort |  |  | Kumber |  |  | Pert Cent |  |  | Number |  |  | Per Cent |  |  |  |  |  | Per cent |  |  |
|  | Centain | Doubtrou | Tolai | Cendin] | Doubliur | Total | Cettin | boubtion | Tobis | Ceriain | Dousituol | Total | Cention | Doubthol | rotal | Certsin | Doubtiul | Yotal | Ceration | Doobtioi | Total | Cembin | Doubtual | Told |
| O-Balloon | 10 | $1{ }^{-1}$ | 15 | 6.7 | 3.4 | 10.4 | 2 | 3 | 1 | 2.7 | 9.1 | 68 | 53 | 40 | 93 | 7.2 | 5.4 | 12.6 |  |  |  |  |  |  |
| 1-Astionomial | 31 | 6 | 37 | 20.8 | 40 | 28.8 | 6 | 8 | 14 | 81 | 10.8 | 189 | 119 | 45 | 164 | 16.2 | 6.1 | 22.3 |  |  |  |  |  |  |
| 2-A Alcratt | 18 | $1 /$ | 29 | 12.1 | 14. | 19.5 | 6 | 4 | 10 | 8.1 | 5.4 | 13.5 | 71 | 89 | 160 | 92 | 12.1 | 218 |  |  |  |  |  |  |
| 3 Light Pnemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 1.4 | 14 | 28. | 15 | 9 | 24 | 20 | 1.2 | 3.2 |  |  |  |  |  |  |
| 4 4.Bids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.4 | 14 | $\sqrt{2}$ | 3 | 8 | 0.2 | 0.4 | 1.1 |  |  |  |  |  |  |
| 5 Clouds, oust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | 0.1 | 0.4 | 25 |  |  |  |  |  |  |
| Erinsuffic mb. | 34 | 0 | 34 | 228 | 0.0 | 22.8 | 12 | 0 | 12 | 16.2 | 0.0 | 16.2 | 89 | 0 | 89 | 12.1 | 0.0 | 12.1 |  |  |  |  |  |  |
| 7.Psyctolotical | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 0 | , | 1.4 | 0.0 | 14 | 7 | 3 | 10 | 1.0 | 04 | 1.4 |  |  |  |  |  |  |
| FUnknoum | 28 | 0 | 28 | 188 | 0.0 | 18.8 | 26 | 0 | 26 | 3.2 | 0.0 | 351 | 142 | 0 | 142 | 19.3 | 0.0 | 19.3 |  |  |  |  |  |  |
| 9.9 the | 4 | 2 | 6 | 2.7 | 13 | 4.0 | 3 | 0 | 3 | 4.1 | 0.0 | 4.1 | 26 | 14 | 40 | 3.5 | 1.9 | 5.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolad | 12.5 | 24 | 149 | 83.9 | 16.1 | 100. | 57 | 17 | 74 | 77.0 | 23.0 | 100. | 528 | 206 | 734 | 71.9 | 28.1 | 100. |  |  |  |  |  |  |

TARE AISB EVALUATIAN AE UNI SIGHTLNGS FRR ALL WEARS AV RERORTER

|  | ALL EAPS |  |  |  |  |  | 1947 |  |  |  |  |  | 1948 |  |  |  |  |  | 1949 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumbee |  |  | Per Cont |  |  | Nunter |  |  | Petcont |  |  | Number |  |  | Percent |  |  | Nunber |  |  | Per Cent |  |  |
| Evalution. | Cefsin | Doubtrou] | Tolis | Cerima | Doubltal\| | Tolal | Certain | Daubtry | topal | Cetan | [Dosotui] | Total | Cettain |  | Toial | Cention | Dosobltu] | Total | Cerroin | Dosistiol | Total | Cortin | Dowblul | Todal |
| a-batilom | 71 | A | 116 | 10.6 | 13.1 | 33.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0,0 | 2 | 1 | 3 | 16.7 | 8.3 | 250 | - | 0 | 1 | $\sqrt{6} .6$ | 0.0 | 5.6 |
| 1-Astromonical | 36 | 24 | 60 | 10.5 | 70 | 175 | - | 2 | 2 | e0 | 100.0 | 100.0 | 4 | 1 | 5 | 33.3 | 8.3 | 41.6 | 5 | 5 | 10 | 278 | 278 | 55.6 |
| 2-Aictert | 25 | 17 | 42 | 7.3 | 4.9 | 12.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | 1 | 2 | 5.6 | 5.6 | 11.2 |
| 3 Limt Pherom. | 4 | 3 | 7 | 1.2 | 0.9 | 2.1 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 40 |
| 4 4-Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Cloods, Dust etc | 1 | 4 | 5 | 0.3 | 1.2 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Ginsatic mo: | 26 | 0 | 26 | 76 | 20 | 76 | 0 | 0 | 0 | 08 | 20 | 0.0 | 2 | 0 | 2 | 14.7 | 0.0 | 16.7 | 2 | 0 | 2 | 111 | 0.0 | 11.1 |
| 7.Psotabgial | 4 | 1 | 10 | 2.6 | 0.3 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 |
| 4Unksom. | 62 | 0 | 62 | 18.0 | 0.0 | 18.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0,0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 121 | 0.0 | $11 / 1$ |
| gomer | 10 | 6 | 16 | 2.9 | 1.7 | 4.6 | 0 | 0 | 0 | 12.0 | 0.0 | 0.0 | 1 | $L$ | 2 | 8.3 | 8.3 | 166 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 244 | 100 | 34.4 | 709 | 29.1 | 100. | 0 | 2 | 2 | 0.0 | 100.0 | 100.1 | 9 | 3 | 12 | 75.0 | 25.01 | 100. | 12 | 6 | 18 | 66.7 | 33.3 | 100. |


| Evaluation | 1950 |  |  |  |  |  | 19,1 |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  | Munber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per Cent: |  |  | Munber |  |  | Patent |  |  | Nunber |  |  | Per cent |  |  |  |  |  | Per cent |  |  |
|  | Certain | Docutbut | Total | Cetrain | Doubtul | Total | Certin | Bowitiol | Tolat | Cettion | Ooubthil | Tola | Cettoin | Dovothil | Total | Centin | Dosition | Total | Costain | Doudtul | Tobi | Catain | Daubtol | Todal |
| a-basloon | 6 | 0 | 6 | 353 | 0.0 | 15.3 | 3 | 0 | 3 | 21.0 | 0.0 | $2<16$ | 59 | 44 | 103 | 20.9 | 14.5 | 36.4 |  |  |  |  |  |  |
| 1-Astronomical | 5 | 0 | J | 294 | 0.0 | 29.4 | 2 | 1 | 3 | 16.7 | 8.3 | 25.0 | 20 | 15 | 35 | 71 | 5.3 | 12.1 |  |  |  |  |  |  |
| 2-Aitrat | 0 | 0 | 0 | 0.0 | 00. | 0.0 | , | 1 | 2 | 8.3 | 1.3 | 16.6 | 23 | 15 | 38 | 8.1 | r. 3 | 13.4 |  |  |  |  |  |  |
| 3-Limt Phemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 3 | 7 | 1.4 | 1.1 | 2.5 |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5 SClowds Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | $\angle$ | 4 | 5 | 0.4 | 1.4 | 1.8 |  |  |  |  |  |  |
| 6-1nsitfic. mb. | 2 | 0 | 2 | $1 / 8$ | 0.0 | 11.8 | 1 | 0 | 1 | 8.3 | 0.0 | 8.5 | 19 | 0 | 19 | 6.7 | 0.0 | 6.7 |  |  |  |  |  |  |
| 7.Psyctrolofican | 1 | 0 | 1 | 19 | 0.0 | 5.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 1 | 8 | 2.5 | 0.4 | 2.7 |  |  |  |  |  |  |
| 8 Sunkom | 2 | 0 | 2 | 118 | 0.0 | 11.8 | 3 | 0 | 3 | 2, ${ }^{0} 0$ | 0.0 | 250 | 5 | 0 | 15 | 194 | 0.0 | 199 |  |  |  |  |  |  |
| Yother | 0. | 1 | 1 | 0.0 | $1: 9$ | 59 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 9 | 4 | 13 | 3.2 | 1.4 | 46 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todid | 16 | 1 | 17 | 94.1 | 1.9 | 100 | 10 | 2 | 12 | 83.3 | 16.7 | 100 | 192 | 86 | 283 | 696 | 30.4 | 100 |  |  |  |  |  |  |

TABLE ALEA EVALVATION DE UMT SLGHTINGS FOR ALL YEARS BL RERDELEA

| SPEEDS |  |  |  |  |  |  | of |  |  |  |  | LES | 5 than |  |  | NE | HUR |  |  | MUES |  | pee hove |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  | 47 |  |  |  |  | 19 | Per cent |  |  |  |  |  | 49 Percons |  |  |
|  | Humber |  |  | Per Cent |  |  | Nunber |  |  | Pacont |  |  | Number |  |  |  |  |  | Humber |  |  |  |  |  |
| Evalution | Centin | Doubtitul | Toti | Centain | [Dabiltu] | Total | Certain | Dastiol | Tolad | Centain | Doobttul | Total | Certain | Doubtuil | Total | Cerlain | Doubltul | Total | Centain | Doultay | Total | Certain | Dasubful | Tolad |
| Q-balloon | 42 | 27 | 74 | 22.9 | 13.2 | 36.4 | 1 | 0 | 1 | 50.0 | 0.0 | 50.0 | 8 | 1 | 9 | 42.1 | 03 | 474 | 1 | 2 | 3 | 5.6 | 11.1 | 16.7 |
| 1-Astrenomical | 20 | 11 | 31 | 9.8 | 1.4 | 15.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 1 | 5 | $21 / 1$ | 13 | 6. | 6 | 2 | 8 | 33.3 | 111 | 44.4 |
| 2-Aitcraft | 18 | 21 | 39 | 8.8 | 10.2 | 19.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 5.3 | 13 | 10.6 | 0 | 2 | 3 | 0.0 | 111 | 11.1 |
| 3-Ligti Pramen. | 0 | 3 | 3 | 00 | 15 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| 4 - 1 inds | 3 | 1 | 4 | 1.5 | 0.5 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dist etc. | 1 | 1 | , | 0.5 | 0.5 | 1.0 | O | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| GInsulfic, Mro. | 6 | $\bigcirc$ |  | 29 | 0.0 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | < | 0 | 1 | 56 | 0.0 | 6.6 |
| 7.Psychologica | 2 | 0 | 2 | 10 | 0.0 | (.0) | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 |
| 8-Undeown | 33 | 0 | 33 | 16.1 | 0.0 | 16.1 | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 1 | 0 | 1 | $\checkmark \cdot 3$ | 0.0 | 5.3 | 3 | 0 | 3 | 16.7 | 0.0 | 16.7 |
| 90ther | 8 | 3 | 11 | 3.9 | 1.5 | 5.4 | , | 0 | 1 | 10.0 | 0.0 | 50.0 | 0 | 2 | , | 0.0 | 10.5 | 10.5 | -1 | 0 | $\angle$ | 5.6 | 0.0 | 15.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 138 | 67 | 20.7 | 67.3 | 32.7 | (10) | 2 | 0 | 2 | Vans | 0.0 | 10 | 14 | 5 | 19 | 73.7 | 26.3 | 100 | 12 | 6 | 18 | 667 | 33.3 | 100. |


| Erduation | $19 \sqrt{0}$ |  |  |  |  |  | $19 \sqrt{1}$ |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mamea |  |  | Patcont |  |  | Aumber |  |  | Percont |  |  | Nunber |  |  | Per Cent |  |  |  |  |  | Percent |  |  |
|  | Centain | Dovithul | Tolal | Certain | Douthel | Total | Certain | Dovotin] | Tobal | Ceftain | Doatitiol | Totat | Ceftin | [Dositul | Total | Certain | Doubtul | Total | Certain | Doubtiol | Total | Centin | Doubthol | Total |
| O-Balloon | 4 | 1 | 5 | 21.1 | 5.3 | 26.4 | $\lambda$ | 0 | / | 25.0 | 0.0 | 25.0 | 32 | 23 | 55 | 22.4 | 16.1 | 38.5 |  |  |  |  |  |  |
| 1-Astimonomial | 1 | 0 | 1 | - -3 | 0.0 | 5, 5 | 0 | 1 | C | 0.0 | 250 | 210 | 9 | 7 | 16 | 6.3 | 4.9 | 41.2 |  |  |  |  |  |  |
| 2-Aitclat | 5 | 0 | 5 | 26.3 | 00 | 263 | 1 | 0 | 1 | 25.0 | 0.0 | 25.0 | $1 /$ | 18 | 29 | 7.7 | 12.6 | 203 |  |  |  |  |  |  |
| 3-Light Pheom, | 0 | 0 | 0 | 0.0 | 0.01 | 0.01 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 3 | 3 | 0.0 | 2.1 | 2.1 |  |  |  |  |  |  |
| 4 - Birds | 0 | 0 | 0 | 20 | 0.0 | 0.01 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 1 | 4 | 2.1 | 0.1 | 2.8 |  |  |  |  |  |  |
| S-Clouds, Dust, etr. | 0 | 0 | O | 00 | 0.0 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.7 | 0.7 | 14 |  |  |  |  |  |  |
| GTasufic mic. | / | 0 | 7 | 5 | 1.0 | 5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 2.8 | 0.0 | 2.8 |  |  |  |  |  |  |
| 7.Pydmologican | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 1.4 | 00 | 1.4 |  |  |  |  |  |  |
| 84denom | 6 | 0 | 6 | 31.6 | 0.0 | 31.6 | 1 | 0 | 7 | 260 | 0.0 | 250 | 22 | - | 22 | 13.4 | 0.0 | 13,4 |  |  |  |  |  |  |
| 90 Hem | 1 | 0 | 1 | 1.3 | a.0 | 53 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | ${ }^{-1}$ | 1 | 6 | 3.5 | 0.7 | 4.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 18 | 1 | 19 | 94.7 | 5.3 | 100 | 3 | 1 | 4 | 75.0 | 25.0 | 100. | 89 | 54 | 143 | 42 | 378 | 100. |  |  |  |  |  |  |

TRBLE AISS EUALVATEN OF UNT SLGHTLNGS FRR ALL YEARS BY REPORTER

| Evalution | $A L L$ YEAPS |  |  |  |  |  | 1947 |  |  |  |  |  | 19.48 |  |  |  |  |  | 1949 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Pet Comt |  |  |  |  |  | Percent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Pectemi |  |  |
|  | Centan | Dooutatal | Totar |  |  |  | Fibin | Dewothon | Total | Celatin | Douttron | Total |  |  |  | Cexim | Douthon |  |  |  |  |
| QBallom | 2 | 8 | 29 | 8.0 | 3.0 | 120 |  |  |  | 3 | 0 | 3 | 18.8 | 0.0 | 18.8 | 1 | 4 | 5 | 5.0 | 20.0 | 250 | $\Sigma$ | 0 | 2 | 8.7 | 0. | 8.7 |
| 1-Astrommial | 16 | 17 | 33 | 6.1 | 6.4 | 12.5 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 1 | 4 | 18.0 | 5.0 | 20.0 | $\bigcirc$ | 2 | 2 | 2.0 | 8.2 | 8.7 |
|  | 64 | 22 | 91 | 24.2 | 10.2 | 34.4 | 1 | 0 |  | 6.2 | 0.0 | 6.2 | 4 | , | $\checkmark$ | 20.0 | 5.0 | 20:0 | 4 | 2 | 6 | 174 | 8.2 | 26.1 |
| 3-Lime Phemm. | 4 | 1. | 5 | 1.5 | 0.4 | 1.9 | 1 | 0 | 1 | 6.2 | $0 \cdot$ | 6.2 | 1 | 0 | 1 | 50 | 0.0 | S. | 0 | 0 | 0 | 0. | $0 \cdot$ | 0.0 |
| 4, binds | 0 | 1 | 1 | 0.0 | 0.4 | 0.4 | -0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 5.0 | 5.o | 0 | 0 | 0 | 0 | 0.0 | le |
| 5 clouds, Ous | 0 | 2 | 2 | $0 \cdot 0$ | 0.8 | 0.8 | - | 0 | 0 | 0.0 | 0.0 | l.e | 0 | 0 | $\bigcirc$ | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Gramytic | 25 | 0 | 2 s | 9.5 | 0.0 | 9.5 | - | 0 | 1 | 6.2 | 0.0 | L. 2 | 2 | 0 | 2 | 10. | 0.0 | 10.0 | 8 | - 0 | 8 | 34.8 | 0.0 | 34.8 |
| 2.Prycrolesial | , | 2 | 8 | 2.3 | 0.8 | 3.1 | L | 1 | 2 | 621 | 6.2 | 124 | $\bigcirc$ | 0 | - | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0. | 0.0 |
| a anomem | 62 | 0 | 62 | 23.5 | 0.0 | 23. | 2 | 0 | 7 | 43.8 | 10.0 | 43.8 | 2 | $\bigcirc$ | 2 | 10.0 | 0.0 | 10.0 | $\checkmark$ | 0 | 5 | 21.7 | 0.0 | 217 |
| 9 Pother | , | 1 | 8 | 2.2 | 0.4 | 3.1 | - | 0 | 1 | 6.2 | 0.0 | 6 | 0 | 0 | 0 | 0.0 | 0.0 | . 0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota) | 205 | 59 | 26 |  |  |  | 15 | 1 | 16 | 93.8 | 6.2 | \% | 13 | 7 | 20 | So |  |  | 19 | 4 | 23 | 82.6 | 17.4 |  |


| Evaluation | 19j-0 |  |  |  |  |  | 1951 |  |  |  |  |  | 19.2 |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | numbes |  |  | Pes Cent |  |  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  |  |  |  | Percant |  |  |
|  | Centain | Dovistul | Total | Certain | Doubttul | Tolal | Cerain | Doubtiol | Total | Certain | Doubthol | Total | Certain | Docestul | Total | Certain | Dosidtu: | Total | Certain | Doubltul | Total | Certain | Doubthis | Total |
| O-Bailoon | - | 1 | 2 | 4.0 | 40 | 8.0 | 2 | 0 | 2 | 16.4 | 0.0 | 15.4 | 12 | 3 | 15 | 2.2 | 1.8 | 9.8 |  |  |  |  |  |  |
| 1-Astommical | 1 | 3 | 3 | 40 | 12.0 | 16.0 | 1 | 1 | 2 | 77 | 7.7 | 15.4 | 11 | 10 | 21 | 6.6 | 6.0 | 12.6 |  |  |  |  |  |  |
| 2-Aictaft | 6 | 0 | 6 | 24.0 | 0.0 | 29.0 | 4 | 1 | 5 | 30.8 | 7.7 | 38.5 | 4 | 23 | 68 | 26.9 | 13.8 | 40.7 |  |  |  |  |  |  |
| 3-Light Pherom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | eo | 2 | 1 | 3 | 1.2 | 0.6 | 1.8 |  |  |  |  |  |  |
| 4 Birds . | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | De | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 5-Clouds, Dust, elc. | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.e | 00 | 0 | 2 | 2 | 0.0 | 1.2 | 1. |  |  |  |  |  |  |
| G-insulitic. Into. | 5 | 0 | 5 | 20.0 | 0.0 | 20.0 | 0 | 0 | 0 | -a | 0.0 | 0.0 | 9 | 0 | 9 | 5.4 | 0.0 | 54 |  |  |  |  |  |  |
| 2.Psycmological | 1 | 0 | 1 | 4.0 | 0,0 | 4.0 | 0 | 0 | 0 | ee | 0.0 | 0.0 | 4 | 1 | 5 | 2.4 | 0.6 | 3.0 |  |  |  |  |  |  |
| 8. Unknom | 6 | 0 | 6 | 24.0 | 0.0 | 24.0 | 3 | 0 | 3 | 23.1 | 0.0 | 231 | 39 | 0 | 32 | 23.4 | 0.0 | 234 |  |  |  |  |  |  |
| 9-0ther | 0 | 1 | 7 | 0.0 | 4.0 | 4.0 | 1 | 0 | 1 | 7.7 | 0.0 | 77 | - | 0 | 5 | 3.0 | 20. | 30 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 20 | 5 | $2{ }^{-}$ | 80.1 | 20.0 | 100. | $1 /$ | 2 | 13 | 84.6 | 15.4 | 101. | 127 | 40 | 1671 | $7 \% .0$ | 24.0 | com |  |  |  |  |  |  |

TARLE AISG EVALIATION OF UNU SLGHTINGS FRR QLL YEARS RZ VEPRRTER

|  | ALL Y/EATS SPEES |  |  |  |  |  | OBJECTS, QVE |  |  |  |  |  | Foue |  |  |  |  |  | MILES |  | pep | Hove |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | 1 | Percent |  |  |  |  | 19 | ${ }^{48}$ |  |  |  |  | 19 | 49 |  |  |
|  | Number |  |  | Per Comt |  |  | Nunber |  |  |  |  |  | Nunber |  |  |  |  |  | Number |  |  | Percmit |  |  |
| Evaluation | Certain | Doubtul | Tobi | Certain | Davital | Tolal | Cerbin | Dowital | Tobl | Cettain | Doubtiol | Tota | Sertain | Doubtril | Total | Certain | Doubstul | Total | Certain | Doubitul | Total | Certain | Dabitul | Total |
| Q-Balloon | 20 | 20 | Yo | 3.3 | 3.3 | 6.4 | 1 | 0 | 1 | 2.9 | 0.0 | 2.9 | - | 1 | 3 | 29 | 2.9 | 5.8 | 0 | 1 |  | 0.0 | 1.9 | 1.9 |
| 1.Astoromical | 84 | 61 | 1 | 13.8 | 10.0 | 23. | 6 | 4 | 10 | 17.6 | 11.8 | 29,4 | 4 | 6 | 10 | 11.8 | 176 | 28.4 | 2 | 21 | 23 | 3.8 | 40,4 | 12.2 |
| 2 2-Aictarl | 82 | 81 | 168 | 14.3 | 13.3 | 27.6 | 0 | 2 | 2 | 20 | 5.9 | 5.8 | 3 | 1 | 4 | 8.8 | 2.9 | 11.7 | 6 | 5 | $1 /$ | 11.5 | 9.6 | 21.1 |
| 3-Lighl Phenom | 7 | 3 | 10 | 11 | 0.5 | 1.6 | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 1 | 2 | 3 | 2.9 | 5.9 | 1.8 | 0 | 0 | 0 | 0.0 | 0.0 | 2. 0 |
| 4 - ${ }^{\text {irds }}$ | 3 | 2 | 5 | 0.5 | 0.3 | 0. 8 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 1 | 1 | 2 | 2.9 | 2.5 | 5.8 | 0 | 1 |  | 0.0 | 1.9 | 1.9 |
| 5-Clouds, Dusit en | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -0 | 0 | , | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-1nsulfic. Lnto. | 48 | 0 | 48 | 79 | 0.0 | 29 | 2 | 0 | 2 | J"9 | 0.0 | 59 | 4 | 0 | 4 | 11.8 | 0.0 | 11.8 | - | 0 | 5 | 9.6 | 0.0 | 8.6 |
| 7.Psychiological | 7 | 3 | 10 | $1 / 1$ | 0.5 | 1.6 | 0 | 1 | 1 | 0.0 | 29 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | C | 1.9 | 0.0 | 1.9 |
| $8.4 n k n 00 \mathrm{~m}$ | 153 | 0 | 153 | 25.1 | 0.0 | 25.1 | 13 | 0 | 13 | 38.2 | 0.0 | 38. | 2 | $\bigcirc$ | 7 | 20.6 | 0.0 | 20.6 | 9 | 0 | 9. | 17.3 | 0.0 | 12.3 |
| 9-0ther | 26 | 4 | 30 | 4.3 | 0.7 | 5.0 | $\sim$ | 0 | 5 | 14.7 | 0.0 | 14.2 | -1 | 1 | 2 | 2.9 | 29 | 5.8 | 1, | 0 |  | 19 | 0.0 | 1.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 435 | 174 | 609 | 71.4 | 28.6 | 100. | 271 | 7 | 34 | 794 | 20.6 | 100. | 22 | 12 | 34 | 64.7 | 35.3 | 1001 | 24 | 28 | 52 | 46.2 | 13.8 | 100 |


|  | 1950 |  |  |  |  |  | 1851 |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Aluber |  |  | Pet Cent |  |  | Number |  |  | Percent |  |  | Nurbes |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  |
| Evaluation | Cerlin | Dooubtol | Total | Certain | Doubthol | Total | Certain | Doustrul | Total | Cerbiain | Doubtiol | Total | Cetain | Dowbttil | Total | Certain | Doubthin | Total | Cettion | Doaibtul | Total | Certain | Doustht | Total |
| O-Ballion | 3 | 0 | 3 | 7.9 | 0.0 | 2.9 | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 14 | 18 | 32 | 3.3 | 4.3 | 26 |  |  |  |  |  |  |
| 1.Astronomical | 2 | 4 | 6 | d.3 | 10.5 | 15.8 | 10 | $\bigcirc$ | 10 | 34.5 | 0.0 | 34, | 60 | 26 | 86 | 14.2 | 6.1 | 20.3 |  |  |  |  |  |  |
| 2-Aitreath | 2 | 4 | 11 | 18.4 | 10.5 | 18.7 | 4 | 2 | 6 | 13.8 | 6.9 | 20.7 | 67 | 67 | 134 | 15.9 | 15.9 | 318 |  |  |  |  |  |  |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | , | 3.4 | 00 | 5. 4 | $\cdots$ | 1 | 6 | 12 | e.2 | 1.4 |  |  |  |  |  |  |
| $4-$ Birts | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 0.1 | 0.0 | 0.5 |  |  |  |  |  |  |
| S-Clowds, Oush etc. | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 0 | ㅇ. | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| G-insutic mo. | 3 | 0 | 3 | 7.9 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 34 | 0 | 34 | 8.1 | 0.0 | 8.1 |  |  |  |  |  |  |
| 7.Pyycrological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 3.4 | 3.4 | 6 | 1 | 7 | 1.4 | 0.2 | 1.6 |  |  |  |  |  |  |
| Bumbsown | 11 | 0 | II | 289 | 0.0 | 28.9 | 7 | 0 | 7 | 24.1 | 2. 0 | 24.1 | 106 | 0 | 106 | 25.1 | 0.0 | 25,1 |  |  |  |  |  |  |
| Sother | 2 | 2 | 4 | 5.3 | $5: 3$ | 10.6 | 3 | 0 | 3 | 10.3 | 0.0 | 103 | 14 | 1 | 15 | 3.3 | 0.2 | 3.5 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 28 | 10 | 38 | 73.7 | 26.3 | 100 | 26 | 3 | 29 | 89.1 | 10.3 | 100 | 308 | 114 | 422 | 73.0 | 22.0 | 100. |  |  |  |  |  |  |

TABLE ALS7 EVAGKATION OF UNLT SLGATLNGS FOR ALL YEARS BY REPORTER

|  | ALL YEARS |  |  |  |  |  | ORVECTS |  |  |  |  |  | METEOR-LKE S |  |  |  |  |  | SPEED 5 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | 19 | Pet Cent |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | *min |  |  | Percat |  |  | Number |  |  |  |  |  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  |
| Evalution | Ceritan | Doubtul | Total | Centain | Doubtul | Totai | Certain | Douthoi | Tobat | Cerain | Doustitul | Toter | Certan | Ooubtify | Total | Certain | Doubitul | Toti | Centain | Doubthol | Total | Certain | Doubtion | Tona |
| Q-sallion | 0 | 2 | 2 | 0.0 | 1.6 | 16 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | Q | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomial | 48 | 31 | 79 | 39,3 | 25.4 | (4.7 | 1 | 0 | , | 100. | $\underline{1}$ | 100.0 | 6 | 6 | 13 | 42.9 | 42.9 | 858 | 0 | 1 | 6 | 2.0 | 100.0 | - |
| 2.Alcrat | 6 | 2 | 8 | 4.9 | 16 | 6.5 | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $3-$ Light Premo | 0 | $\bigcirc$ | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {-iids }}$ | 0 | 1 | 1 | Qe | 08 | 18 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | en | 0.0 | 0.0 | 0 | 0 | \% | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust, etc | 1 | 0 | 1 | 0.8 | 20 | 08 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | $\dot{d}$ | 0.0 | 0.0 | 0.0 |
| Grinsuticic. mo. | 9 | 0 | 9 | 14 | 0.0 | 74 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 7.Psycologial | 0. | 1 | 1 | 0.0 | 0.8 | 08 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| S-Unknom | 18 | 0 | 18 | 14.8 | 0.0 | 14.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 14.3 | 0.0 | 14.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Yother | 3 | 0 | 3 | 2.5 | 0.0 | 2.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | \& | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 | 14 |  |  |  |  |  |  |  |  |  |


|  | 19,0 |  |  |  |  |  | 1951 |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  | Number |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Nunber. |  |  | Per Cont |  |  | Number |  |  | Paxcent |  |  |  |  |  | Per Cart |  |  |
| Evaluation | Certain | Doubtol | Tolat | Cerisin | Doubten | Total | Certain | Doubtiol | Tolal | Certain | Oowtful | Total | Certain | Doubthul | Total | Certain | Doubtul | Toxal | Certan | Dooubtiof | Total | Certain | Doubtiol | Total |
| O-Balloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 2.6 | 2.6 |  |  |  |  |  |  |
| 1-Aslonomical | 9 | 5 | 14 | 64.3 | 35.1 | 100.0 | 2 | 3 | 6 | 122.2 | 33.3 | 55.5 | 30 | 11 | 41 | 38.5 | 14.1 | 52.6 |  |  |  |  |  |  |
| 2-aicrath | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 2 | 8 | 1.1 | 2.6 | 10.3 |  |  |  |  |  |  |
| 3-LLegt Pherom. | 0 | 0 | - | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| \| 4 -irds | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.3 | 1.3 |  |  |  |  |  |  |
| S-Ciouds, Oost etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | e | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.3 | 0.0 | 1.3 |  |  |  |  |  |  |
| Grinsulfic. Into. | 0 | 0 | $a$ | 0.0 | 0.0 | 0,0 | 1 | 0 | 1 | 11.1 | 0.0 | 11.1 | 8 | 0 | 8 | 10.3 | 0.0 | 10.3 |  |  |  |  |  |  |
| 37.Psychiological | 0 | 0 | 0 | 20. | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 1 | 1 | 10.0 | 13 | 1.3 |  |  |  |  |  |  |
| 8-Unknown | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 22.2 | 0.0 | 22.2 | 14 | 0 | 14 | 119 | 0.0 | 17.9 |  |  |  |  | $\cdots$ |  |
| 9-0ther | 0 | 0 | $\theta$ | 0.0 | 0.0 | 0.0 | 1 | 0 | $\cdots$ | $1 / 1$ | 0.0 | K1/ | 2 | 0 | 2 | 2.6 | 0.0 | 2.6 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 9 | 5 | 14 | 64.31 | 35.7 | 100. | 6 | 3 | 9 | 16.7 | 33.3 | leo | 61 | 17 | 78 | 78.2 | 21.8 | cad |  |  |  |  |  |  |


|  | TABLE |  | ELALUATION |  |  |  |  |  | Of | untT |  | SlGHTLNES |  |  |  | foe | ALS |  | P |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | peep | 1947 |  |  |  |  |  | Spe | EES |  | Not |  |  |  |  |  |  |  |  |
|  | ALL YEAPS |  |  |  |  |  |  |  |  |  |  |  | 1948 |  |  |  |  |  | 1949 |  |  |  |  |  |
|  | Number |  |  | Pectern ${ }^{-}$ |  |  | Number |  |  | Percent |  |  | Nunbet |  |  | Pet Cent |  |  | Number |  |  | Per Cont |  |  |
| Evaluation | Certain | Doubtrul | rolal | Centain | Dowithl | Total | Certain | Douthil | Tolal | Cettain | Doobtuil | Tota | Ceitain | Doubthil | Total | Certain | Doubital | Total | Cerin | Doclitul | Tolal | Certain | Daubthil | rota |
| O-Balloon | 69 | 49 | 118 | 6.8 | 4.9 | 11.7 | 2 | 0 | 2 | 4.8 | 0.0 | 18 | 2 | 3 | 5 | 3.7 | 5.6 | 2.3 | 7 | 0 | 7 | 59 | 0.0 | S. |
| 1-Astronomical | 179 | 112 | 291 | 177 | 11.1 | 28.8 | 12 | 2 | 14 | 28.6 | 4.8 | 33,4 | 7 | 12 | 19 | 13.0 | 22.2 | 35.2 | 21 | 44 | 61 | 17.6 | 31.0 | 54.6 |
| 2-Aitcrath | 92 | 87 | 129 | 9.1 | 8.6 | 17.7 | -1 | 0 | 1 | 2.4 | 0.0 | 2.4 | 2 | 1 | 8 | 13.0 | 1.9 | 14.9 | 1 | 2 | 9 | J.9 | 1.7 | $\underline{76}$ |
| 3:Light Phenom. | 17 | 11 | 28 | 17 | 1.1 | 28 | 1 | 0 | 1 | 2.4 | 0.0 | 24 | 0 | 1 | 1 | 0.0 | 1.9 | 19 | 0 | 0 | 0 | 0.0 | 0.0 | Q 0 |
| 4 -8irts | 7 | $j$ | 12 | 0.7 | 0.5 | 1.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2. | 1.9 | 19 | 3.8 | 2 | 0 | 2 | 1.7 | 0.0 | 7 |
| 5.Clouds, Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | - | 0 | 0.0 | 0.0 | 0.0 |
| Glasulific. mino. | 147 | 0 | 147 | 14.6 | 0.0 | 18.6 | 9 | 0 | 9 | 21.4 | 0.0 | 21.4 | 9 | 0 | 9 | 16.7 | 0.0 | 167 | 12 | 0 | 17 | 14.3 | 0.0 | 14.3 |
| 7.Psyctologial | 12. | 2 | 14 | 1.2 | 0.2 | 14 | 2 | 0 | 2 | 4.8 | 0.0 | 4.8 | -1 | 0 | 1 | 1.9 | 0.0 | 1.9 | 1 | 0 | 1 | 0.8 | 0.0 | 08 |
| 8Unanom | 169 | 0 | 169 | 16.7 | 0.0 | 167 | 4 | 0 | 4 | 9.5 | 0.0 | 9.5 | 4 | 0 | 4 | 7.4 | 00 | 7.4 | 14 | 0 | 14 | 118 | 0.0 | 11.8 |
| 90ther | 38 | 14 | 52 | 3.8 | 14 | 52 | 9 | 0 | 9 | $2 / 4$ | 0.0 | 214 | 2 | 3 | 5 | 3.7 | 56 | 9.3 | 4 | 0 | 4 | 3.4 | 0.0 | 3.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 730 | 280 | 1010 | 72.3 | 27.7 | 1001 | 40 | 2 | 42 | 95.2 | 4.8 | 100. | 33 | 21 | 54 | 61.1 | 38.9 | 100. | 73 | 46 | 119 | 61.3 | 38.7 | 100. |


|  | $19 \sqrt{0}$ |  |  |  |  |  | $19 \times 1$ |  |  |  |  |  | $19 \sqrt{2}$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hember |  |  | Percent |  |  | Number |  |  | Per cent |  |  | Number |  |  | Per Cent |  |  |  |  |  | Percert |  |  |
| Evaluation | Centan | Doubitul | Total | Centan | [00ubltal | Total | Certain | Dooubitul | Total | Ceatrin | Dowbtul | Totat | Cettain | Dostittul | Total | Certain | Doubthl | Total |  |  | Total | Catbin |  | Tota |
| 0-8alllan | 8 | 3 | 11 | 8.3 | 3.1 | 11.4 | 2 | 3 | 1 | 2.9 | 4.3 | 7.2 | 48 | 40 | 88 | 2.6 | 6.4 | 14.0 |  |  |  |  |  |  |
| 1-Astronomical | 24 | 6 | 30 | 25.0 | 6.3 | 31.3 | 6 | 8 | 14 | 8.6 | 11.4 | 20.0 | 109 | 40 | 149 | 17.3 | 6.4 | 23.1 |  |  |  |  |  |  |
| 2.Anciat | 12 | 7 | 19 | 12.5 | 73 | 19.8 | 6 | 4 | 10 | 8.6 | 5.7 | 14.3 | 59 | 23 | 132 | 9.4 | 11.6 | 21.0 |  |  |  |  |  |  |
| 3 Light Phenom. | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 1 | 2 | 1.4 | 1.4 | 28 | 15 | 9 | 24 | 2.4 | 1.4 | 3.8 |  |  |  |  |  |  |
| 4 4-Bids | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 14 | 14 | 4 | 3 | 7 | 0.6 | 0.5 | 11 |  |  |  |  |  |  |
| 5-Clouds, Dush elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| 6 Gnsuthic mio. | 15 | 0 | 15 | 156 | 0.0 | 15.6 | 12 | 0 | -2 | 171 | 0.0 | 11/1 | 85 | 0 | 85 | 13.5 | 0.0 | 13.5 |  |  |  |  |  |  |
| 7. P9yctalogial | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 114 | 0.0 | 1.4 | 7 | 2 | 9 | 11 | 0.3 | 1.4 |  |  |  |  |  |  |
| 2Unanown | 17 | 0 | 17 | 171 | 0.0 | 177 | 22 | 0 | 22 | 314 | 0.0 | 31.4 | 108 | 0 | 108 | 17.2 | 0.0 | 172 |  |  |  |  |  |  |
| 90thee | 3 | 1 | 9 | 3.1 | 1.0 | 4 | 3 | 0 | 3 | 4,3 | 0.0 | 43 | $\angle 7$ | 10 | 27 | 2.7 | 1.6 | 4.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 79 | 17 | 96 | 82.3 | 17.7 | 100. | 53 | 17 | 70 | 78.7 | 24.3 | <0) | 452 | 177 | 629 | 71.9 | 28.1 | 108. |  |  |  |  |  |  |

TAREE AISQ EVALUATEN DE RBIEET SIGHTINGS EOR ALL YERRS BK REPORTED

| Evalution | ALL YEARS |  |  |  |  |  | 194? |  |  |  |  |  |  |  |  |  |  |  | 1949 |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percoml |  |  | Humber |  |  | Perceml |  |  | Number |  |  | Percemt |  |  | Number |  |  | Peticent |  |  |
|  | Contain | Docosth11 | Toial | Cetran | Doubthi | Totat | Elain | Doouthor | Total | , | Docobtion | rolal | erain | Doobltal | Total | certion | Doublim | Oont | cetrain | Doubtiol | Total | cettin | Doubtal | Tod |
| agaillen | 63 | 39 | 102 | 20.9 | 129 | 33.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 26.0 | 108 | 30.0 | 1 | 0 | 1 | 6.2 |  | 6 |
| 1.Astanmai | 33 | ro | 53 | 109 | 6.6 | 12.3 | 0 | 2 | 2 | 2.0 | no. 0 | 0a | 3 | 0 | 3 | 36.0 | O. | $3 \times .0$ |  | 3 | 8 | 3/.2 | 18.8 | 0. |
| 2 2.uncath | 23 | 2 | 35 | 1.6 | 4.0 | 11.4 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 00 | , | , | 2 | 6.2 | 6.2 | 2 |
| 3 Hent Preom. | 4 | 2 | 6 | 1.3 | 0.7 | 2.0 | 0 | 0 | of | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 | e | 0 | 0 | 0.0 | 0.0 |  |
| 4 - Bircs |  | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 08 | 0.0 | e. | 0 | 0 | 0 | 0.0 | 0. | e0 | 0 | 0 | - | 0.0 | 0.0 |  |
| Sclouds, oust, elc |  | 4 | 5 | 0.3 | 13 | 1.6 | 0 | 0 | 0 | $0 \cdot 0$ | 0.0 | 0 | - | - | - | 0.0 | D. 0 | 80 | 0 | 0 | 0 | 0.0 | 0.0 |  |
| Glosulicic mit. | 24 | 0 | 24 | 19 | 0.0 | 79 | - | 0 | 0 | 0.0 | Re | 0 | 2 | 0 | 2 | 20.0 | 2.0 | 30 |  | 0 | 2 | 12.5 | 0.0 |  |
| 7. Pryatiogial | 8 | 1 | 9 | 26 | 0.3 | 2.9 | 0 | 0 | o | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | $0 \cdot 1$ | , | 0 | 1 | 62 | 0.0 |  |
| OUndenm | 53 | 0 | 53 | 120 | 0.0 | 175 | 0 | 0 | 0 | 40 | e. | 0.8 | - | 0 | 0 | 0.0 | 0.8 | 0.0 | 2 | 0 | 2 | (2.) | 0.0 |  |
| 90 mm | 10 | - | 15 | 3.3 | 1.7 | 5.0 | 0 | 0 | - | 0.0 | 0.0 | 0.0 | , | 1 | 2 | 100 | 10.0 | 200 | 0 | 0 | 0 | 0.0 | 0.0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rotal | 219 | 83 | 302 | 72.5 | 27.5 | 100 | 0 | 2 | 2 | 0.0 | 00 | 100 | 8 | 2 | 10 | 80.0 | 20.2 | 100. | 121 | 4 | 16 | 15:0 | 2.0 |  |


|  | $19 \times 0$ |  |  |  |  |  | $19 \sqrt{1}$ |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cont |  |  | Nunbel |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Evaluation | Cetroin | Dooutthil | Total | Centain | Doubthul | Total | Centain | Doubthil | Total | Certain | Doubitiol | Total | Certain | Doubtul | Total | Centain | Dovblfol | Total | Certain | Doovititu | Total | Certain | Doubtul | Total |
| O-Bxalion | $\mathrm{d}^{-}$ | 0 | 5 | 312 | 0.0 | 32 | 3 | 0 | 3 | 223 | 0.0 | 22.3 | $\sqrt{2}$ | 38 | 90 | 21.1 | 15.4 | 36.5 |  |  |  |  |  |  |
| 1-Astronomical | 1 | 0 | 5 | 312 | 20 | 312 | 2 | $L$ | 3 | 18.2 | 91 | 27.3 | 18 | 14 | 32 | 7.3 | 5.7 | 13.0 |  |  |  |  |  |  |
| 2-Airenat | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 21 | 11 | 32 | 8.5 | 4.5 | 13.0 |  |  |  |  |  |  |
| 3-Light Phemom. | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | 0 | e. 0 | 0.0 | 0.0 | 4 | 2 | 6 | 16 | 0.8 | 2.4 |  |  |  |  |  |  |
| 4 4iros | 0 | 0 | 0 | 00 | 0.0 | de | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | el |  |  |  |  |  |  |
| 5-Clouds, Dust etc. | 0 | 0 | 0 | 00 | $0 \cdot$ | 0.0 | 0 | 0 | e | 0.0 | 00 | 0.0 | 1 | 4 | 5 | 04 | 1.6 | 20 |  |  |  |  |  |  |
| 6-Insutic. Info. | 2 | 0 | 2 | 12.5 | 0.8 | 12.5 | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 17 | 0 | 17 | 6.9 | 0.0 | 69 |  |  |  |  |  |  |
| 7. syycmological | 1 | 0 | 1 | 6.2 | 0. | 6.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 1 | 7 | 2.4 | 0.4 | 2.8 |  |  |  |  |  |  |
| 8 Unknom | 2 | 0 | 2 | 125 | 0.0 | 12.5 | 3 | 0 | 3 | 273 | 0.0 | 27.3 | < 4 | 0 | 46 | 18.6 | 0.0 | 48.6 |  |  |  |  |  |  |
| 9-0ther | 0 | 1 | 1 | 0.0 | 6.2 | 6.2 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 9 | 3 | 12 | 3.6 | 1.2 | 4.8 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | $1 / 5$ | 1 | 16 | 93.8 | . 6.2 | 100. | 10 | 11 | 11 | 90.9 | 91 | 100. | 174 | 73 | 247 | 704 | 29.6 | 108. |  |  |  |  |  |  |

TABLE ALGO EVALVATION DE ORVERT SLGHTINGS FRR ALL YEARS RV REPORTED


|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cont |  |  | Number |  |  | Peecent |  |  | Aumber |  |  | Per Cent |  |  |  |  |  | Per Cent |  |  |
| Evaluation | Certain | Doubtal | Tolal | Cendain | Doubtul] | Total | Certain | Doubluil | Tota | Centain | Douibitol | Tolal |  |  |  | C̄ertain | Doobtitul | Total | Certain | Doubtrul | Total | Certain | Doubthil | Trota |
| O-basloon | 4 | 1 | 5 | 23.5 | 5.9 | 29.4 | -1 | 0 | 1 | 25.0 | 0.0 | $22^{2} 0$ | 30 | 21 | 51 | 23.6 | 16.5 | 401 |  |  |  |  |  |  |
| 1 -Astronomial | 1 | 0 | 1 | 59 | 0.0 | 5.9 | 0 | , | 1 | 00 | 25.0 | 26.0 | 2 | 7 | 14 | 5 | 5.5 | 110 |  |  |  |  |  |  |
| 2-Aliciath | 3 | 0 | 3 | 12.6 | 00 | 17.6 | 1 | 0 | 1 | 21:0 | 0.0 | $25^{\circ}$ | 8 | 16 | 24 | 6.3 | 12.6 | 18.9 |  |  |  |  |  |  |
| 3 Light Pheorm. | 0 | 0 | 0 | 0.4 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 3 | 3 | 0.0 | 2.4 | 2.4 |  |  |  |  |  |  |
| 4.8iins | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 3 | 1 | 4 | 2.4 | 0.8 | 3.2 |  |  |  |  |  |  |
| Scloods, Oust, ett. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | -0.0 | 0.0 | 0.0 | 1 | $L$ | 2. | 0.8 | 0.8 | 1.6 |  |  |  |  |  |  |
| G-Insuntic min. | 1 | 0 | 1 | 59 | 0.0 | 59 | 0 | 0 | 0 | -00 | 0.0 | 0.0 | 4 | 0 | 4 | 3.1 | 0.0 | 3.1 |  |  |  |  |  |  |
| 7. Prychorotial | 0 | 0 | 0 | 1.0 | 0.0 | 00 | 0 | 0 | 0 | - 0 | 0.0 | a. | 2 | 0 | 2 | 1.6 | 0.0 | 1.6 |  |  |  |  |  |  |
| SUnivoum | 6 | 0 | 6 | 35.3 | 0.0 | 353 | , | 0 | 1 | 25:0 | 0.0 | 25.0 | 17 | 0 | 17 | 13.4 | 0.0 | 13.4 |  |  |  |  |  |  |
| 40trier | 1 | 0 | 1 | J. 9 | 0.0 | 5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 1 | 6 | 3.9 | 0.8 | 4.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 16 | 1 | 17 | 94.1 | 5.9 | 100, | 3 | 1 | 4 | 78.0 | 25.0 | 1e0. | 17 | 50 | 127 | 60.6 | 39.4 | Los |  |  |  |  |  |  |



| Erdusmon | ALL YEARS |  |  |  |  |  | de QBvers, 1947 |  |  |  |  |  | $\frac{1948}{10}$ |  |  |  |  |  | $\frac{\text { MLLES }}{1949}$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | munber |  |  | Parcont |  |  | Number |  |  | Percent |  |  | Mumber |  |  | Per Cent |  |  | Mumber |  |  | Pracat |  |  |
|  | Cerlain | Doubtul | Total | Certain | Dosoltul | Total | Centan | Dowitw | Tom | Ceatin |  | Tolal | Certain |  | Tolat | Certain | Douxth] | Total | Centrin | Doubtrul | Total | Cortio | Doweb | Toda |
| O-Balloon | 20 | 8 | 28 | 8.4 | 3.3 | 11.7 | 3 | 0 | 3 | 20.0 | 0.0 | 20.0 | 1 | 4 | 5 | 5.0 | 200 | 250 | $\alpha$ | 0 | 2 | 10.5 | 0.0 | 10.5 |
| 1-Astonomical | 12 | 13 | 25 | 5.0 | 5.4 | 11.4 | 0 | 0 | 0 | 18 | 20 | 0.0 | 3 | 1 | 4 | 15.0 | 5.0 | 20.0 | 0 | 2 | 2 | 0.0 | 10.5 | 10.5 |
| 2Ancial | 58 | 26 | 84 | 243 | 10.9 | 35.2 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 4 | 1 | 5 | 200 | 5.0 | 250 | 4 | 2 | 6 | 211 | 10.5 | 21.6 |
| 3 Ligm Phenom. | 3 | 1 | 4 | 1.3 | 04 | 1.7 | 1 | 0 | 1 | 6.2 | 0.0 | 6.7 | 1 | 0 | 1 | 5.0 | 0.0 | 50 | 0 | 0 | 0 | 0.0 | 0.0 | Le |
| 4 4-Bids | 0 | 1 | 1 | 0.0 | 0.4 | 0.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 5.0 | So | 0 | 0 | 0 | ea | 0.0 | 0.4 |
| SClowds, Dust elc | 0 | 2 | 2 | 0.0 | 0.8 | 0.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | D. 0 |
| Gginsutic not. | 22 | 0 | 22 | 9.2 | 0.0 | 9.2 | 1 | 0 | 1 | 6.7 | 0.0 | 67 | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 | 5 | 0 | 5 | 26.3 | 0.0 | 26.3 |
| 2.Psycreriogial | 6 | 2 | 8 | 2.5 | 0.8 | 3.3 | 1 | 1 | 2 | 6.7 | 6.7 | 13.4 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2umbnom | 58 | 0 | 58 | 24.3 | 0.0 | 24.3 | 6 | 0 | 6 | 40.0 | 0.0 | 400 | 2 | 0 | 2 | 10.0 | 00 | 10.0 | 4 | 0 | 4 | 21.1 | 0.0 | $2 / 1$. |
| Other | 2 | 0 | 7 | 2.9 | 0.0 | 29 | -1 | 0 | 1 | 6.1 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 186 | 53 | 234 | 77.8 | 2,22 | 100. | 14 | 1 | 15 | 933 | 6.7 | 100 | 13 | 7 | 20 | 65.1 | 35.0 | 100. | 15] | 4 | 19 | 78.9 | 211 | 100.1 |


|  | 1950 |  |  |  |  |  | 195 |  |  |  |  |  | 1952 |  |  |  |  |  | - munber |  |  | Per cant |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | PaCmm |  |  | Aunber |  |  | Percent |  |  |  |  |  |  |  |  |
| Evaluation | Certain | Dowbtuol | Tobl | Certain | Dowithl\| | Tolal | Ceridin | Dowibtul | Total | Cetain | Dowbtul | Total | Centain | Doubtitul | Total | Ceftain | Douttrul | Total | Cotrin | Dowiditu | Totat | Cartin | Dosobitul | Tota |
| O-Banloon | 1 | 1 | 2 | 4,5 | 4.5 | 9.0 | 2 | 0 | 2 | 182 | 0.0 | 18.2 | 11 | 3 | 14 | 22 | 2.0 | 9.2 |  |  |  |  |  |  |
| 1.Astronomical | 1 | 2 | 3 | 4.5 | 91 | 13.6 | 1 | 1 | 2 | 91 | 9.1 | 18.2 | 7 | 7 | 14 | 4.6 | 4.6 | 92 |  |  |  |  |  |  |
| 2-Aircatt | 5 | 0 | 5 | 22.7 | 0.0 | 22.7 | 3 | 1 | 4 | 213 | 9.1 | 36.4 | 41 | 22 | 63 | 27.0 | 14.5 | $4 / .5$ |  |  |  |  |  |  |
| 3.Light Phenom. | 0 | 0 | 0 | 0.0 | 00 | $0: 0$ | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.1 | 0.7 | 1.4 |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | -0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| $5-$ Clouds, Dust etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 1.3 | 13 |  |  |  |  |  |  |
| 6 Grasutic. mito. | 5 | 0 | 5 | 22.2 | 0.0 | 22.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | 9 | 5.9 | 0.0 | 5.9 |  |  |  |  |  |  |
| 1.Psychotogical | 1 | 0 | 1 | 4.3 | ao | 4.5 | 0 | 0 | 0 | 0.01 | 0.0 | 20 | 4 | 1 | 5 | 2.6 | 0.1 | 3.3 |  |  |  |  |  |  |
| 8. Unknown | 6 | 0 | 6 | 213 | 0.0 | 27.3 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 38 | 0 | 38 | 23.0 | 0.0 | 25.0 |  |  |  |  |  |  |
| 9-0ther | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 1 | 9.1 | 0.0 | 91 | 5 | 0 | 5 | 3.3 | 0.0 | 3.3 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 19 | 3 | 22 | 86.4 | 13.61 | 100 | 9 | 2 | /1 | 818 | 18.2 | 100 | 116 | 36 | $1 / 52$ | 71. 3 | 23.7 | 103 |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Nunber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | manber |  |  | Percemt |  |  | Number |  |  | Percent |  |  | Nunber |  |  | Per Cent |  |  |  |  |  | Pacent |  |  |
| Evaution | Crixin | Dosubtal | Total | Centan | Doubthol | Tocal | Certbin | Dosubitul | Total | Cetain | Doubtuof | Tota | cettain | Daubtul | Total | Cerlain | Doutitu] | Total | Cerain | Doubtury | Total | Certain |  | Toxa |
| a-ballion | 3 | $\bigcirc$ | 3 | 8.6 | 0.0 | 8.6 | 1 | 0 | 1 | 4.2 | 1.0 | 42 | 12 | 17 | 29 | 3.1 | 4.5 | 7.6 |  |  |  |  |  |  |
| 1 -Astronomical | 1 | 4 | 5 | 2.5 | 114 | 14.3 | 7 | e | 7 | 29.2 | ce | 29.2 | $45^{-1}$ | 19 | 64 | 118 | 50 | 16.8 |  |  |  |  |  |  |
| 2-Atrcradt | $\checkmark$ | 4 | 9 | 143 | 114 | 25.7 | 4 | 1 | 5 | 16.7 | 4.2 | 20.9 | 64 | 62 | 126 | 16.8 | 16.2 | 33.0 |  |  |  |  |  |  |
| 13 -ught Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 1.0 | 1 | 0 | 1 | 4.2 | 0.0 | 4.2 | 1 | 1 | 6 | 1.3 | 0.3 | 16 |  |  |  |  |  |  |
| 4 4-8irts | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 0.5 | 0.6 | 0.5 |  |  |  |  |  |  |
| s.clouds, Dost, ete. | 0 | 앙 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |  |  |  |  |  |  |
| Ef lasutic nim. | 3 | 0 | 3 | 86 | 00 | 8.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 34 | 0. | 34 | 8.9 | 0.0 | 8.9 |  |  |  |  |  |  |
| 7. Psycroogial | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 1.0 | 4.2 | 4.2 | 6 | 1 | 7 | 1.6 | 0.3 | 1.8 |  |  |  |  |  |  |
| 2unkrom | 11 | 0 | 11 | 3/4 | eo | 314 | 2 | 0 | 7 | 29.2 | 0.0 | 29.2 | 99 | 0 | 29 | 26.9 | 0.0 | 25:9 |  |  |  |  |  |  |
| Yother | 2 | 2 | 4 | 5.7 | 5.7 | 11.4 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 | 14 | 1 | 15 | 3.7 | 0.3 | 4.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 25 | 10 | 35 | 71.4 | 28.6 | Lea | 221 | 2 | 24 | 91.1 | 8.3 | 108. | 281 | 101 | 382 | 73.6 | 26.4 | lat |  |  |  |  |  |  |



|  | 1950 |  |  |  |  |  | 1951 |  |  |  |  |  | 1952 |  |  |  |  |  | Humber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Nunber |  |  | Per Cont |  |  | Hunber |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Evalustion | Certain | Doubitu] | Total | Certain | Doubtruil | Total | Certain | Doubthi | Tolal | Centain | Doubtrol | Tota | Centain | Dovotul | Total | Cerrain | Doubtity | Total | Cortin | Doubition | Total | Pertain Doct |  |  |
| [0.8alloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | - | 0.0 | 00 | 0. | 0 | 2 | 2 | 0.0 | 3.0 | 3.0 |  |  |  |  |  |  |
| 1-Astronemical | $\sigma$ | 4 | 9 | 55.6 | 44.4 | 1000 | 1 | 3. | 4 | 12.5 | 17.5 | 500 | 23 | 10 | 33 | 34.3 | 14.9 | 49.2 |  |  |  |  |  |  |
| 2-Aicreath | 0 | 0 | 0 | 0.0 | 100 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 2 | 8 | 90 | 3.0 | 12.0 |  |  |  |  |  |  |
| 3.Light Pherom. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |
| 4 - Biids | 0 | 0 | 0 | ee | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\%$ | , | en. | 15 | 1.5 |  |  |  |  |  |  |
| S-Cloonds Dost, etc: | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | o | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 4- | 0.0 | 1.5 |  |  |  |  |  |  |
| G-insultice info. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | 2 | 0 | 7 | 10.4 | 0.0 | 10.9 |  |  |  |  |  |  |
| 7.Psycholotical | 0 | 0 | 0 | 0.4 | 0.0 | 0.0 | 0 | - | 0 | $0 \cdot 0$ | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 1.5 | 15 |  |  |  |  |  |  |
| E-Uninom | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 2 | 0 | 2 | 350 | 0.0 | 250 | 12 | 0 | 12 | 179 | 0.0 | 179 |  |  |  |  |  |  |
| Horem | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 1 | 0 | , | 12.5 | 0.0 | 6.5 | 2 | 0 | 2 | 3.0 | 0.0 | 3.0 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tow | 5 | 4 | 9 | 55,6 | 44.4 | 100. | 5 | 3 | 8 | 62.5 | 37.5 | 100. | 51] | 16 | 67 | 76.1 | 23.9 | 100. |  |  |  |  |  |  |

TABLE AlGY EVALVATION OF DRLERT SLGHTINGS EAR ALL YEARS BY RERORTED

|  | SPEEOS OF |  |  |  |  |  |  |  |  |  |  |  | SPEED NOT |  |  |  |  |  | STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ALL EAGIS - |  |  |  |  |  | 1-1942 |  |  |  |  |  |  |  |  |  |  |  | Humber |  |  | Percant |  |  |
|  | Nunbee |  |  | Pencont |  |  | Number |  |  | Pacemt |  |  | Nunber |  |  | Per Cent |  |  |  |  |  |  |  |  |
| Evaluaion | Certio | Doobithil | T001 | Cemtain | Dosititul | Total | Certain | Doudhil | Totas | Certain | Dowistul | Total | eritian | Doubtul | Total | Certain | Doubtriol | Total | Certain | Dolutiol | Tolad | Ceftrin | Doutfitul | Total |
| O-Balcosn | 63 | 40 | 103 | 1.6 | 48 | 12.4 | 2 | 0 | 2 | 6.9 | 0.0 | 6.9 | 2 | 3 | 5 | 3.9 | 5.9 | 98 | 7 | 0 | 7 | 1.6 | 0.0 | 76 |
| 1-Astomanicil | 115 | 89 | 204 | 13.8 | 10.7 | 3\% 2 | 2 | 2 | 5 | 10.3 | 6.9 | 11.2 | 7 | 10 | 17 | 13.7 | 19.6 | 33.3 | 17 | 31 | 48 | 18.5 | 33.7 | $\sqrt{2} 2$ |
| 2-Aicrath | 83 | 75 | 158 | 10. | 90 | 18.0 | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 2 | 1 | 8 | 13.2 | 20 | 157 | 7 | 2 | 9 | 7.6 | 2.2 | 98 |
| 3-Liptr Pharom. | 16 | 9 | 25 | 19 | $1 / 4$ | 3.0 | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 0 | 1 | 1 | 10.0 | 2.0 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Brirs | 6 | 5 | 11 | 0.7 | 0.6 | 13 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 20 | 2.0 | 40 | 2 | 0 | 2 | 2.3 | 0.0 | 22 |
| f-Clouds, Dosth elc | 0 | 0 | 0 | 0.0 | 0.0 | 0.8 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | Q | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-nswlic. mat. | 134 | 0 | 134 | /h. 1 | 0.0 | 161 | 9 | 0 | 9 | 310 | 0.0 | 3/0 | 9 | 0 | 9 | 176 | 0.0 | 176 | 14 | 0 | 14 | 15.2 | 00 | 15.2 |
| 1.Psychologital | 12 | 2 | 14 | 1.4 | 02 | 1.6 | 2 | 0 | 2 | 6.9 | 0.0 | 6.9 | 1 | 0 | 1 | 20 | 0.0 | 2.0 | 1 | 0 | 1 | $1 /$ | 00 | 1.1 |
| 8Unknoin | 136 | 0 | 136 | 16.4 | 0.0 | 164 | 3 | 0 | 3 | 10.3 | 0.0 | 10.3 | 3 | 0 | 3 | J.9 | 0.0 | 5.9 | 2 | 0 | 7 | 16 | 0.0 | 76 |
| Fothes | 34 | 12 | 46 | 41 | 1.4 | 55 | 6 | 0 | 6 | 20.2 | 0.0 | 20.7 | 2 | 3 | 5 | 3.9 | 1:9 | 98 | 4 | 0 | 4 | 43 | 0.0 | 4.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rote | 599 | 232 | 8311 | 12.1 | 27.9 | 100 | 27 | 2 | 29 | 931 | 6.9 | 1100 | 32 | 19 | 51 | 62.7 | 37.3 | 100. | 59 | 33 | 92 | 64.1 | 3.5 | 100. |


|  | 1950 |  |  |  |  |  | 195゙1 |  |  |  |  |  | 1952 |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percert |  |  | Humber |  |  | Percont |  |  | Centin Muaber |  |  | Per cent |  |  |  |  |  |  |  |  |
| Evarution | Cention | Dosobtoil | Total | Cerdin] | Doubifu | Totan | Certsin | [Doubtion | Tolal | Certain | Dantitil | Tout |  |  |  | Carain | Doubthil | Total | Nunter |  | Totat | $\begin{aligned} & \text { Per Cenl } \\ & \text { Cerain Doubtul } \end{aligned}$ |  | Tad |
| OBalicon | 8 | 2 | 10 | 11.4 | 2.9 | 14.3 | 1 | 3 | 4 | 1.6 | 4.8 | 6.4 | 43 | 32 | 75 | 8.2 | 61 | 14.3 |  |  |  |  |  |  |
| 1.Astronomial | 12 | 4 | 16 | 111 | 5.1 | 22.8 | 5 | 8 | 13 | 2.9 | 12.7 | 20.6 | 71 | 34 | 105 | 13.5 | 6.5 | 20.0 |  |  |  |  |  |  |
| 2-Aitcran | 9 | 5 | 14 | 12.9 | 7.1 | to.e | 6 | 4 | 10 | 9.5 | 6.3 | 158 | - -3 | 63 | 116 | 10.1 | 12.0 | 22.1 |  |  |  |  |  |  |
| 3Ligh Phema | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 16 | 1.6 | 15 | 7 | 22 | 29 | 13 | 4.2 |  |  |  |  |  |  |
| 4.8 Brits | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $i$ | 1 | 0.0 | 1.6 | 1.6 | 3 | 3 | 6 | 0.6 | 06 | 1.2 |  |  |  |  |  |  |
| 5 Clowas, Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0,0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Grasuritic ho. | 13 | 0 | 13 | 18.6 | 0.0 | 18.6 | 12 | 0 | 12 | 19.0 | 20 | 19.0 | 27 | 0 | 71 | 14.6 | 0.0 | 146 |  |  |  |  |  |  |
| 77.8 ysamiogial | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 1.6 | 0.0 | 1.6 | 2 | 2 | 9 | 13 | 0.4 | 1.7 |  |  |  |  |  |  |
| tuntroum | 14 | 0 | 14 | 20.0 | 0.0 | 20.0 | 18 | 0 | 18 | 28.6 | 0.0 | 28.6 | 9 | 0 | 91 | 17.3 | 0.0 | 17.3 |  |  |  |  |  |  |
| Sotre | 3 | 0 | 3 | 4,31 | $0 \cdot 0$ | 4.3 | 3 | 0 | 3 | 4.8 | 0.0 | 4.8 | 16 | 9 | 25 | 3.0 | 1.7 | 4.7 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toter | 59 | 11 | 10 | 843 | 15.7 | 100. | 46 | 17 | 63 | 130] | 270 | 100. | 376 | 150 | 526 | [1/.5) | 28.5 | 100. |  |  |  |  |  |  |



|  | SUNLGHT ON SOLL |  |  |  |  |  | FRIGHTEP THAN MOPX |  |  |  |  |  | LKK E ManN |  |  |  |  |  | DULLER THAN MOON |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humbes |  |  | Percent |  |  | Humber |  |  | Pacom |  |  | Number |  |  | Pas Cent |  |  | mamber |  |  | Percont |  |  |
| Evaluation | Certain | Oocobitul | Total | Certain | Dowithil | Total | Certain | Doostitul | Totas | Cettain | Ooubthul | Tota | Cetrin | Doubtur | Total | Centin | Doubtiol | Total | Centain | Dovititu | Total | Certain | Doubitiol | Totil |
| O-Balloon | 4 | 0 | 4 | 541 | 0.0 | 5\%/ | 19 | 28 | 47 | H. 0 | 5.9 | 99 | 1 | 2 | 3 | 19 | 3.8 | 5.7 | 5 | 7 | 12 | 7.1 | 10.0 | 17.1 |
| 1-Astromomical | 0 | 1 | 1 | 0.0 | 14.3 | 14.3 | 130 |  | 199 | 275 | 14.6 | 421 | 4 | $1 /$ | 15 | 7,5 | 20.9 | 28,3 | 6 | 17 | 23 | 8.6 | 243 | 32.9 |
| 2-Aitarat | 1 | 0 | 0 | 0.0 | 0.0 | 0.0 | 27 | 52 | 79 | 5.7 | 11.0 | 16.7 | 14 | 2 | 16 | 264 | 3.8 | 30.2 | 3 | 3 | 6 | 4,3 | 4.3 | 8.6 |
| 3-Light Phenom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 3 | 9 | 1,3 | 0.6 | 1.9 | 1 | 2 | 3 | 1.9 | 3.8 | 5.7 | , | 3 | 4 | 14 | 4.3 | 5.7 |
| 4 -iicts | 0 | 0 | 0 | 8.0 | 0.0 | 0.0 | 1 | 0 | 1 | 0.2 | 0.0 | 0.2 | 0 | 0 | 0 | 00 | 0.0 | 00 | 1 | 1 | 2 | 6.4 | 14 | 28 |
| 5-Ctouds, Dust, elc | 0 | 1 | 1 | 0.0 | 14.3 | 14.3 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 0 | 00 | 0.0 | 0.0 |
| G-instric. inti. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 22 | 0 | 22 | 47 | 0.0 | 4.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 4.3 | 0.0 | 43 |
| 7.Psychological | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 31 | 0 | 3 | 0.6 | 0.0 | 0.6 | 0 | 1 | 1 | 0.0 | 19 | 1.9 | 0 | 2 | 2 | 00 | 2.9 | 2.9 |
| 8 -unknoum | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 92 | 0 | 92 | 19.5 | 0.0 | 19.5 | 15 | 0 | 15 | 28,3 | 0.0 | 28.3 | 15 | 0 | 15 | 21.4 | 0.0 | 21.4 |
| 9-0ther | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 164 | 6 | 20 | 3.0 | 1.3 | 4.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 3 | 3 | 0.0 | 43 | 4.3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 5 | 2 | 7 | 71.4 | 28.6 | 100. | 314 | 158 | 472 | 665 | 33,5 | 1100. | 35 | 18 | 53 | 66.0 | 34.0 | 100. | 34 | 36 | 70 | 48.6 | 51.4 | 100. |


|  | BARELY V/S1BLE |  |  |  |  |  | Not STATER |  |  |  |  |  | Hunter |  |  | Per Cent |  |  | Mumber |  |  | Per Cont |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | munber |  |  | Prant |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Evaluation | Cerrain | Doubtol |  | Contin] | Doattul] | T 7 ¢0]1] | Certain | [Cabibot | Tolad | Certain | Daubliul | Tota | Cention | Doubtul | Total | Centain | Dountinil | Total | Cerain | Doubtiol | Tota | Cention | Dausitid | Total |
| a, Balloon | 1 | 1 | 2 | 8,3 | 8,3 | 16.6 | 194 | 104 | 298 | 9.0 | 4.8 | 13.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Astronomical | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 292 | 209 | 501 | 13.6 | 9.7 | 23.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Airctaft | 1 | 1 | 2 | 83 | 8.3 | 16.6 | 252 | 177 | 429 | 11.7 | 8.2 | 19.9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Light Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 23 | 11 | 34 | 1.1 | 0.5 | 1.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 4.irds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 15 | 6 | 21 | 0.7 | 0.3 | 1.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Clouds, Dust ete. | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 10 | 19 | 0.4 | 0.5 | 0.9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6-1nsultic, mo. | 2. | 0 | 2 | 167 | 0.0 | 16.7 | 235 | 0 | 235 | 10.9 | 0.0 | 10.9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.Psyctiological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 31 | 3 | 34 | 1.41 | 0.1 | 1.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 8unknom | 4 | 0 | 4 | 33,3 | 0.0 | 333 | 474 | O | 474 | 32.11 | 0.0 | 22.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9-ther | 0 | 0 | D | 0.1 | 0.0 | 0.0 | 83 | 21 | 104 | 3.9 | 1.0 | 4.9 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 10 | 21 | 112 | 83,3 | 16.7 | 100 | 1608 | 5412 | 2149 | 74.812 | 25,2 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |




|  | SUNLICHI EN Soll |  |  |  |  | BRIGHTER THAN MOON |  |  |  |  |  | LIKE MOAY |  |  |  |  |  | DULEER THAN MOEN |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | pectert |  | Number |  |  | Pacmit |  |  | munter |  |  | Pacme |  |  | Mumber |  |  |  |  |  |
| Evilution | Cemain | Dowitu | 10at | Ceruin | Doouttul Italal | Certion | Doablual | Tola | Cetain | Ooxtful | Toral | Setbin | Doobthol | Tobl | emition | Douthol | Towal | Etin | Dosutur | Cobd | Cattion | Datatiol |  |
| O-aslosen | 4 | 0 | 4 | 66.7 | -0,0166.7 | 14 | 21 | 35 | 4.2 |  | 10.5 |  | 0 |  | 2.9 |  | 2.9 | 5 | 3 | 8 | 10.2 |  | 16.3 |
| 1-A, Stromenical | 0 | 1 | 1 | 0.0 | 16.716 .7 | 82 | 48 | 130 | 24.6 | 14.4 | 39.0 | - 3 | 8 | 11 | 89 | 23.5 | 32.3 | -6 | - 8 | 14 | 12.2 |  | 28.5 |
| 2.Aicran | 0 | 0 | 0 | 0. | 0.00 .0 | 20 | 4. | 61 | 6.0 | 12.3 | 5.3 | 5 | 2 | 7 | 14.7 | 5.9 | 20.7 | 3 | 3 | 6 | $6 \cdot 1$ |  | 1.2 |
| 3-Lidt Preme | 0 | 0 | 0 | 0.0 | 0.000 | 6 | 3 | 9 | 18 | 0.9 | 2.7 |  | 2 | 3 | 2.9 | 5.9 | 8.8 | 1 | - 1 | 2 | 2.0 | 2.0 | 4.0 |
| 4 Birde | 0 | 0 | 0 | 0.0 | 0.00 .0 | 1 | 0 | 1 | 0.3 | 0.0 | 0.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | -1 | 1 | 0.0 |  | 2.0 |
| Scloows Doust ect | 0 | 1 | 1 | 0.0 | 16.716 .7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  | 0 |
| GInsenficimb. | 0. | 0 | 0 | 0.0 | 0.010 .0 | 20. | 0 | 20 | 6.0 | 0.0 | 6.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | ${ }^{2}$ | 6.1 |  |  |
| 2Psyctrobsial | 0 | 0 | 0 | 0.0 | 0.000 | 2 | 0 | 2 | 0.6 | 0.0 | 0.6 | 0 | 1 | 1 | 0.0 | 2.9 | 2.9 | 0 | 2 | 2 | 0.0 |  | 4.1 |
| aintiom | 0 | 0 | 0 | 0.0 | 0.0 .0 .0 | 61 | 0 | 61 | 18.3 | 0.0 | 18.3 | 11 | 0 | 11 | 32.4 | 0.0 | 32.4 | 10 | 0 | 10 | 20.4 |  |  |
| Solther | 0 | D | 0 | 0.0 | Q. 0.0 .0 | 9 | 6. | 15 | 2.7 | 1.8 | 4.5 | - | 0. | e | 0.0 | 0.0 | 0.0 | 0 | 3 | , | 10 |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tod | 4 | 2 | 6 | 66.2 | 33.3100. | 215 | 119 | 334 | 64.9 | 5.6 | 100. | 21 | 13 | 34 | 61.8 | 38.2 | 100. | 28 | 214 | 49 | 57.1 | 42.9 | 160 |


|  | BarELY |  |  | KCSIBLE |  |  | Net Stater |  |  |  |  |  |  |  |  | Pacmat |  |  | Murber |  |  | Petcat |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  | Muser |  |  |  |  |  |  |  |  |  |  |  |
| Evriuation | Cembin | Doubtal | Tobi | Cembin | Dabitiol | Tomal | Cettin | Dooditul | Tolal | Cention | IDoouthon | Tota | Cetion | Daustoul | Tobal | Cettion | Dowithol | Total | Colian | Downtory | Tota | Cotrin | Dosumi | Tout |
| O-Balloon | 1 | 1 | 2 | 14,3 | 14.3 | 28.6 | 140 | 79 | 2/9 | 97 | 55 | 15,2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astromatial | 1 | 0. | 1 | 14.3 | 0.0 | 14.3 | 154 | 118 | 272 | 101 | 8.2 | 18.9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aircart | 1 | 1 | 2 | 14.3 | 14.3 | 28.6 | 191 | 120 | 311 | 13.2 | 8.3 | 215 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | C | 0 | 0 | 0.0 | 0.0 | 0.0 | 21 | 8 | 29 | 1.5 | 0.6 | 2.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 - Birs | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 10 | - 6 | 16 | 0.7 | 0.4 | 1.1 |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 0 | 0 | 0 | 0.0 | Q. 0 | 0.0 | 2 | 2 | . 6 | 0.1 | d. 3 | 0.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| Gfuntic: mio. | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | -188 | 0. | 188 | 13.0 | 0.0 | 13.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| IPsyctabziox | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 29 | 3 | 32 | 2.8 | 0.2 | 22 |  |  |  |  |  |  |  |  |  |  |  |  |
| Butanom | 1 | 0 | 1 | 14.3 | 1.0 | 143 | 293 | - 0 | 293 | 20.3 | D. 0 | 20.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| gothe | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 88 | II | 22 | 46 | 0.8 | 5.4 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toud | 5 | 2 | 7 | 71.4 | 28.6 | 100. | 1094 | 349 | 1443 | 75.8 | 24.2 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |



|  | MAY |  |  |  |  |  | JUNE |  |  |  |  |  | JuL4 |  |  |  |  |  | Avgust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | $\mathrm{Pefecment}^{\text {che }}$ |  |  | Number |  |  | Patcont |  |  | Munber |  |  | Per cent |  |  | Mumber |  |  | Pet Cont |  |  |
|  | Const | Vatioble | Total | Const | Vaiable! | Total | Const | Tariable | Tolal | Cons 1 | Variole | Tolad | Cosst | Varible | Tola | Const |  | Total | Const | Variable | Tola | Const | Varible | Iala |
| , 1 - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $11 / C A R$ | 15 | 0 | 16 | 7.7 | 0.0 | 17 | 21 |  | 23 | 9.2 | 09 | 102 | 72 | 12 | 84 | 7.8 | 1.3 | 9.1 | 61 | 3 | 64 | 11.7 | 0.6 | 12.3 |
| 2- SuTDOers | 89 | 5 | 94 | 55.9 | 2.6 | 48.5 | 123 | 3 | 126 | 53.9 | 1.3 | 58.2 | 436 | 4 | 440 | 46.9 | 0.4 | 47.3 | 266 | 8 | 274 | 51.1 | 1.5 | 52.6 |
| 3 3/M PLANE | 34 | $\bigcirc$ | 34 | 17.5 | 0.0 | 17.5 | 25 | 0 | 25 | 11.0 | 0.0 | 11.0 | 88 | 1 | 89 | 9.5 | 0.1 | 9.6 | 37 | 2 | 39 | 7.1 | 0.4 | 7.5 |
| AIN BLDG. | ? | - | 8 | 4.1 | 0.0 | 41 | 8 | 0 | 8 | 3.5 | do | 35 | 87 | 3 | 90 | 9.4 | 0.3 | 9.1 | 38 | 4 | W2 | 7.3 | 0.8 | 8.1 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OOTHER | 2 | , | 2 | 1.0 | 6.0 | 1.0 | 2 |  |  | 0.9 | 0.0 | 0.9 | 15 | 0 | 15 | 1.6 | 00 | 1.6 | 8 | 0 | 8 | 1.5 | 0.8 | 1.5 |
| NOT STATE |  |  | 41 | 2.11 | 0.0 | 21.1 | 44 |  |  | 19.3 |  |  | $2 / 1$ | $\square$ | 211 | 22.7 | 0.0 | 22.7 | 94 | $\bigcirc$ | 94 | 18.0 | 0.0 | 18.0 |
| Toad | 199 | 5 | 194 | 187.4 | 2.6 | 100. | 223 | 5 | 228 | 97.8 | 2.2 | 180. | 909 | 20 | 929 | 978 | 2.2 | 100. | 504 | 17 | 521 | 96.7 | 3.3 | 100. |


|  | SEPTEMBER |  |  |  |  |  | Ocroser |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nunber |  |  | Pecemt |  |  | Nuncer |  |  | Peficmt |  |  | Nuober |  |  | PeCmm |  |  | Number |  |  | PalCat |  |  |
|  | cmst | Vatiabie | Tolal | Comat | Varioble | Toalt | Const | Variobie | Tolal | Const | Vaiable | Fotal | Cosst | Vatibil | Toun | Const | Vatioble | Total | Const | Wariable | Tota | Const | Varioble | Tota |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. 1 CAR | 21 | 2 | 23 | 100 | 10 | 11.0 | 13 |  | 24 | 12.6 | 0.5 | 12.5 | 10 | 4 | 4 | 6.1 | 2.4 | 8.5 | 25 | - 7 | 32 | 149 | 4.2 | 19.1 |
| 2.OUTDOARS | 96 | 5 | 101 | 45.2 | 2.4 | 48.1 | 89 | 1 | 90 | \% 6.4 | 0.5 | 46.9 | 45 | 3 | 48 | 27.4 | 1.8 | 29.2 | $1 / 5$ | 5 | 50 | 268 | 3.0 | 29.8 |
| 3-IN_PLAME | 26 | 0. | 16 | 12.4 | 0.0 | 12.4 | 27 | 0 | 27 | 14.1 | 0.0 | 14.1 | 34 | 0 | 34 | 28.7 | 0.8 | 2 d 7 | 45 | 1 | 46 | 26.8 | 0.6 | 27.4 |
| Lin $B$ LDG. | 11 | 2 | 13 | 5.2 | 1.0 | 6.2 | 25 | -1 | 26 | 613.0 | 0.5 | 13.5 | 33 | - | 33 | 20.1 | 0.0 | 28.1 | 14 | 0 | 14 | 8.3 | 0.0 | 83 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \%. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9- OTHER | 1 | 0 |  | 0.5 |  | 45 | 7 | 0 | 7 | 3.6 | 0.0 | 3.6 | 2 | $\Delta$ | 2 | 1.2 | 0.0 | 12 | 1 | 0 |  | 0.6 | 0.0 | 0.6 |
| NOT STATES | 46 | 0 | 46 | 21.9 |  | 21.9 | 18 | 0 | 18 | 9.4 |  | 9.4 | 33 | 0 | 23 | 20.1 |  |  | 25 | 0 | 25 | 14.9 |  |  |
| Tola | 201 | 9 | 210 | 95.7 | 4.3 l | 100. | 189 | 3 | 1192 | 98.4 | 1.6 | 100. | 157 | 7 | 164 | 95.7 | 4,3 | 100. | 155 | 13 | 168 | 833 | 7.7 | 100.. |



|  | Munter |  |  | Percont |  |  | UNE |  |  |  |  | $J v \leq y$ |  |  |  |  |  | AVGUst |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Manber |  | $\mathrm{PemCma}^{\text {cma }}$ |  | munter |  |  | Peacomt |  |  | Mumber |  |  | Percomt |  |  |
|  | Coss | Variable | Tobil |  |  |  | Cant | Vaiabie | Total | Const | Haiable | Tota | Coss | Vaiabie Trold | Comst | Vaiable | Tobal | Const | Varisole | Total | Const | Varible | Tous | Const | Varible | Tota |
| $0 \cdot$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. In CAR |  |  |  |  |  |  |  | 1 | 2 | 7.7 | 2715.4 | 6 | 0 | 6 | 109 | 0.0 | 10.9 | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 |
| 2.OUTDOORS |  |  |  |  | D |  | 6 | 0 | 6 | 4.2 | 0.046 .2 | 27 | 0 | 27 | 49.1. | 0.0 | 49.1 | 7 | 0 | 7 | 43.8 | 0.0 | 43.8 |
| 3-IN PLANE |  |  |  | 3 |  |  | 3 | 0 | 3 | 23.4 | 0.023 .1 | 11 | 0 | 11 | 20. | 0.0 | 20.0 | 3 | 0 | 3 | 18.8 | 0.0 | 19.8 |
| IINBLDG. |  |  |  | 人 |  |  | 0 | 0 | 0 | 0.0 | 0.040 | 1 | 0 | 1 | 1.8 | 0.0 | 1.9 | 1 | 0 |  | 6.3 | 0.0 | 6.3 |
| 5 |  |  |  | P |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \% |  |  | O |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Q OTHER |  |  |  |  |  |  | 0 |  |  |  | 20.08 | 0 | 0 | 0 | 00 | 0.0 |  | 0 | 0 | 0 |  | 0.8 | 0.0 |
| Not STATED |  |  |  |  |  |  | 2 |  |  | 15.4 | 0.0 .15 .4 | 10 | 0 | 10 | 18.2 |  | 182 | 3 | 0 | 3 |  |  |  |
| Toma |  |  |  |  |  |  | 12 | 1 | 13 | 92.3 | 7.7100. | 55 | , | 55 |  | 0.0 | 100. | 16 | 0 | 16 | 100.0 | 0.8 |  |


|  | SEPTEMEER |  |  |  |  |  | OCTORER |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | $P_{\text {Pectent }}$ |  |  | Number |  |  | Pacmit |  |  | Number |  |  | Pex Comt |  |  | Munbor |  |  | Pet Comt |  |  |
|  | Comst | Varaible | Total | Corst | Vzibide | Tobal | Const | Vziable | Total | Cosst | Vaiable | Tolat | Const | Vatioble | Tobl | Cons | Vaimble | T\$2 | Const | Varible | Toti | Const | Varible | rota |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| in mar | 0 |  |  | 00 |  | do | 8 | 0 | 8 | 42.1 | 0.0 | 42.1 | 1 | 0 |  | 33.3 | 0.0 | 33.3 | 1 | 0 |  | 200 |  | 220 |
| 2-OivTDoos | 3 | - 0 | 3 | 50.0 |  | 50.0 | 8 | 0 | -8 | 421 | 0.0 | $4 / 2.1$ | 0 | 0 | 0 | 0. | 0.0 | 0.0 | -1 | 0 |  | 200 | 0.0 | 20. |
| 3. ${ }^{\text {N P PLANE }}$ | 1 | - |  | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot$ | 0. | 0.0 | 3 | 0 | 3 | 600 | 0.0 | 60.0) |
| INPLDG. | 0 | $\sigma$ | 0 | de | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 333 | 0.0 | 33.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 OTHER |  |  |  | 0.0 |  | 40 | 0 | 0 | 0 | 0.0 | do | 0.0 | 1 |  |  | 333 |  | 333 | 0 | 0 | 0 | 0.0 | 40 | 00 |
| NTT STHTED | 2 |  |  | 33.3 |  | 33.3 | 3 | 0 | 3 | 15.8 |  | 19.8 | 0 | 0 | 0 | $0 D$ |  |  | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| Toxal | 6 | 0 |  | 100.0 | do | 100. | 19 | 0 | 19 | 100.0 | 0.0 | 100. | 3 | 0 | 3 | 180.0 | 0.0 | 100. | 5 | 0 | 5 | 100.0 | 0.0 | 180. |



|  | MAY |  |  |  |  |  | SUNE |  |  |  |  |  |  |  |  |  |  |  | Avgust |  |  |  |  |  |
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|  | Numer |  |  | Petcemt |  |  | Nunber |  |  | $1 . \mathrm{PaCmt}$ |  |  | Hurber - |  |  | Percme |  |  | Number |  |  | Peticmi |  |  |
|  | Comst | Varable | Tobat | Const | Varioble | Total | Corst | Tainole | Tolal | Const | Vatioble | Trota | Const | Variabe | Tobal | Cons | Vaiablie | Toxal | Cons | Vatiole | Total | Const | Variale | Fotal |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $11 / 1$ CAR | 1 | 0 | 1 | 9.1 | 0.0 | 9.1 | 1 | 0 | 1 | 16.7 | a | 167 | 3 | 0 | 3 | 27 | 0.0 | 7.7 | 3 | 0 | 3 | 27,3 | 0.0 | 27.3 |
| zoutpoors | 5 | 0 | 5 | 45.5 | 0.0 | 45.5 | 5 | 0 | 5 | 83.3 | a | 63.3 | 12 | -1 | 18 | 43.6 | 2.6 | 46.2 | 8 | 0 | 8 | 2.1 | 0.0 | 272 |
| 3IN PLANE | 4 | 0 | 4 | 36.4 | 0.0 | 36.4 | 0 | 0 | 0 | 0.0 | 00 | Od | 5 | 0 | 5 | 12.8 | 0.0 | 12.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| INBLDG. | 0 | 0 | 0 | 0.0 | 0.0 | d | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | 9 | 23.1 | 0.0 | 23.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| - OTHER | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -1 | 0 |  | 2.6 | 00 | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| WOT STATED |  | 0 | , | 9.1 | 0.0 | 9.1 | 0 | 0 |  | 0.0 | 0.0 | 0.0 | 3 | 0 | 3 | 2.7 | 0.0 | 2.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Total | 11 | 0 | 11 | 100.0 | 0.010 | 100. | 6 | 0 | 6 | 1100.0 |  | , 0. | 38 | 1 | 39 | 97.41 |  | beed. | 11 | 0 | 1 | 100.0 |  | 100. |


|  | SEPTEMBER |  |  |  |  |  | Octebser |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DEC EMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Rumatm |  |  | Per Cemt |  |  | Nurner |  |  | Pectant |  |  | Number |  |  | Per comt |  |  | Numper |  |  | Pacmt |  |  |
|  | Const | Varaible | Tobi | Const | Vaiable | Tobat | Cost | Vaiboble | Touad | Const | Varibib | Told | Const | Vaiabie | Tobi | Coonst | Vatiable | Tod | Const | Varibue | Toul | Coms | Varible | Total |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/ CAR |  | 0 |  | 0.0 | 0.0 | as | 2 | 0 | 2 | 67 | 0.0 | 6.7 | 0 |  | 1 | 00 | 50 | 5.0 | 6 | 1 | 7 | 21.4 |  | 23.0 |
| 20UT000RS | 5 | 0 | 5 | 62.5 | 0.8 | 62, | 13 | 1 | 14 | 433 | 3.3 | 46.6 | 8 |  | 9 | 40.0 | 5.0 | 45.0 | 10 | 1 | 11 | 35.7 | 3.6 | 39.3 |
| 3 IN PLACE | - 1 | 0. |  | 12.5 | 0.0 | 12.5 | 3 | 0 | 3 | 10.0 | 0.0 | 10.0 | 5 | 0 | 5 | 25.0 | 0.0 | 25.0 | 7 | 0 | 7 | 25.0 | 0.0 | 25,0 |
| HIN BLDGE. | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 8 | 0 | 8 | 26. | 0.0 | 26.7 | - 4 | 0 | 4 | 20.0 | 0.0 | 20.0 | 2 | 0 | 2 | 7.1 | 0.0 | 7.1 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| G |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| b |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Q OTHER | 0 | 0 | 0 | 02 | 0.0 | (1) | 1 |  |  | 33 | 0.0 | 3,3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| WUTTSATED |  |  | 2 | 25.0 | 0.0 | 250 | 2 |  | 2 | 6.7 |  | 6.2 | -1 | 0 |  | 50 | 0.0 | 5.0 |  | 0 |  | 3.6 | 0.0 | 3.6 |
| Trat | . 8 | el |  | 100.0 | 0.01 | 1100. | 29 | 1 | 30 | 96.7 | 3.3 | 100. | 18 | 2 | 10 | 90.0 | 10.0 | 100. | 26 | 2 | 28 | 92.9 | 7.1 | 100. |



|  | MAY |  |  |  |  |  | JUNE |  |  |  |  |  | $\checkmark$ SuLy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  | Mumber |  |  | Percenl |  |  | Humber |  |  | Percent |  |  |
|  | Cons! | Valable\| | Total | Corst | Vaiable | Total | const | Faribble | Total | Const | Vatiobe\| | T01a | Const | Fraible | Total | Const | Variable | Total | Const | Variabie | Total | Const | Vatiable | Tola |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FIN CAR | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 | 3 | 0 | 3 | 12.0 | 0.0 | 120 | 4 | 0 | 4 | 200 | 0.0 | 200 | 11 | 0 | 11 | 21.2 | 0.0 | 212 |
| 20UTDOORS | 30 | 3 | 33 | 66.4 | 6.7 | 13.4 | 18 | 0. | 18 | 72.0 | 0.0 | 750 | 9 | 0 | 9 | 13.0 | - 0.0 | 45.0 | 32 | 0 | 32 | 61.5 | 0.0 | 61.5 |
| 3 INPPANE | 3 | 0 | 3 | 6.1 | 0.0 | 6.7 | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 | , | 0 | , | 5.0 | 0.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4NRADG. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $5-$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| GOTHER | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | $a 0$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | B | 0 | 0 | 0.0 | 0.0 | 0.0 |
| NOT STATED | 9 | 0 | 8 | 17.8 |  | 17.8 | 3 | 0 | 3 | 12.0 |  | 12.0 | 6 | 0 | 6 | 30.0 |  | 30.0 | 9 | 0 | 9 | 12.3 | 0 O | 17.3 |
| Tota: | 42 | 31 | 45 | 93.3 | 6.7 | 100. 1 | 25 | 0 | 25 | 100.0 | abl | 100. | 20 | 0 | 20 | 1100.0 | 0.01 | 100. | 52 | 0 | 52 | 1100.01 | 0.0 | 100. |


|  | SEPTEMBER |  |  |  |  |  | OCTOBER |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Per Cent |  |  | Nunber |  |  | Per cant. |  |  | furser |  |  | ${ }^{\text {ect Cent }}$ |  |  | Number |  |  | Percent |  |  |
|  | Const | Vatiable | Total | Const | Vaiable | Total | Const | Variable | Total | Const | Varioble | Total | Const | Vatiable | Total | Const | Vaxiabie | Toal | Const | Vatiable | Tota | Const | Variable | Total |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1N CAR | 1 | 0 | 1 | 333 | 00 | 333 | 1 | 0 | , | 7.7 | 0.8 | $7{ }^{7}$ | 2 | 0 | 2 | 5.9 | 00 | 5.9 | 7 | 0 | 7 | 25.9 | 0.0 | 35.9 |
| 2OUTDOARS | 2 | 0 | 2 | 66.7 | 0. 0 | 66.7 | 5 | 0 | 5 | 38.5 | 0.0 | 38.5 | 9 | 0 | g | 26.5 | 0.0 | 26.5 | 6 | 3 | 9 | 21.2 | 11.1 | 33.3 |
| 3-IN PLANE | 0 | 0 | 0 | O. 0 | 0.0 | 0.0 | 3 | 0 | 3 | 23.1 | 0.0 | 23.1 | 6 | 0 | 6 | 17.6 | 0.0 | 17.6 | 4 | 0 | 4 | 14.9 | 0.0 | 14.8 |
| $41 \times$ BLOG. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.1 | 1 | 0 | , | 2.9 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Q OTHER | 0 | 0 | 0 | 0.0 | 00 | 0.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 |  | 2.9 | 0.0 | 2.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| MOT STATED | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 4 | 0 | 4 | 30.8 | 0.0 | 30.9 | 15 | 0 | 15 | 44:1 |  | 441 | 1 | 0 | 7 | 25.9 | 0.0 | 25.9 |
| Toud | 31 | 0 | 3 | 1100.0 | 0.01 | 100. | 13 | 0 | 13 | 100.1 | 0.01 | 100. | 34 | 0 | 34 | 100.0 |  | 100. | 24 | 3 | 27 | 88.9 | 11.1 | 100. |



|  | Ma4 |  |  |  |  | June |  |  |  |  |  | Jucy |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Const Namber |  |  | Pacme |  | Munber. |  |  | Pescmt |  |  | Const Murater |  |  | Pes Cont |  |  | Aumber |  |  | Percat |  |  |
|  |  |  |  | Cons 1 | Vaiable Total | Consi | 7aiiede | Tola | Cons1 | Vaibile | Totad |  |  |  | Const | Vaiable | Totat | Cons | Vasiable | Total | Const | Vatiable | Total |
| a |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HIN CAR | 2 | - | 2 | 10.0 | 0.010 .0 | 1 | 0 | 1 | 14.3 | 0.0 | 14.3 | 4 | L | 9 | 16.2 | 20.8 | 37.5 |  | 0 |  | 4.0 | 0.0 | 40 |
| 20ut000RS | 0 | 0 | 0 | 0.0 | 0.00 .8 | 1 | 0 | 1 | 14,3 |  | H/3 | 4 | 0 | 4 | 16.7 | 0.6 | 16.7 | 10 | 0 | 10 | 40.0 | 0.0 | 40.0 |
| 3. IN PLANE | 2 | 0 |  | 10,0 | 0.910 .0 | 2 | 0 | 2 | 28.6 |  | 28.6 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 | 3 | 0 |  | 12.0 | 0.0 | 12.0 |
| 4 IN BLDG. | 0 | 0 | 0 | 0.0 | e. 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 8.3 | 0.0 | 8.3 | -2 | 0 | 2 | 8.0 | 0.0 | 8.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \% |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9- OTHER | 0 | 0 |  | 0.0 | 0.00 .0 | 0 | 0 | 0 | en |  | $0: 0$ | 1 | 0 | 1 | 42 |  | 4.2 | 3 | 0 | 3 | 12.0 |  | 72.0 |
| NOT STETED | 16 | 0 |  | 80.01 | 0.480 .0 | 3 | 0 | 3 | 42.9 |  | 42.9 | 6 | 0 | 6 | 25.0 |  | 25.6 | 6 | 0. |  | 24.0 | 0.0 | 24.0 |
| Total | 20 | 01 | 2 | 1000 | doles. | 7 | 0 |  | 100.0 |  | viso. | 19 | 5 | 27 | 79.2 | 2.28 .8 | 100. | 25 | 0 | 25 | 100.0 |  | 100. |


|  | SEPTEMBER |  |  |  |  |  | OCTOBER |  |  |  |  |  | NOYEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Pacmit |  |  | Munber |  |  | Ps\% Com |  |  | Number |  |  | Pacemt |  |  | Number |  |  | Pecmit |  |  |
|  | Consi | Vatiole | Tobe | Const | Vaioble | Total | Const | Vaidole | Tolal | Camb | Varialle | Total | Cosst | Vaiable | Tobi | Cons | Variable | Tolal | Coss | Variable | Total | Const | Variable | Tota |
| 10- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| $1 \cdot 1 N C A R$ | 4 | 0 | 4 | 30.8 |  | 30.8 |  | 0 |  | 10.0 | 8.0 | 10.0 | 0 | 0 | 0 | 0.0 |  | 00 | -6 | 3 |  | 19.3 |  | 29.0 |
| 20utoiors | 2 | 0 | 2 | 15.4 | 0.0 | 15.4 | 5 | , | 5 | 50.0 | 00 | 50.6 | 5 | 0 | 5 | 2.7 |  |  | 6 | 0 | 6 | 19.3 | 0.0 | 19.3 |
| 3-IL PLANE | 3 | 0 | 3 | 23. | 0.0 | 23.1 |  | 0 |  | 10.0 | 0.0 | 10.0 | 8 | 0 | - 8 | 34.8 | 0.0 | 34.8 | 3 | 0 | 3 |  | 0.0 | 9.7 |
| 4IN-BLDG. | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 1 | 0 |  | 10.0 | 0.0 | 10.0 | - 5 | 0 | - 5 | 21.7 | 0.0 | 21.7 | 2 | 0 | 2 | 6.5 | 0.0 | 6.5 |
| 5. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| \%. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 9 OTHER | 1 | 0 |  | 7.7 | $\triangle 0$ | 7.7 |  | 0 |  | 10.0 |  | 10.0 | 0 | 0 | 0 | 0,0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  | 0.0 |
| MOT STATED |  | 0 |  | 15.4 | 0.0 | 15.4 |  | 0. |  | 10.0 |  |  | 5 | 0 | 5 | 21.7 |  |  | 111 | 0 | 11 | 35.5 | 0.0 |  |
| Toal | 13 | 0 | 13 | 100.0 | 0.0 | 1100. | 10 | 0 | 10 | 100.d | 0.0 | 100. | 23 | 0 | 23 | 1180.0 | 0.0 | 108. | 28 | 3 | 31 | 90.31 |  | 180. |



|  | May |  |  |  |  |  |  |  |  |  |  |  | Suby |  |  |  |  |  | August |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\vdots$ |  |  |  |  |  |  |  |  |  |  |  |  | ConstNumber <br> Vatiabie |  |  | Percont |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\frac{\mathrm{Pun} \text { cent }}{2} \text { Varizale }$ | Total | Const | Tationte | 1 Tota |
| a- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IIN CAR | 0 | 0 | 0 | 0.0 | 0.0 | 0,0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 1 | 0 |  | (1.) | 0.0 | 11.1 | , |  | 4 | 15.0 | 5.0 | 26.0 |
| 2OUTDOORS | 3 | 0 | 3 | 60.0 | 0. | 60.0 |  | 0 |  | 100.) |  | 100.0 | 1 | 0 |  | 2.2 | 0.0 | 22 | 12 |  | 13 | 60.0 | 50 | 65.0 |
| 3.IN PLANE | 0 | 0 | , | 0.0 | 0.0 | 00 | 0 | 0 |  | 0.0 |  | 0.0 |  | 10 |  | 11.1 | 0.8 | 11.1 | 2 | 0 | 2 | 10.0 | 0.0 | 10.0 |
| IN BLDG. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 |  | 0.0 | 0.0 | 0.0 | 4 | 0 | 4 | 44.4 | 0.0 | 44.4 | 1 | 0 |  | 5.0 | 0.0 | 50 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OTHER | 0 | 0 | 0 |  |  |  | 0 | 0 |  |  |  | 0.0 |  | 0 |  | 0.0 | 0.0 | 0.0 | 0 |  | 0 | 0.0 |  | 0.0 |
| HOT STATED | 2 | 0 |  | 340.0 |  | 40.0 | - 0 | 0 |  |  | 0.0 |  |  | 0 |  | 11.1 |  | 11. | 0 | 0 | 0 | 0.0 |  | 00 |
| Total | 5 | 0 |  | 100.01 |  | 100. |  | 0 |  | 100.0 | 0.0 | 100.0 | 9 | 0 |  | 1100.0 |  | 100. | 18 | 2 | 20 | 90.0 | 10.0 | 1100. |


|  | SEPTEMPER |  |  |  |  |  | Octoser |  |  |  |  |  | NOVEMBER |  |  |  |  |  | DECEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nunser |  |  | ${ }^{\text {a }}$ Pricant |  |  | Nunber |  |  | PexCmit |  |  | Number |  |  | Pescont |  |  | Hunoer |  |  | Percont |  |  |
|  | Comst | Vaibubie | Totai | Canst | Vaxiabit | Tolat | Coost |  | Total | Const | Variable | Tota | const | [Vaiaste] | Tobil | Const | Variable | Totid | Cons | Variable | Total | Const | Variable | Tota |
| a- |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NNCAR | 1 | 1 | 2 | 5.6 | 5.6 | 11.2 | 2 | 0 | 2 | 7.1 | 0.0 | 21 | 2 | 1 | - 3 | 11.9 |  | 17.7 | 3 | 0 | 3 | 27.3 | 00 | 273 |
| 20UTDOORS | 4 | 0 | 4 | 21.2 | 0.0 | 22.2 | 15 | 0 | 15 | 53.6 | 0.0 | 53.6 | 4 | 0 |  | 235 | 0.0 | 13.5 | -4 | 0 | , | 36.4 | 0.0 | 36.4 |
| 3:N_PLANE | 9 | 0 |  | 50.0 | 0.0 | 500 | 5 | 0 | 5 | 17.9 | 0.6 | 17.9 | 7 | 0 | - 7 | 4.2 | 00 | 41.2 | 3 | 0 | 3 | 27.3 | 0.0 | 27.3 |
| HIN BLDG. | 2 | 0 | 2 | 11.1 | 0.0 | 11.1 | 2 | 1 | 3 | 7.1 | 3.6 | 10.7 | 1 | , | -1 | 5.9 | 0.0 | 5.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TOTHER | 0 | 0 | 0 | 0.0 | 0.0 | 09 | 3 | 0 | 3 | 10.7 | 0.0 | 10.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 |  | 0.0 |  |  |
| NOTSTATED |  | 0 | 1 | 5.6 | 0.0 | 5.6 | 0 | 0. | 0 | 0.0 | 0.8 | 0.0 | 2 | 0 | 2 | 119 |  | 11.8 | 1 | 0 |  | 9.1 |  |  |
| Toal | 17 | 1 | 189 | 94.4 | 5.6 | 1100. | , | , | 28 | 96.4 |  |  | 16 | 1 | 17 | 94.1 | 5.9 | 100. | 11 | 0 | 11 | 100.0 | 0.0 | 1100. |


|  | TABLE |  | A 114 |  | Lecatcon |  |  |  | QE | DRSERVERS |  |  |  | AUPING |  |  | S/GHTINGS |  |  | 64 |  | MONTH5 |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  | foe |  |  |  | 516A | HTLN | 65 |  |  | $1952$ |  |  |  |  |  |  |  |  |  |
|  | January |  |  |  |  |  | FEBRUARY |  |  |  |  |  | MAREH |  |  |  |  |  | APRIL |  |  |  |  |  |
|  | Number |  |  | Pan ent |  |  | Number |  |  | Perrent |  |  | Number |  |  | Pel Cent |  |  | Number |  |  | Percent |  |  |
|  | Consi | Vatiable | Totai | Const | Varible | Tobis | Const | Vatisole | Total | Consi | Vaiable | Tola | Const | Variblle | Total | Const | Variable | Total | Cons 1 | Vatible | 1 Total | Const | Vaiable] | Total |
| 0 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| HIM CAR | 3 | 0 | 3 | 20.0 | 00 | 20.0 | 1 | 0 |  | 5.6 | 0.0 | 5.4 | 3 | 0 | 3 | 11.1 | 0.0 | 11.) | 14 | 2 | 16 | 13.4 | 1.9 | 15.5 |
| $20 U T D O O R S$ | 2 | 1 | 3 | 13.3 | 6.7 | 20.0 | 1 | 0 |  | 5.6 | 0.0 | 5.1 | 3 | 1 | 4 | 11.1 | 3.7 | 14.8 | 47 | 3 | 50 | 45.6 | 2.9 | 48.5 |
| 3N PLADE | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 | 10 | 0 | 10 | 55.6 | 00 | 55.6 | 6 | 0 | 6 | 22.2 | 0.0 | 22.2 | 6 | 0 | 6 | 5.8 | 0.0 | 5.8 |
| 410 BLDCO | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 9 | 0 | - 9 | 33.3 | 00 | 33.3 | il | , | 11 | 10.7 | 0.0 | 18.7 |
| 5. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |  |  |  | - |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OOTHER | 2 | 0. | 2 | 13.3 | 0.0 | 13,3 | 1 | 0 | 1 | 56 | 0.0 | 5.6 | 1 | 0 | 1 | 3.7 | 0.0 | 3.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| NOT STATED | 2 | 0 | 2 | 13.3 | 00 | 13,3 | 5 | 0 | 5 | 27.9 | -0.0. | 27.9 | 4 | 0 | 4 | 14.8 | ab | 14.8 | 20 | 0 | 20 | 19.4 | 0.0 | 19.4 |
| Total | 14 | 1 | 15 | 93.31 | 6.7 | 100. | 18 | 0 | 18 | 1100.0 | - 0.6 | 1100. | 26 | 1 | 27 | 96.3 | -3.7 | 1100. | 98 | 5 | 103 | 95.2 | 4.8 | 100. |


|  | MAY |  |  |  |  |  | JUNE |  |  |  |  |  | JuLy |  |  |  |  |  | Avgust |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| , | Nunber |  |  | Percent |  |  | Number |  |  | Perciont |  |  | Nunber |  |  | - Per Cent |  |  | Munber |  |  | Peicont |  |  |
| ¢ | Const | Variable] | Total | Const | Variable | Total | Const | tariable | Tolal | Const | Variable | Total | Const | Variable | Total | Const | Variable | Total | Const | Vatiable | Total | Const | Variable | Total |
| $0 \cdot$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IN CAR | 11 | 0. | 11 | 9.7 | 0.0 | 9.7 | 15 | 1 | 16 | 8.5 | 0.6 | 9.1 | 34 | $\eta$ | 61 | 6.9 | 90 | 97.8 | 41 | 2 | 43. | 18.3 | 0.5 | 10.8 |
| 2oummors | 51 | 2 | 53 | 45, | 1.8 | 46.9 | 92 | 3 | 95 | 52.3 | 1.1 | 54:0 | 377 | 3 | 380 | 48.2 | 20.4 | 449.6 | 197 | 7 | 204 | 79.4 | 1.8 | 31.2 |
| 1) IN PANE | 25 | 0 | 25 | 22.1 | 0.0 | 22.1 | 19 | 0 | 19 | 10.8 | 0.0 | 10.8 | 68 | 1 | 69 | 8.6 | 0.1 | 8.7 | 29 | 2 | 31 | 7.3 | 0.5 | 7.8 |
| AIN BLDG. | 8 | 0 | 8 | 7.1 | 0.0 | 7.1 | 8 | 0 | 8 | 4.5 | 0.0 | 4.5 | 71 | 3 | 74 | 9.0 | 0.4 | 4.84 | 34 | 4 | 38 | 8.5 | 1.0 | 9.5 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 'OTHER | 2 | 0 | 2 | 1.8 | 0.0 | 1.8 | 2 | 0 | 2 | 1.1 | 00 | 1.1 | 13 | 0 | 19 | 1.7 | 0.0 | 1.7 | 5 | 0 | 5 | 1.3 | 0.0 | 1.3 |
| WOL STATED | 14 | 0. | 14 | 12.4 | 00 | 12.4 | 36 | 0 | 36 | 20.4 | 0.0 | $23^{4} 4$ | 185 |  | 185 | 23.5 | 0.6 | 23.5 | 76 | 0 | 76 | 19.1 | 0.0 | 19.1 |
| Total | VII | 2 | 113 | 98.2 | 1.8 | 100. | 172 | 4 | 176 | 97.7 | 2.3 | 100. | 768 |  | 782 | 98.2 |  | 1100. | 382 | 15 | 397 | 96.2 | 3.5 | 100. |


|  | SEPTEMBER |  |  |  |  |  | DCTOBER |  |  |  |  |  | NOVEMSER |  |  |  |  |  | DELEMBER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | rer cient |  |  | Number |  |  | Percent |  |  | Nunter |  |  | Per Cent |  |  | Aunber |  |  | Per cort |  |  |
|  | Const | Variable | Tolal | Comst | Variable | 5otal | Const | Vatiable | Total | Const | Vaiable | Tola | Const | Variable | Total | Const | Vriabit | Todal | Const | Variblie | Total | Const | Variable | Total |
| 0. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IN CAR | 15 | 1 | 16 | 9.3 | 0.6 | 9.9 | 9 | 1 | 10 | 9.8 | 1.1 | 16.9 | 5 | 2 | 7 | 7.5 | 3.0 | 16.5 | 2 | 3 | 5 | 3.0 | 4.5 | 7.5 |
| ? QUTDOARS | 88 | 5 | 85 | 49.4 | 3.1 | 52.5 | 43 | 0 | 43 | 46.7 | 0. | 4\%.7 | 19 | 2 | 21 | 28,3 | 3.0 | 31.3 | 18 | 1 | 19 | 27.3 | 1.5 | 28.8 |
| 3.IN PLANE | 12 | 0 | 12 | 7.4 | 0.0 | 7.4 | 15 | 0 | 15 | 16.3 | 0.0 | 16.3 | 1 | 0 | 8 | 11.9 | 0.0 | 11.9 | 25 | 1 | 26 | 37.9 | 1.5 | 39.4 |
| AIN BLDG. | 8 | 2 | 10 | 4.9 | 1.2 | 6.1 | 14 | 0 | 14 | 15.2 | 0.8 | 15.2 | 21 | 0 | 21 | $3 / .3$ | 0.0 | $3 / .3$ | 18 | 0 | 10 | 15.2 | 0.0 | 15.2 |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 7. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| O-OTHER | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 2 | 0 | 2 | 2.2 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 7 | 0 | 1 | 1.5 | 0.0 | 1.5 |
| NOT STATED | 39 | 0 | 39 | 24.1 | 0.0 | 24.1 | 8 | 0 | 8 | 8.7 | 0.0 | 8.7 | 18 | 0 | 10 | 14.9 |  | 14.9 | 5 | 0 | 5 | 7.6 | 0.0 | 7.6 |
| Total | 154 |  | 162 | 95.1 | 4.9 | 100. | 91 | 1 | 929 | 98.9 | 1.1 | 10. | 63 | 4 | 67 | 94.0 | 6. | 100. | 61 | 5 | 66 | 92.4 | 7.6 | 100. |



| fore |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | WHITE OBIEETS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 secorvs en liss |  |  |  |  |  | 6-10 secorps |  |  |  |  |  | 11-30 secords |  |  |  |  |  | s1.60 5fcorns |  |  |  |  |  |
|  | Mumber |  |  | Per Coml |  |  | Humber |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cenl |  |  |
| Evatumion | Comitin | Doubitul | Total | Certain | [Doubitu] | Tolal | Certain | Doubitu | Total | Cetisin | Doouttul | Total | Certain | Doutitut | Total | Certain | Doubitul | Total | Cerrain | Ooubtoul | Total | Cutain | Doubim | Toud |
| a-Ballom | 1 | 5 | 6. | 0.8 | 4.1 | 42 | 0 | 2 | 2 | 0.0 | 4.7 | 4.7 | 2 | 4 | 6 | 3.0 | 6.0 | 8.0 | 0 | 1 | , | 2.0 | 2.0 | 2.0 |
| 1-Astronomical | 36 | 40 | 76 | 293 | 32.5 | 18 | 10 | 9 | 19 | 23.2 | 20.9 | 441 | 13 | 3 | 16 | 194 | 4.5 | 23.9 | 2 | 2 | 4 | 4.1 | 4.1 | 8.2 |
| 2, Airctat | 7 | 11 | 18 | 5.7 | 8.9 | 446 | 4 | 5 | 9 | 23 | 11.6 | 20.9 | 11 | 8 | 12 | 16.4 | 11.9 | 28.3 | 10 | 4 | 14 | 20.4 | 8.2 | 28.6 |
| 3 Liom Pheoom | 0 | 2 | 2 | 0.0 | 1.6 | 1.6 | 1 | 0 | 1 | 2.3 | 00 | 2.3 | 0 | 1 | 1 | 0.0 | 1.5 | 15 | 0 | 0 | e | 0.0 | 0.0 | 0.0 |
| 4 B ing | 1 | 1 | 2 | 08 | 08 | 16 | 0 | 0 | 2 | 0.0 | 00 | 0.0 | e | 0 | R | 0.0 | e.e | el | 4 | 1 | 5 | 8.2 | 2.0 | 102 |
| 5.Clouds, Dust, elc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Glasanic mbo. | 3 | 0 | 3. | 2.4 | 0.0 | 24 | 3 | 0 | 3 | 170 | 0.0 | 20 | 5 | 0 | 5 | 7.5 | 0.0 | 1.5 | 6 | 0 | 6 | 12.2 | 0.0 | 12.2 |
| 7. Payctaogion | 0 | 0 | 0 | 00 | 2e | 20 | 0 | 0 | 0 | ele. | 0.0 | 0.0 | 0 | 1 | 1 | 00 | 1.5 | 15 | - | ? | 0 | 0.0 | 0.0 | 0.0 |
| SUndmoma | 12 | 0 | 12 | 9.8 | 00 | 28 | 9 | 0 | 9 | 20.9 | 0.0 | 20.9 | 17 | 0 | 17 | 25.4 | 0.0 | 25.4 | 19 | 0 | 19 | 38.8 | 00 | 38.8 |
| gothe | 3 | 1 | 4 | 14 | 0.8 | 12 | 0 | 0 | Q | 0.0 | 00 | 0.0 | 2 | 0 | 2 | 30 | 0.0 | 3.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 63 | 0 | 123 |  | 48.8 | 100. | 27 | 16 | 43 | 62.8 | 31.2 | 100. | 50 | 17 | 67 |  | 214 |  | 41 | 8 | 49 | 83 |  |  |


| Evaluakion | 61 SEceres-5Mmutes |  |  |  |  |  | 6-30 penutes |  |  |  |  |  | Over 30 Minutis |  |  |  |  |  | Dueatien Not STATES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per Cent |  |  | Number |  |  | Precent |  |  | Number |  |  | Percent |  |  | Number |  |  | Percort |  |  |
|  | Certrin | Doubtul | Tout | Cettain | Dowothl | Total | Certain | Doibltul | Total | Centin | Doubttul | Tolas | Certain | Doubitul | Tot | Certsin | Doibltu | Tax | Centain | Doultul | Toleal | Certion | Douthiol | Total |
| 2-8alioon | 20 | 19 | 39 | 16.1 | 15.3 | 31.4 |  |  | It | 17 | 16.5 | 33.9 | 6 | 3 | 19 | 22. | 3.8 | 23.8 | 17 | 9 | 16 | 10.4 |  | 5.9 |
| 1 -Atramomical | 5 | 4 | 9 | 4.0 | 22 | 7.2 | 13 | 5 | 18 | 10.2 | 4.1 | 14.8 | 12 | 5 | 17 | 150 | 6.2 | 21.2 | 26 | 15 | 41 | 16.0 | 9.2 | 25.2 |
| 2-Aitum | 12 | 9 | 21 | 9.7 | 7.3 | 17.0 | 4 | 14. | 18 | 3.3 | 11.6 | 14.9 | 5 | 12 | 17 | -2 | 15.0 | 212 | 12 | 6 | 18 | 1.4 | 3.2 | 11.1 |
| 3-Ligh Pheno | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 2 | J | , | 1.7 | 41 | 5.8 | $\theta$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Biras | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | $0 . \ell$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 2.0 | 00 | 1 | 0 | 1 | 0.6 | 0.0 | 0.6 |
| 5 Clouds, Dust | 1 | 4 | 5 | 0.8 | 3.2 | 40 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 2 | 0 | 2 | 1.2 | 0.0 | 1.2 |
| Glasufic. minc. | - | 0 | 5 | 4.0 | 0.0 | 40 | 2 | 0 | 2 | 14 | 0.0 | 1.4 | 1 | 0 | 1 | 1.2 | 0. | 12 | 25 | 0 | 25 | 15.3 | 0.0 | 15.3 |
| 7.Psychalogical | $\checkmark$ | , | 2 | 28 | 0.8 | 1.6 | 5 | 0 | 5 | 41 | 0.0 | 4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 1.2 | 0.6 | 18 |
| 8Unisom | 39 | 0 | 39 | 3/. ${ }^{-}$ | 2.0 | 31.5 | 21 | 0 | 21 | 174 | 0.0 | 17.4 | 22 | 0 | 22 | 27.5 | 0.0 | 215 | 36 | 0 | 36 | 22.1 | 0.0 | 22.4 |
| 90lue. | 4 | 0 | 4 | 3.2 | 0.0 | 5 | 2 | 0 | 2 | 1.7 | 0.0 | 4 | 4 | 0 | 4 | 5.0 | 0.0 | 5.0 | 11 | 0 | $1 /$ | 6.7 | 0.0 | 6.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ratal | 81 | 37 | 124 | 70.2 | 29.8 | 100. | 17 | 44 | 121 | 63.6 | 36.4 | 100 | 60 | 20 | 80 | 78.0 | 28.0 | 100. | 1321 | 31 | 163 | 81.0 | 19.0 | 00. |



|  | 61 Second - 5 Minute |  |  |  |  |  | 6-30 Menter |  |  |  |  |  | OVER 30 Minutes |  |  |  |  |  | Duratien Net STATEA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | murber |  |  | Percemt |  |  | Humber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  |
| Evalution | Cerimin | Doubtui] | Total | Certain | Doubins] | Total | Certin | Doubtui | Total | Cerlian | Doubtul | Tota | Eeftain | Doubtiol | Total | ertrin | Doubtind | Total | rrain | Daubtoul | Total | Cuttin | Doubtul | Tal |
| a-Ballion | 21 | 10 | 31 | 17.6 | 8.4 | 26 | 26 | 12 | 38 | 7 | 119 | 31.6 | $1 /$ | 4 | 15 | 19.3 | 7.0 | 26.3 | 16 | 4 | 20 | 12.6 | 3.1 | 15.7 |
| 1-Astronomica | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | 0 | 1 | 1 | 0e | 1.0 | 1.0 | 3 | 1 | d | 5.3 | 1.8 | 7. | 4 | 3 | 1 | 3.1 | 2.4 | 5.5 |
| 2-Aircratt | 0 | 15 | 35 | 16.8 | 12.6 | 294 | 10 | 20 | 30 | 99 | 19.8 | 29.7 | 2 | 2 | 4 | 3.5 | 3.5 | 70 | 23 | 8 | 31 | 18.1 | 6.3 | 24.4 |
| 3 Lient Prenom | 1 | , | 2 | 0.8 | 0.8 | 1.6 | 0 | 1 | 1 | 0.0 | 0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 0.8 | 0.0 | 8 8 |
| 4 - Bircs | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | e | 0 | 2 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 0.8 | 0.8 |
| 5 -Clouts, Dust, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 3 | 0 | 3 | 5.3 | 0.0 | 5.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0 |
| G-assultic, inb. | 17 | 0 | 17 | 14.3 | 0.0 | 14.3 | $\xi$ | 0 | 9 | 8.9 | 0.0 | 8.4 | 0 | 0 | 0 | 0 | 00 | 0.0 | 28 | 0 | 28 | 22.0 | 20 | 220 |
| 7. Prycrabiogica | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | $\angle$ | 0 | 1 |  | 0.0 | 1.0 | 2 | 0 | 2 | 35 | 0.0 | 3.5 | 1 | 0 | 1 | 0.8 | 0.0 | 28 |
| 8umanm | 26 | 0 | 26 | 21.8 | 0.0 | 21.8 | 15 | 0 | 15 | 14.9 | 0.0 | 149 | , | 0 | 27 | 47.4 | 00 | 474 | 29 | 0 | 29 | 22.8 | 0.0 | 22,8 |
| Solthes | 2 | 3 | 5 | 1.7 | 2.5 | 4.2 | 4 | 2 | 6 | 4.0 | 2.0 | 4. | 0 | 2 | 2 | 0.0 | 3,5 | 3.5 | 9 | 0 | - | 7.1 | 0.0 | 1. |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yotal | 90 | 29 | 119 | 7 | 24.4 | 100. | 65 | 36 | 101 | 64.4 | 35:6 | 100. | 48 | 9 | 57 | 84.2 | 15.8 | 100. | /1/ | 16 | 127 | 874 | 12.6 | 100. |



| Evaluation | 61 Secomes -5 Menuzes |  |  |  |  |  | 6-30 Mexures |  |  |  |  |  | Overe 30 Menutes |  |  |  |  |  | Duratoon Not Stated |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Humber |  |  | Per Conl |  |  | Number |  |  | Per cent |  |  | Mumber |  |  | Percat |  |  |
|  | Certain | Doubtul | Total | Centain | Doubtivil | Total | Cerrain | Dovottul | Total | Centain | Dowbitul | Total | Certain | Dovithol | Total | Certain | Doubtal | Toxal | Certain | Dovitiou | Tot | Certain | Doubtifl | Toial |
| --Balloon | 1 |  | 19 | 1 | S | 21 | 9 | 12 | 21 | 1.2 | . 0 | 26.2 | 7 | 7 | 14 | 8.5 | 8.5 | 7. | 13 | 10 | 23 | 4.9 | 3.8 | 8.1 |
| 1 -A3tronomical | 0 | 2 | 2 | 0.0 | 2.2 | 2.2 | 5 | 2 | 7 | 6.2 | 2.5 | 8.7 | 9 | 1 | 12 | 11.8 | 1.2 | 12.2 | 44 | 5 | 59 | 16. | S. 6 | 22.1 |
| 2 2-Aicat | 16 | 7 | 23 | 178 | 7.8 | 35.6 | 13 | 6 | 19 | 16,2 | 7.5 | 23.7 | 1 | 3 | 4 | 42 | 37 | 4.9 | 23 | 23 | 46 | 8.6 | 8.6 | 1.2 |
| 3-Limt Phe | 2 | 1 | 3 | 2 | 11 | 3. | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 2 | 6 | 0.8 | 2.8 | 16 |
| 4 Birds | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 12 | 2 | 3 | 0 | 3 | 37 | 0.0 | 3.7 |  | 1 | 5 | 1.5 | 0.4 | 1.9 |
| Sclows, Oush, | 0 | 0 | 0 | 0.0 | 0. | 00 | , | 0 | 1 | 1.2 | 00 | 1.2 | 3 | 0 | 3 | 3.1 | 0.0 | 3.7 | , | 0 | 1 | 0.4 | 20 | 0.4 |
| Granstlic. into: | 7 | 0 | 7 | \% | 0 | 2.8 | 12 | 0 | 2 | 15.0 | 0.0 | 15.0 | 14 | 0 | 14 | 171 | 0.0 | 17.1 | S | 0 | 55 | 20.1 | 0.0 | 20.7 |
| 1.Psychlologica | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 2.5 | 0.0 | 2.5 | 3 | 0 | 3 | 3.7 | 0.0 | 3.7 | 3 | 1 | 4 | 11 | 0.4 | 1.5 |
| gunkrom | 31 | 0 | 31 | 34.4 | 0.0 | 344 | 10 | 0 | 10 | 12.5 | 0.0 | 12.5 | 26 | 0 | 26 | 31.7 | 00 | 34.7 | 49 | 0 | 49 | 18.4 | 00 | 184 |
| 90ther | 5 | 0 | 5 | 5.6 | 0.0 | 5.6 | 7 | 0 | 7 | 8.8 | 0.0 | 8.8 | 4 | 1 | 5 | 4.9 | 12 | 6.4 | 19 | 1 | 20 | 71 | 24 | 1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 15 | 15 | 90 | 833 | 16. | 100. | 59 | 21 | 80 | 73.8 | 21.2 | 100. | 70 | 12 | 82 | 85.4 | 14.6 | 100.1 | 213] | 53 | 166 | 80 | 19.9 | 100. |

TRBE ALTR ELALUATLQN AF ALG SLGHTLNGS FQR ALL YEARS RY CRLRS RERQUTER

|  | 5 screntps ex less |  |  |  |  |  | 6-10 Sccends |  |  |  |  |  | DegNGE OR GLDWUNE |  |  |  |  |  | PRANGE DEJERTS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | - $11-30$ seconds | 31.60 Secomes |  |  |  |  |  |
|  | Humbes |  |  | Pacemt |  |  |  |  |  |  |  |  | Hunber' |  |  | Pacal |  |  | Number |  |  | Per cont |  |  | Number |  |  | Per Cont |  |  |
| Eviluation | Cermin | Doubttul | Totil | Cention | Davotul | Tolal | Centuin | Dastitul | Tolal | Cotrin | Doblthil | Total | Certaia | Dooubtion | Total | Certain | Doobthiol | Total | Certion | Doultri] | Toba | Certain | Doubtal | Tota |
| a-Baxion | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 3 | 4 | S. 3 | 15.8 | 211 |
| 1-Astronmical | 12 | 9 | 26 | 33.3 | 17.6 | 509 | 9 | 1 | 10 | 32.5 | 4.2 | 417 | 4 | 4 | 8 | 18.2 | 18.2 | 364 | 2 | 2 | 4 | 10. | 10.5 | 21.0 |
| 2-Aicrath | 3 | 6 | 9 | 5.9 | 11.8 | 127 | 6 | 2 | 8 | 25.0 | 8.3 | 33.3 | 2 | 2 | 4 | 9.1 | 9.1 | 18.2 | 2 | 2 | 4 | 10.5 | 10.5 | 21.0 |
| 3-Light Phemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - ${ }^{\text {arats }}$ | 0 | 1 | 1 | 0.0 | 20 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 4.5 | 0.0 | 45 | 1 | 0 | 1 | 53 | 0.0 | 5.3 |
| 5-Cloods, Dust eta | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Grinsultic, mfo. | 4 | 0 | 4 | 7.8 | Q0 | 18 | 8 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 1 | 0 | 1 | 5.3 | al | 5.3 |
| 7.Psycmopical | 1 | 0 | 1 | 20 | 0.0 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $L$ | 0 | 1 | 4.5 | 0.0 | 45 |  | 0 | 1 | 5.3 | al | 5.3 |
| Burkinom | 5 | 0 | 5 | 98 | 20 | 9.8 | 1 | 0 | 5 | 20.8 | ap | 20.8 | 7 | 0 | 1 | 31.8 | 0.0 | 31.8 | 4 | 0 | 4 | 21.1 | 00 | 21.1 |
| S-Othel | 4 | 1 | 5 | 1.8 | 2.0 | 98 | 1 | 0 | 1 | 4.2 | 0.0 | 42 | 0 | 1 | 1 | 0.01 | 45 | 45 |  | 0 | 0 | 02 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 34 | 17 | 51 | 66.7 | 33.3 | 100. | 21 | 3 | 24 | 87.5 | 12.5 | 100 | 15 | 7 | 22 | 68.2] | 31.8 | 100.1 | 12 | 7 | 19 | 63.2 | 36.8 | 100. |


|  | 6/Sesoriar - 5 Munutss |  |  |  |  |  | 6-30 Minures |  |  |  |  |  | OVES 30 MINuTES |  |  |  |  |  | Dunatien Net Stated |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percmit |  |  | Munber |  |  | Per cont |  |  | Humber |  |  | Percent |  |  | Number |  |  | PerCent |  |  |
| Evalution | Certain | Doubtiol | Total | Centin | Doobitul | Total | Certain | Doubthil | Total | Centain | Dowith | Total | Cettrin | Dowitto! | Totil | Certain | Doubthil | Ota | Certain | Doubkol | Tota | Cerbin | Doubtul | Tota |
| Q-Eatloon |  | J | 2 | 7.0 | 8.8 | 15.8 |  | 2 | 8 | 16.2 | 4 | 21.6 |  | 0 | 3 | 14.3 | 0 | 14.5 | 4 | 1 | $51$ | 5.8. | 4 | 22 |
| 1-Astromamica | 2 |  |  | 0.0 | 7.0 | 18 | 3 | 1 | 4 |  | 8 | 10.9 | 3 | 4 | 7 | 14.3 | 19 | 33.3 | 11 | 6 | 17 | 15.9 | 8.7 | 24 |
| 2-Aitrath | ? | 8 | 15 | 12.3 | 14.0 | 26.3 | 2 | 2 | 4 | 5 | 5.4 | 10.8 | 0 | 3 | 3 | 0.0 | 18 | 14.3 | 11 | 6 | 17 | 15.9 | 8.7 | 24.6 |
| 3 Ligh Phenox | 2 | 0 | 2 | 3.5 | Q2 | 3. | 6 | 0 | 6 | 16 | 0.0 | 16.2 |  | 0 | 1 | 48 | 0.0 | 48 | 1 | 0 |  | 1.4 | 2.0 | 1.4 |
| 4 - ${ }^{\text {irds }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | O | 0.0 | 0 | 0 | 0 | 0.0 | 0.2 | . 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds, Dust, | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | en | 0.0 | 0.0 | 0 | 0 | 0 | Q. 0 | 0.0 | 20 |
| 6-Iasatice mb. | 6 | 0 | 6 | 10.5 | 0.0 | 10.5 | 1 | 0 | 1 | 2.8 | 0.0 | 2.8 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 2 | 0 | 7 | 10.1 | 0.0 | 10. |
| 1-Pyytolaze | 1 | 2 | 3 | 1.8 | 3 | 5.3 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | Q | 1 | 1 | 0.0 | 4.8 | 4.8 | 1 | 0 | 1 | 1.4 | 0. | 4 |
| B-umbene | 15 | 0 | 15 | 26.3 | l0 | $2 k, 3$ | 12 | 0 | 12 | 32.4 | 00 | 32.4 | $\mathrm{J}^{-}$ | 0 | 5 | 23.8 | al | 23.8 | 16 | 0 | 16 | 23.2 | 0.0 | 23.2 |
| Potie | 3 | 0 | 3 | $\sqrt{3} 3$ | 0. | 5.3 | , | 2 | 2 | 10.0 | 5,4 | 5.4 | 1 | 0 | 1 | 4.8 | 0.0 | 4.8 | 1 | 4 | 5 | 1.4 | 5.8 | 12 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 38 | 19 | 57 | 1667 | 33.3 | 100. | 30 | 7 | 3 | 81.1 | 18.9 | 100. | 13 | 8 | 21 | 619 | 38.1 | 100. | $\sqrt{2}$ | 17 | 69 | 71.4 | 24.6 | 00. |

TAALE ALBL EVALVATION OF ALL SIGMTLNGS FOR ALL YERRS BY COLORS RECORTED


|  | 61 Stsends - 5 Mwors |  |  |  |  |  | 6-30 Menutes |  |  |  |  |  | Over 30 Minutes |  |  |  |  |  | Dureaten war Stated |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | - |  |  | Percent |  |  | Number |  |  | Per Cent |  |  | Namber |  |  | Per Cont |  |  | Mumber |  |  | Percent |  |  |
| Evaluation | Certrin | Doubtay | Total | Centain | Doubtruit | Total | Certain | Dosuthl | Tota | Cetsin | [Doubtor] | Total | Centin | Dowbtul | \%otal | ertain | Doubtiol | Toutal | Certan | Dastitay | T | Cetrin | Dowitul | Total |
| -Balloon | 1 | 0 | 1 | 2. | 0.0 | 2.8 | 6 | 3 | 9 | 16.2 | 8.1 | 24.3 | 4 | 3 | 1 | 22.2 | 16.7 | 38.9 | 5 |  | 1 | 13.9 | S. 6 | 29. |
| 1-Astronomial | 1 | 2 | 3 | 2.8 | 1.6 | 8.4 | 5 | 3 | 8 | 13.1 | 8.1 | 36 | 0 | 2 | 2 | 0.0 | 11.1 | 11. | 6 | 4 | 10 | 16.7 | 11.1 | 278 |
| 2-Airctin | 8 | 8 | 16 | 222 | 22.2 | 44.4 |  | 3 | 7 | 10.8 | 8.1 | 18.9 | 1 | 1 | 2 | 5.6 | $\underline{5} 6$ | 11.2 | 1 | 0 | 1 | 2.8 | 20 | 2.8 |
| 3Lighe Phen | 2 | 1 | 3 | 56 | 2.8 | 8.4 | 3 | 0 | 3 | 8.1 | 0.0 | 8. 1 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 1 | 0 | 1 | 2.8 | 0.0 | 2.8 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0. |  |
| S-Clowds, Oust, | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 G-msunic int. | 3 | 0 | 3 | 8.3 | 0.0 | 8.3 | , | 0 | 1 | 2.7 | 0 | 2.7 | 2 | 0 | 2 | 111 | 0.0 | 11.1 | 6 | 0 | C | 16.7 | 0.0 | 6.7 |
| 1.Psyctiongical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. | , | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 |  |
| b-Unkroma | 10 | 0 | 10 | 228 | 0.0 | 22 | 6 | 0 | 6 | 16.2 | 0.0 | 14.2 | 4 | 0 | 4 | 22.2 | 0.0 | 22.2 | 10 | 0 | 10 | 27.8 | 0.0 | 27.8 |
| 9 90ther | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 5.4 | 2.7 | 81 | 0 | 1 | 1 | 0.0 | 5.6 | $\sqrt{.6}$ | 1 | 0 | , | 2.8 | 0.0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 25 | 11 | 36 | 69.4 | 30.6 | 100 | 27 | 10 | 37 | 13.0 | 27.0 | 100. | 11 | 7 | 18 | 61.1 | 38.9 | 0. | 30. | 6 | 36 | 83.3 | 16.7 | 100 |



| Evalution | 6/5scoves-5 M/notes |  |  |  |  |  | 6-30 Minutes |  |  |  |  |  | Over 30 Mncutes |  |  |  |  |  | Dueatier not Stares |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | munber |  |  | Pas Cont |  | Humber |  |  | Per Cent |  |  | Nuaber |  |  | Per Cern |  |  | Mumber |  |  | Percont |  |  |
|  | Certain | Doubbtoul | Total | Cendin | Doubtur | Total | Certain | Doubtest | Total | ratin | Doubitiou] | rotal | Certain | Doobtion | Total | Cerain | Doulthil | Totit | Certain | Doubthil | Total | Certim | Ooubtiol | Tot |
| abahtom | / | 2 | 3 | 2.9 | 5.7 | 8.6 | 3 | 3 | 6 | . 4 | 4 | 18.8 | 1 | 0 | 1 | 5 | 0.0 | 1.3 | 3 | 1 | 4 | . | . | 6.9 |
| 1 -Astronomial | 2 | 1 | 3 | 5.1 | 2.9 | 8.6 |  | 4 | 6 | 15.6 | 3.1 | 18.7 | 3 | 2 | 2 |  |  | 26.3 | 12 | 12 | 24 | 20.7 | 20. | 41.4 |
| 2-Aictint | 5 | 6 | 11 | 14.3 | 121 | 31.4 | 4 | 4 | 8 | 12 | 12.5 | 25.0 | 2 | 0 | 2 | 10.5 | 2.0 | 10.5 | 6 | 3 | 9 | 10.3 | T. | 15.5 |
| 3 LLidte Phen | 0 | 1 | 1 | 0 | 2.9 | 2.9 | 1 | 0 | 1 | 3.1 | 0 | 3.1 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | - | 0.0 | 0.0 | - |
| 4 -8ints | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Clious, Dust | 0 | 3 | 3 | 0.0 | 8.6 | 8.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $L$ |  | 0.0 | ك. 3 | $\sqrt{-3}$ | 0 | 1 | L | 0.0 | 1.7 | 1.7 |
|  | 1 | 0 | 1 | 2.9 | 0.0 | 2.9 | 1 | 0 | 1 | 3.1 | . 0 | 3.1 | 1 | 0 | $L$ | 5.3 | 0.0 | $\sqrt{ } / 3$ |  | 0 |  | 10.3 | 0.0 | 10.3 |
| 7.Paprelopieas | 2 | 1 | 3 | 5.7 | 2.9 | 8.6 | 0 | , | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 |  | 53 | 0.0 | 5.3 | 1 | 0 | 1 | 1.7 | 0.0 | 1.7 |
| Clumem | 10 | 0 | 10 | 28.6 | 0.0 | 28.6 | 9 | 0 | 9 | 28. | 0.0 | 381 | 7 | 0 | 7 | 36.8 | 0.0 | 36.8 | 12 | 0 | 12 | 20.7 | 0.0 | 20.7 |
| 20040 | 0 | 0 | 0 | en | 0.0 | 0.0 | 0 | 1 |  | 0.0 | 3.1 | 3.1 | 0 | 1 | 1 | 0.0 | 1. 3 | $\underline{1} 3$ | 0 | 1 | - | 0.0 | 1.7 | 17 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todet | 21 | 14 | 35 | 60.0 | 40.0 | 100 | 231 | 9 | 32 | 71.9 | 28.1 | 100. | 15 | 4 | 19 | 189 | 2/1 | 100 | 40 | 18 | 58 | 69.0 | 31.0 | Ve |



| Evaluation | 6/5Econd - 5 Minutes |  |  |  |  |  | 6-30 Minutes |  |  |  |  |  | Orge 30 Minutes |  |  |  |  |  | Dupgrien rer Stated |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hunber |  |  | Percent |  |  | Aumber |  |  | Pet Cont |  |  | Nunter |  |  | Percent |  |  | Number |  |  | Per Cart |  |  |
|  | CCerain | Dosubmil | Total | Certain | Doubtruil | Total | Certain | Doubtivi | Total | Cetrin | Doublito | Tota | Certain | Daubtain | Total | Certain | Doobitul | Total | Certain | Dousitu | Tolad | Cetrain | Datbetal | Tola |
| O-Balioon | 3 | 2 | 5 | 9.1 | 6.1 | 15.2 | 6 | 0 | 6 | 14.3 | 0.0 | 14.3 | 3 | 1 | 4 | 9.4 | 3.1 | 12.5 | 1 | 5 | 6 | 1.3 | 6.6 | 1.9 |
| 1-Astronomical | 2 | 2 | 4 | 6.1 | 6.1 | 12.2 | 10 | 0 | 10 | 23.8 | 00 | 23.8 | 7 | 3 | 10 | 21.9 | 94 | 31.3 | 18 | 11 | 29 | 23.7 | 14.5 | 38.2 |
| 2-Aitciath | 9 | 2 | $1 /$ | 27.3 | 6.1 | 33.4 | 3 | 6 | 9 | 71 | 14.3 | 21.4 | 2 | 2 | 4 | 6.2 | 6.2 | 12.4 | 7 | 1 | 8 | 9.2 | 1.3 | 10.5 |
| 3.Light Pheman. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 | 0 | 2 | 2 | 0.0 | 62 | 6.2 | 0 | 0 | 0 | a0 | 0.0 | 10.0 |
| 4 Binds | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 100 |
| S-Clouts, Dust, etc. | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | $L$ | 1 | 0.0 | 2.4 | 2.4 | 0 | - | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-Insutic. int. | 4 | 0 | 4 | 12.1 | 00 | 2.1 | , | 0 | 3 | 74 | 0.0 | 1\% | 0 | 0 | 0 | 0.0 | 100 | 0.0 | 10 | 0 | 10 | 13:2 | 00 | 13.2 |
| 7.Psycrological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 | 1 | 0 | 1 | 31. | 0.0 | 31 | 0 | 0 | 0 | 0.0 | Q 0 | 0.0 |
| B-Unknown | 5 | 0 | 5 | 15.2 | 0.0 | 15.2 | 16 | 0 | 11 | 26.2 | 0.0 | 26.2 | 5 | 0 | 5 | 15.6 | 00 | 15.6 | 21 | 0 | 21 | 21.6 | ad | 276 |
| 9 90ther | 4 | 0 | 4 | <2.1 | 0.0 | 12.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 1 | 6 | 15.6 | 3.1 | 18.7 | 2 | , | 2 | 2.6 | al | 2.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tola! | 27 | 6 | 33 | 81.8 | 18.2 | 100. | 35 | 7 | 42 | 83.3 | 16.7 | 100. | 23 | 9 | 32 | 71.9 | 28.1 | 100. | 59 | 17 | 76 | 71.6 | 22.4 | 100. |

TABLE AIBO EVALLATION AF ALL SLGHTLNGS FOR ALE LEARS RY ROLORS RERQRTER

| Evaluation | 5 secondos ece <ess |  |  |  |  |  | pueation af slentin |  |  |  |  |  | $\left[\begin{array}{l} \text { GREEN R GLOWI } \\ 11-30 \text { SECONDS } \end{array}\right.$ |  |  |  |  |  | NG GREEN OBJECTS. <br> $31-60$ Secores |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Mumber |  |  | Parcent |  |  | Number |  |  | Per Comt |  |  | Nunber |  |  | Pex cent |  |  | Nunter |  |  | Percont |  |  |
|  | Certain | Oowtul | Total | Certain | Doabtul | Total | Certain | Dosottol | Total | Cembin | Davitul | Tola | Certain | Doubthi | Total | Certain | Dobitiol | Total | Centain | Doubthul | Tola | Certbin | Daubtul | Tota |
| a, Balloon | 0 | 0 | 0 | 0. | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | . 0 | 0.0 |
| 1-Astrommich | 31 | 52 | 83 | 33.3 | 55.9 | 89.2 | 1 | 14 | 15 | 4 | 63.6 | 681 | 7 | 2 | 2 | 50.0 | 14.3 | 64.3 | < | 0 | 1 | 16.7 | 20 | , |
| 2-Aitcarth | 2 | 0 | 2 | 2.2 | 0.0 | 2.2 | 1 | 0 | 1 | 4.5 | 0.0 | 4.5 | 0 | 1 | 1 | 0.0 | 7.1 | \% 1.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Ligtt Phenom | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 4 - irrs | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | $0 \cdot 0$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0 |
| 5.Cloust, Doust etc | 0 | 0 | 0 | 40 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GInsulice mint. | 2 | 0 | 2 | 2.2 | 0.0 | 2.2 | 1 | 0 | 1 | 45 | 0.0 | 4.5 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 |
| 7.Psyctrological | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | a0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 Univom | 4 | 0 | 4 | 4.3 | 20 | 43 | 5 | 0 | 5 | 27.2 | 0.0 | 22.7 | 4 | 0 | 4 | 286 | 0.0 | 28.6 | 4 | 0 | 4 | 66.7 | 0.0 | W. 7 |
| 9-0ther | , | 1 | 2 | 1.1 | 1. | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | Q0. | 0.0 | 0.0 | 0 | 0 | 0 | 22 | Q0. | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tots | 40 | 53 | 93 | 43.0 | 520 | 100. | 8 | 14 | 22 | 36.4 | 63.6 | 100 | 11 | 3 | 14 | 78.6 | 21.4 | 100. | 6 | 0 | 6 | 100.0 | 0.0 | 100 |


|  | CLSEcontes-5 Murures |  |  |  |  |  | 6-30 Menutes |  |  |  |  |  | Ovee 30 Medurss |  |  |  |  |  | Dupacien vior Stares |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munker |  |  | Per Cort |  |  | Mumber |  |  | Per Cenl |  |  | Muaber |  |  | Percent |  |  | Number |  |  | Percent |  |  |
| Evaluation | Certin | Doubttul | Total | Centain | Dousttol | Total | Centin | Doubital | Toba | Centain | Dosobtul | Tolid | Cetrain | Doubtitul | Total | Certain | Doubthul | Totel | Certain | Dobbtul | Total | Cratain | Doindtind | Tota |
| a-Ballcon | 1 | 0 | 1 |  | 0.0 | 7. | 1 | 0 | 1 | 9. | 0.0 | 9.1 | 1 | 0 | 1 | 16.7 | . 0 | 16.7 | 0 | 0 | 0 | D. 0 | 0.0 | 0.0 |
| 1-Astimenomical | 0 | 1 | 1 | 0.0 | 11 | 1.1 | , | 3 | 4 | 9.1 | 223 | 36.4 | 1 | 0 | 1 | 7 | 20 | M? | 16 | 27 | 43 | 28.1 | 47.4 | 15.5 |
| 2-Aircerat | 0 | 6 | 6 | 0.0 | 42.9 | 42.4 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 1 | 0 | 1 | 16.7 | 00 | 16.7 | 1 | 2 | 3 | 1.8 | 3.5 | 5.3 |
| 33 Lidi Pheom | 0 | 0 | 0 | 0 | 00 | 00 |  | 0 | 2 | 18.2 | 00 | 18.2 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 4 -Birts | 0 | 0 | 0 | 20 | 00 | 00 | 0 | 0 | 0 | 00 | 0.0 | 90 | 0 | 0 | 0 | 00 | 00 | a0 | 0 | 0 | 0 | 0.0 | 00 | 00 |
| 5 Cliovs, Dust ete | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 40 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0e | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insartic nto. | 1 | 0 | 1 | 11 | 0.0 | \% 1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 0 | 6 | 10. | 0.0 | 10.5 |
| 7-Payctiongion | 0 | 0 | 0 | Q0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 100 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| \% Lravomin | 4 | 0 | 4 | 27.6 | 0.0 | 28.4 | 2 | 0 | 2 | 182 | ee | 18.2 | 3 | 0 | 3 | 50.0 | 0.0 | 50.0 | 4 | 0 | 4 | 1.0 | 20 | 1.0 |
| 504me | 1 | 0 | 1 | 11 | 00 | 11 | 0 | 0 | 0 | Q0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | L | 0 | 1 | 48 | 0.0 | 1.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 7 | 7 | 14 | 50. | 50.0. | 100. | 8 | 3 | 11 | 72.1 | 27.3 | 100. | 6 | 0 | 6 | 100.0 | 0.0 | 100. | 28 | 29 | 57 | 49.1 | 50.9 | 100. |



|  | $6 /$ Srconos -5 Mowoter |  |  |  |  |  | 6-30 Mincures |  |  |  |  |  | Aver 50 Minures |  |  |  |  |  | Ducation Not Starce |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cont |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Petcent |  |  | Mumber |  |  | Percont |  |  |
| Evaluation | Certain | [Joublou] | Total | Cendin | Doubtfu\| | Total | Certain | Doubtiol | Total | Centain | -10ubitul | Tola | Eetrain | Doubtion | Total | Certain | Doubtral | Total | Certsin | Doubtiou | Total | Certain | Doablemi | Tota |
| a-baloon | 16 | 19 | 35 | 15.4 | 18.3 | 33.7 | 18 | 15 | 33 | /4. 4 | 13.6 | 30.0 | 10 | 3 | 13 | 20.4 | 6.1 | 26.5 | 15 | 6 | 21 | 11.8 | 4.7 | 16.5 |
| 1-Astomomical | 3 | 3 | 6 | 2.9 | 2.9 | 5.8 | 11 | 4 | 15 | 10.0 | 3.6 | 13.6 | 12 | 5 | 17 | 14. | 10.2 | 34.7 | 18 | 9 | 21 | 14.2 | 7.1 | 21.3 |
| 2-Airetath | 11 | 9 | 20 | 10.6 | 8.7 | 19.3 | 4 | 14 | 18 | 3.6 | 12.7 | 16.3 | 2 | 3 | 5 | 4.1 | 6.1 | 10.2 | 12 | 5 | 17 | 9.4 | 3.9 | 13.3 |
| 3-Limat Phemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 5 | 7 | 1.8 | 4.5 | 6.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |
| 4 Birts | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5 -cioves Dust, etc. | 0 | 3 | 9 | e.e | 2.9 | 29 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | De | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 |
| 6-Insulfic. Mro. | 5 | 0 | 5 | 4.8 | 0.0 | 4.8 | 9 | 0 | 9 | 8.2 | 0.0 | 8.2 | 0 | 0 | 0 | 0.0 | 0.0 | ao | 23 | 0 | 23 | 18.1 | 0.0 | 18.1 |
| 7.Psychotogien | 1 | 1 | 2 | 1.0 | 1.0 | 2.0 | 1 | 0 | 5 | 4.5 | 0.0 | 4.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 1.6 | 0.6 | 2.4 |
| 9.Unkrom | 29 | 0 | 29 | 21.9 | 0.0 | 214. | 21 | 0 | 21 | 19.1 | 0.0 | 19.1 | 12 | 0 | 12 | 24.5 | 0.0 | 245 | 29 | 0 | 29 | 22.8 | 0.0 | 22.8 |
| 9omer | 4 | 0 | 4 | 3.8 | 0.0 | 3 | 2 | 0 | 2 | 1.8 | 0.0 | 18 | 2 | 0 | 2 | 4.1 | 0.0 | 41 | 6 | 0 | 6 | 4.7 | 0.0 | 4.7 |
|  |  |  |  |  |  |  |  |  |  | C |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 69 | 35 | 104 | 62.3 | 33.7 | 100. | 72 | 3 | 110 | 68 | 34. | 100. | 38 | 11 |  | 2 | 22.4 | 109 | 1061 | 21 | 121 | 83.5 | 6.5 | 100. |


|  | 1ABLE A184 |  |  |  | EVALUATION |  |  | Of | E UNLT |  | Fle |  |  |  | - $A \leq L$ |  | YEARS |  | B4 |  | colaes |  | REPDETED |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | yeat | cion | - | F 5 | 516 A |  |  |  |  | ETAL | - |  | 31-60 Steress |  |  |  |  |  |
|  |  | S | con |  | Le |  | $6-10$ SEands |  |  |  |  |  | 1-30 SEcensas |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Number |  |  | Percent |  |  | Huanber |  |  | Per Cent |  |  | Number |  |  | Pex Cont |  |  | Humber |  |  | Per Cent |  |
| Evaluation | Certain | Doubtrail | Total | Centaia | Dasiffull | Tonil | Centain | Dosithtul | Total | Certain | Daubitul | Tota | Cemin | Doubtul | Total | Centrin | Doubitul | Troal | Certain | Dostital | Totas | Certain | Daubtiol | Totad |
| 0-8ailcon | 2 | 1 | 3 | 9 | 4.5 | 136 | 0 | 2 | 2 | 0.0 | 10 | 125 | 1 | 4 | 5 | 19 | 2.4 | 9.3 | 2 | 2 | 4 | 4.9 | 4.9 | 4.8 |
| 1-Astronomical | 1 |  | 2 | 4 | 4.5 | 90 | 0 | 2 | 2 | 0.0 | 10 | 12.5 | 2 | 0 | 2 | 3.1 | 1.0 | 3.7 | 0 | 1 | 1 | 0.0 | 2.4 | 2.4 |
| 2-Aitcrath | $\underline{2}$ | 6 | 8 | 9 | 21.3 | 96.4 | 8 | 1 | 9 | 42.1 | 5:3 | 1474 | 19 | 16 | 35 | 36.2 | 29.6 | 64.8 | 15 | 7 | 22 | 36.6 | 6171 | 53.7 |
| 3-Light Phenom. | , | 0 | 1 | 4.5 | 0.0 | 4.5 | 0 | 1 | 1 | 0.0 | T3 | 53 | 0 | 0 | - | 20 | 0.0 | 0.0 | 0 | -1 | 1 | 0.0 | 2.4 | 2.4 |
| 4 - Birds | 1 | 0 | 1 | 4.5 | 10.0 | 4 | 0 | 0 | 0 | 0.0 | 0.0 | 2e | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 |
| 5.Clouds, Dust etc | 0 | 0 | 0 | 0.0 | 1.0 | 20 | 0 | 0 | 0 | 0.1 | 0.0 | 100 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |
| 6-1nsultic. Mito. | 1 | 0 | 1 | 4.1 | 0.0 | 4.5 | -2 | 0 | 1 | 5.3 | 0.0 | 53 | 1 | 0 | 1 | 19 | 0.0 | 19 | 2 | 0 | 2 | 49 | 0.0 | 4.9 |
| 7.Psychological | 1 | 0 | 1 | 4.1 | 0.0 | 4.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 3.1 | 1.9 | 5.6 | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 |
| 9-linkrame | 3 | 0 | 3 | 113.6 | 0.0 | 136 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 | 8 | 0 | 8 | 448 | 0.0 | 148 | O | 0 | 9 | 22.0 | 0.0 | 22.0 |
| -ather | 2 | 0 | 2 | 9.1 | 0.0 | 9.1 | - | 0 | 0 | 0.0 | 0.0 | 20. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.4 | 10.0 | 2.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tou | 114 | 8 | 22 | 163.6 | 36.4 | 100. | [13] | 6 | 19 | 168.4 | 31.6 | 10a | 33 | 21 | 54 | 61.1 | 38.9 | 100. | 30 | $1 /$ | 141 | 73.2 | 26.8 | 100. |


| Evajution | C/ Secenos - 5 Moruros |  |  |  |  |  | 6-30 Medutes. |  |  |  |  |  | Quere io Manutes |  |  |  |  |  | Duparion vor Stotes |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Atumber |  |  | Per Cont |  |  | Number |  |  | Per Cent |  |  | Numbes |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  |
|  | Certain | Doubitul | Total | Centain | Doubthl | Totat | Certain | Doubttul | Total | Cetrain | Dosithal | Total | Celtain | Doubtive | Tot | Certain | Doubthel | Total | Certain | Doubthal | Total | Catain | Doubiftol | Total |
| O-Balloon | 2 | 7 | 25 | 21.2 | 8.4 | 30.1 | 21 | 10 | 31 | 25:3 | 12.0 | 32 | 8 | 3 | 11 | 2 | 10.0 | 36.7 | 13 | 3 | 16 | 14.4 | 3.3 | 117 |
| 1-Astronomial |  | 0 | 1 | 1.2 | 0.0 | 12 | 0 | 1 | 1 | 1.0 | 1.2 | 12 | 3 | , | 4 | 10.0 | 3.3 | 13 | 1 | 3 | 4 | 1.1 | 3.3 | 4.4 |
| 2. inicratl | 13 | 10 | 23 | 15.7 | 18.0 | 277 | 9 | 10 | 19 | 10.8 | 12.0 | 22.8 | 2 | 0 | 2 | 6.2 | 0.0 | 6.7 | 20 | 4 | 24 | 22.2 | 4.4 | 26.6 |
| 3-Lion Phemom | 1 | 1 | , | 1.2 | 1.2 | 2.4 | 0 | 1 | , | 2.0 | 1.2 | 1.2 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 |  | 1.1 | 0.0 | 1/1 |
| A-Bids | 1 | 0 | 1 | 1.2 | 0.0 | 12 | 0 | 0 | 0 | 0.0 | 0.0 | al | 0 | 0 | 0 | 0 | 0.6 | 0.0 | 0 | , | 1 | 0.0 | 1 | 11 |
| 5-Clouts, Dust, el | 0 | 0 | 0 | 0. | 0.0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | $L$ | 0 | 1 | 3.3 | 0.0 | 3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-mavilic min. | 6 | 0 | 6 | 7.2 |  |  | 9 | 0 | 9 | 12.8 | 0.0 | 108 | 0 | 0 | 0 | 0.0 | 0.0 | Le | 20 | 0 | 20 | 22.2 | 0.0 | 22.2 |
| 7.Pyydeological | 1 | 0 | 1 | 1.2 | 0.0 |  | 1 | 0 | 1 | $1 \cdot 2$ | 0.0 | 1.2 | 2 | 0 | 2 | 6.7 | 0.0 | 6.7 | 1 | $\bigcirc$ | 1 | 1.1 | 0.0 | 1 |
| 8 Unknown | 20 | 0 | 20 | 24.1 | 0.0 | 24.1 | $\cdots$ | 0 | /5 | 18.1 | 1.0 | 18.1 | 9 | 0 | 9 | 30.0 | 0.0 | 30.0 | 16 | 0 | 16 | 17.8 | 0.0 | 7.8 |
| Sotree | 1 | 3 | 4 | 1.2 | 3.6 | 4.8 | 4 | 2 | 6 | 4.8 | 2.4 | 72 | 0 | 1 | 1 | 0.0 | 3.3 | 33 | 7 | 0 | 7 | 7.8 | 0.0 | 8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 62 | 21 | 83 | 14.2 | 25.3 | 100. | 59 | 24 | 83 | 17.1 | 21.9 | o. | 25 | 5 | 30 | 83.3 | 16.7 | 100. | 79 | /1 | 90 | 81.8 | 12.2 | 100 |

T26LE AL85 $\qquad$ EVALURTION DE UNU SIGHTINGS FOR ALL YEARS BY COLQRS REROEIER FOE RURATION DE SLGHT NV, DBNECT COLOR NOT STATED

| Evalution | 5 secertos on léss |  |  |  |  |  | 6-10 secends |  |  |  |  |  | 11-30 SEcoros |  |  |  |  |  |  |  |  | ccends |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mmater |  |  | Pector |  |  | Number |  |  | Per Cmt |  |  | Nunber |  |  | Perimer |  |  |  |  |  |  | er Cmt |  |
|  | Certion | Dovortol | Tolal | Centan | Dovitu\| | Tola | Eete | Dovolta | Total | certion | Doobtroo | Total | Eeta | Doobstu1 | Tosa | , | Dovoltu | Tote |  |  |  | Corbin | Doubtul |  |
| 边 | 0 |  | 1 | 0.0 | 3.4 | 34 | , | 1 | 2 | $1 /$ | 7.1 | 14,2 | $\bigcirc$ | 1 | 1 | 0.0 | 2.9 | 29 | 3 | 2 | 5 | 12. | 8.0 | 29.0 |
| 1-Astiommial | 11 | 6 | 17 | 319 | 20.1 | 58.6 | 1 |  | 6 | 35.7 | 71 | t28 | 4 |  | 5 | 11.8 | 2.9 | $14 \%$ | 2 | 1 | 3 | 8. | 4.0 | 120 |
| 2:Arcata | 4 | -1 | 5 | 13.8 | 3.4 | 172 | 2 | 1 | 3 | 14.3 | 21 | 21.4 | 5 | 4 | 9 | 14.2 | 11.8 | 26.5 | 3 | 2 | 5 | 12.0 | 8.0 | 20.0 |
| 3 l [imt Phenom. | 0 | 0 | 0 | 0.0 | 0.0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | e | 0 | 0.0 | 0.0 | L, | 0 | 0 | 0 | 0. | 0.0 | 00 |
| inds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot 0$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 08 | 0 | 0 | 0 | 0. | 0.0 | 60 |
| 5 cloues, Dusst elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 1.0 | 2.9 | 29 | 0 | 0 | 0 | 0.6 | 0.0 | 00 |
| G/mantic mo. | 5 | 0 | 5 | 12.2 | 1.0 | 17.2 |  | 0 | 1 | 1.1 | 0.0 | 71 | 7 | 0 | 7 | 20.6 | 0.0 | 206 | 2 | 0 | 2 | 8.0 | 0.0 | 8.0 |
| 1.Prycologial | 0 | $\bigcirc$ | 0 | 10 | de | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Stubmem | 1 | 0 | 1 | 3.4 | 0.0 | 3.4 | 2 | 0 | 2 | 14.3 | 0.0 | 14.3 | 4 | 0 | 4 | 11.8 | 0.0 | 11.8 | 9 | 0 | 9 | 36.0 | Q. 2 | 36.0 |
| Sohem | 0 | 0 | 0 | 0.0 | 1.0 | 00 | 0 | 0 | 万 | 0.0 | 0.0 | 00 | 2 | 1 | 7 | 5.9 | 14.7 | 206 | 0 | 1 | 1 | 0.0 | 4.0 | He |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 21 | 8 | 29 | 12.4 | 276 | roa | 11 | 3 | 14 | 78.6 | 21.4 | 100. | 22 | 12 | 34 | 64.7 | $3 \cdot 3$ | 100 | 19 | 6 | 25 | 16.0 | 24.0 |  |


|  | 6/5ecentes - 5 Menures. |  |  |  |  |  | 6-30 Moverer |  |  |  |  |  | Oree 30 Minures |  |  |  |  |  | Dueatied Ner States |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Pecmit |  |  | Number |  |  | Percear |  |  | Munter |  |  | $\mathrm{Pem}^{\text {cmo }}$ |  |  | Number |  |  | Percat |  |  |
| Evaluation | Ceration | Doabtuil | T Total | Certion | Doobtulal | Tolat | Setain | Doubitil | Tolat | Certain | Doustul | Totad | ertain | Doovtra | Total | - | Doubthol | Tक00 | Colisin |  |  | Centrio |  |  |
| PBulion | 12 | 5 | 17 | 119 | 75 | 25.4 | 8 | 12 | 20 | 10.5 | 15.8 | 26.3 | 1 | 2 | 7 | 10.4 | 4.2 | 14.6 | 13 | 2 | 2 L | 6.2 | 3.3 | 9.5 |
| 1.Astumonical | 0 | 1 | 1 | e. | 1.5 | 15 | 4 | 2 | 6 | 5.3 | 2.6 | 79 |  | $L$ | 6 | 10.4 | 2.1 | 25 | 29 | 12 | 41 | 13.8 | 5.1 | 195 |
| 2-Aictan | 9 | 7 | 16 | 13.4 | 10.4 | 238 | 12 | 5 | 17 | 1di | 6.6 | 224 | L | 3 | 4 | 2.1 | 6.2 | 83 | 12 | 18 | 35 | 8.1 | 8.6 | -6.7 |
| 3 L.ioty Phenom. | 2 | 1 | 3 | 3.0 | 1.5 | 45 | 0 | 0 | O | 20 | 0.0 | 0.0 | e | $\bigcirc$ | 0 | 0.0 | 0.0 | $0 \cdot$ | 2 | 2 | 4 | 10 | 1.0 | 20 |
| $4 \mathrm{lim}{ }^{\text {a }}$ | 0 | 0 | 0 | es | 0.0 | Q 0 | - | L | 1 | 0.0 | 1.3 | 1,3 | 2 | $\bigcirc$ | 2 | 4.2 | 0.0 | 42 | 2 | 1 | 3 | 10 | 0. 5 | 1.5 |
| Scclouds, Dust itc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 1.3 | 0 | 1.3 | 0 | 0 | 0 | 0.0 | e.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-mashlic. Mmin | 5 | 0 | 5 | 7. | 0.0 | 75 | 12 | 0 | 12 | 118 | Le | 158 | 9 | 0 | 9 | 18.2 | e.0 | 18.7 | 63 | 0 | 53 | 25.2 | 0.0 | 25.2 |
| 7.psyecmologial | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot$ | 2 | 0 | 2 | 2.6 | Le | 26 | 1 | 0 | , | 2.1 | 0.0 | 2) | 3 | 1 | 4 | 1.4 | 2.5 | 1.9 |
| Buncrom | 21 | 0 | 2 | 3/3 | 0.0 | 313 | 10 | - | 10 | 13.2 | 0.0 | 13.2 | 1 | 0 | 15 | 31.2 | 0.0 | 3/2 | 33 | 0 | 33 | 15.7 | 0.0 | $\frac{15}{5.7}$ |
| Sother | 4 | 0 | 4 | 6.0 | 0.0 | 6 | - | - | 7 | 92 | 0.0 | 2 | 4 | 0 | 4 | 83 | 0.0 | 83 | 17 | 0 | 17 | 8.1 | 0.0 | 8.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 5 | 14 | 67 | 79. | 20.9 | 20 | 56 | 20 | 1.76 | 13.7 | 26.3 | 100 | 42 | 6 |  |  |  |  | 69 | 41 | 210 |  |  |  |

TABLE ALBL EUALURTION OF UNIT SKGHINGS EOR ALL YEALS BY COLORS PEPOETEO EOR QURATION DF SIGHTING DRANGE DE GLOWING DRANGE DBVECTS

|  | 5 Secenos ee hese |  |  |  |  |  | 6-10 ficenps |  |  |  |  |  | DRANGE DE GLOwIN 11-30 jecentas |  |  |  |  |  |  | 31.6 | 60 | fron | (as |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | PrCmt |  |  | Nunber |  |  | Prcemt |  |  | Number |  |  | Per comt |  |  | Mumber |  |  | Petcat |  |  |
| Evaluation | Centai | Doubitual |  | certin | Doottoo | Totad | certio | Doubtiou | Total | Extin | Diobtiol | Tota | Erain | Douthen | Tobl | Serain | Douttul | Toat | Smain | Ooubtiol | Total | Certin |  |  |
| Aalloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | ee | 0.0 | , | 2 | 3 | d:6 | 11.1 | 67 |
| 1-Atstramical | 14 | 8 | 22 | 31.1 | 178 | 489 | 7 | 0 | 7 | 4.7 | 20 | 46.7 | 4 | 4 | 8 | $21 /$ | 211 | 42 | 2 | 2 | 4 | $1 / 1$ | 11.1 | 22 |
| 2-Aictart | 2 | 6 | 8 | 44 | 13.3 | 27 | 3 | 1 | 4 | 20.0 | 6.1 | 267 | 1 | 1 | 2 | 53 | 5.3 | 10.6 | 2 | 2 | H | (ILI | (1/1 | 22.2 |
| 3 Limit Phemen. | 0 | 0 | 0 | 0.0 | 0.0 | 0.6 | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot 0$ | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0. 2 |
| Ns | 0 | 1 | 1 | 0.0 | 2. | 22 | 0 | - | 0 | 0.0 | 0.0 | 0.0 | 1 | 0. | 1 | 5.3 | 0.0 | 5.3 |  | 0 | 1 | 56 | 0. | 5.6 |
| Houes, Oust eic | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 20 | 0 | 0 | 0. | 0 | 0.0 | 0.0 |
| Gmentic. mita. | 4 | 0 | 4 | 8.9 | e. | 8.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 1 | 0 | 1 | - -6 | 0.0 | 5.6 |
| 7.Psycrologial | , | 0 | , | 2.2 | 0.0 | 22 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 1 | 0 | 7 | 5.3 | 0.0 | 53 | -1 | 0 | 1 | 5.6 | 0.0 | 5.6 |
| Bunkom | 5 | 0 | 5 | 11.1 | 0.0 | 11.1 | 3 | 0 | 3 | 20.0 | 0.0 | 200 | 6 | 0 | 6 | 31.6 | 0.0 | 31.6 | 4 | 0 | 4 | 22.2 | 0.0 | 22 |
| Stes | 3 | 1 | 4 | 6.7 | 2.2 | 8.9 | 1 | 0 | 1 | 6.7 | 0.0 | 67 | 0 | 1 | 1 | 0.0 | 5 | 5.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 29 | 16 | 45 | 644 | : 6 | 100. | 14 | 1 | 15 | 93,31 | 6.7 | 100 | 13 | 6 | 19 | 68.4 | 31.6 | 100 | 12 | 6 | 18 | 66.7 | 33.3 | 100. |


| Evalution | 6/Secauses - 5 Menures |  |  |  |  |  | 6.30 Mnutes |  |  |  |  |  | Dver 30 Mroures |  |  |  |  |  | Dueation fat states |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | moner |  |  | Percmil |  |  | Number |  |  | Percmt |  |  | Number |  |  | Per Cent |  |  | Humb |  |  | Pacme |  |  |
|  | Cent | Doubtul | Tal | Eetain | Dousth1 | Tobat | certin | Doubtro | Tobl | Eetian | Ooubtul | Total | Etrain | Dosothal | Tola | Setain | Doothin | Total | Cerain | Doub |  | Cutin | Doubt | dola |
| asallon |  | 5 | 8 | 6.1 | 10.2 | 16.3 | 6 | 2 | 8 | 16.7 | 5.6 | 223 | 3 |  | 3 | 20.0 | 0.0 | 20.0 | ? |  | 4 | J.4 | 18 | 7,2 |
| 1:SAstromical | 0 | 3 | 3. | 0.0 | 61 | 61 | 2 | 1 | 3 | 5.6 | 2.8 | 8.4 | 3 | 4 | 7 | 20.0 | 26.7 | 467 | 8 | 6 | 14 | 14.3 | 10.7 | 25.0 |
| 2.Aitrath | 4 | 8 | 12 | 8.2 | 16.3 | 245 | 2 | 2 | 4 | 1.6 | 5:6 | 1/2 2 | 0 | , | 1 | 0.0 | 67 | 67 | 8 | 5 | 13 | 14.3 | 8.9 | 23.2 |
| 3Liot Phemom | 2 | 0 | 2 | 4.1 | 0.0 | 4 | 6 | 0 | 6 | 16.7 | 0.0 | 16.7 | 1 | 0 | , | 6.2 | 0.0 | 6.7 | 1 | 0 | 1 | 1.8 | 0 | 1.8 |
| 4.8 Binds | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2. 2 | 0 | 0.0 |
| Sclous, Dus, | 0 | 0 | 0 | $0 \cdot$ | 0. | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | e | 0 | Q | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| ginsuric min. | r | 0 | 5 | 10.2 | 0.0 | 10.2 | , | 0 | 1 | 2.8 | 0.0 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 2 | 0 | 7 | 12.5 | 0.0 | 125 |
| 2.Psyctrobitial | 1 | 2 | 3 | 2.0 | 4.1 | 6.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 6.7 | 67 | 1 | 0 | 1 | 18 | 0.0 | 1.8 |
| Oninnom | 13 | 0 | 13 | 26.5 | 0.0 | 265 | 12 | 0 | 12 | 33.3 | 0.0 | 333 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 11 | 0 | 11 | 196 | $0 \cdot$ | 19.6 |
| gothe | 3 | 0 | 3 | 6.1 | e. | 6.1 | 0 | 2 | 2 | 0.0 | -6. 6 | 5.6 | 1 | 0 | 1 | 6.2 | 0.0 | 6.7 |  | 4 | 5 | 1.8 | 21 | 8.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 31 | 18 | 49 | 63.3 | 36.7 | 100 | 29 | 7 | 36 | 80.6 | 19.4 | $\infty$. | 9 | 6 | 15 | 60.0 | 40.0 | 100.1 | 40 | 16 | 56 | 71.4 | 28.6 | 100. |

EGBEE ALS7 EUALYATION UE UNIT SLGHTINGS FOR QLL YERES BY COCOES BEPOETED

|  |  |  |  |  |  |  |  | zION |  | OE | 516 | T | REa |  |  | Qe |  |  | REO |  |  | OBJEETS |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Number |  |  |  |  |  |  | $11=$ |  |  |  |  | -3160 SECRODS |  |  |  |  |  |
|  | Manat |  |  | Percot |  |  |  |  |  | Per Cont |  |  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  |
| Evylunlon | Cerlain | Doouthol | Total | Centan | Doubitiol | fotal | ceitan: | Ooubitui | Tobl | Cetain | Doubitul | Total | Eertan | Dovbitan | Total | Certain | [Doubitul | 7 2 aia | Cerain | Dooubtul | Total | Centin | Dooubtru] | Tod |
| O-Ballon | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\angle$ | 0 | $\angle$ | 5.6 | 0.0 | 5.6 | 2 | 2 | 4 | 18.2 | 18.2 | 36.4 |
| 1-Astromemial | 10 | 5 | 19 | 4rd | 40.9 | 86.4 | 5 | 0 | 5 | S0.0 | 0.0 | 500 | 6 | 3 | 9 | 33.3 | 16.7 | 50.0 | 1 | 0 | 1 | 2.1 | 1.0 | 91 |
| 2-Altrest | 2 | 0 | 2 | 4.1 | 0.0 | 9.1 | 1 | 1 | 2 | 10.0 | 10.0 | 20.2 | 1 | 3 | 4 | $\sqrt{ } 6$ | 16.7 | 22.3 | 1 | 2 | 3 | 91 | 18.2 | 21,3 |
| 3 Ligm Pherom. | 0 | 0 | 0 | 20 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 |
| 4 - ${ }^{\text {binds }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 8. | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Cliwds, Dust, etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | op |
| Eflasuticic mino. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| ${ }^{\text {r.Psycologial }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 1 | 0 | 1 | $1: 6$ | 0.0 | 5.6 | 0 | 0 | 0 | 0.0 | 0.0 | 00. |
| 8.labmom | 1 | 0 | 1 | 4.6 | 0.0 | 4.6 | 2. | 0 | 2 | 20.0 | 0.9 | 200 | 2 | 0 | 2 | 11.1 | 0.0 | 11.1 | 1 | 0 | 1 | 9.1 | 0.0 | 91 |
| 9 90tre | 0 | 0 | 0 | 0.0 | 0.0 | 02 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 | 1 | 1 | 2 | 9.1 | 9.1 | 18.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolad | 13 | 9 | 22 | 59.1 | 40.9 | 100. | 91 | 1 | 10 | 40.0 | 10.0 | 100. | 12 | 6 | 18 | 66.2 | 33.3 | 100. | 6 | 5 | 11 | 54.5 | 455 | 100. |


|  | 61 Sfcands -5 MWures |  |  |  |  |  | 6-30 Minutes |  |  |  |  |  | Over 30 Muners |  |  |  |  |  | Dupatien per STater |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Percent |  |  | Number |  |  | Pet Cent |  |  | Number |  |  | Perconl |  |  |
| Evaluation | Certain | Dabtitul | Tolal | Cetain | Dovolitu | Total | Cention | Euatioliol | Total | Cerlain | Douttui! | Tolal | Certain | Doubthil | Total | Cerrain | Doubtiol | Total | Cerlain | Dooctitu | Total | Certain | Doubstol | Total |
| --Bation | 3 | 2 | 5 | 111 | 7.4 | 18.5 | 6 | 0 | 4 | 11. | 0.0 | 11.1 | 3 | , | 4 | 14.3 | 4.8 | 19.1 | 0 | 5 | 5 | 0.0 | 8.6 | 8.6 |
| 1-Astronemical | < | 2 | 3 | 3.2 | 24 | 11.1 | 6 | 0 | 6 | 16.7 | 0.01 | 16.7 | 6 | 2 | 8 | 28.6 | 9.5 | 38.1 | 15 | 5 | 20 | 25.9 | 8.6 | 345 |
| 2-Aicanf | 7 | 2 | 9 | 12.9 | 29 | 33.3 | 3 | 6 | 9 | 8.3 | 16.7 | 25.0 | 1 | 2 | 3 | 4.8 | 9.5 | 14.3 | 2 | 1 | 8 | 12.1 | 1.7 | 138 |
| 3-Liont Phemon. | 0 | 0 | 0 | 0.2 | 0 | 0.0 |  | 0 | 1 | 2.8 | 0.0 | 2.8 | 0 | 2 | 2 | 1.0 | 95 | 4.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |
| 4 - Birds | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | $\theta$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5.Clowds, Dust etc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.01 | 2.8 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-instic. inv. | - | 0 | 4 | 14.8 | 0.0 | 148 | 3 | 0 | 3 | 8.3 | 0.0 | 8.3 | 0 | 0 | 0 | 1,0 | 0.0 | 0.0 | 10 | 0 | 10 | 17.2 | 0.0 | 172 |
| 7.Psychological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.8 | 0.0 | 2.8 | 1 | 0 | 1 | 4.5 | 0.0 | 48 | 0 | 0 | 0 | 1.0 | 0.0 | 00 |
| B-Unkow | 4 | 0 | 4 | 14.8 | 0.0 | 148 | 11 | 0 | $1 /$ | 30.6 | 0.0 | 30.6 | 1 | 0 | 1 | 4.8 | 0.0 | 4.8 | 13 | 0 | 13 | 22.4 | 0.0 | 22.4 |
| gother | 2 | 0 | 2 | 74 | 0.0 | 7.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.05 | 1 | , | 2 | 4.8 | 4.8 | 96 | 2 | 0 | 2 | 34 | 0.0 | 3.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 21 | 6 | 27 | 718 | 22.2 | 100 | 29 | 7 | 36 | 80.6 | 19.4 | 100 | 13 | 8 | 21 | 61.9 | 38.1 | 100. | 47 | 11 | 58 | 81.0 | 18.0 | 100. |



| Evaluation | Fol ouration of SIGHTING, 5 Seconds in hess - $6-10$ secentas |  |  |  |  |  |  |  |  |  |  |  | GREEN X |  |  |  |  |  |  | GPEEN |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  | 11-3 | 305 | cer | ds |  |  | 31. |  | ce |  |  |
|  | Munder |  |  | Per Cent |  |  | Nunber |  |  | Percent |  |  | Number. |  |  | Per Cent |  |  | Mumber |  |  | Per Cort |  |  |
|  | Certain | Dosotul | Total | Certain | Dowitul | Total | Cerian | Doudtui | Total | Centin | Dabitul | Total | Certain | Doubtul | Total | Centain | Doubtitul | Total | Ceriain | Dooubtit | Total | Cerrioin | Doubtioul | Total |
| 0-Batloon | 0 | 0 | 0 | 0.0 | 2.e | 0.0 | 0 | 0 | 0 | 02 | 0.0 | 0.0 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | Q 0 | 00 |
| 1.Astionenical | 22 | 15 | 62. | z1s | 48.6 | 86.1 | 1 | 10 | 11 | 6.7 | 66.7 | 13.4 | 2 | 2 | 9 | 63.4 | 18.2 | 81.8 | 1 | 0 | 1 | 50.0 | 0.0 | 50.0 |
| 2-Aicratt | 2 | 0 | 2 | 28 | 0.0 | 2.8 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 0 | 1 | , | 0.0 | 91 | 9.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 3-Lieth Phenoa. | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | e0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 5-Cloods, Oust eca | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. |
| E-Insutfic. .nto. | 2 | 0 | 2 | 2.8 | 0.0 | 2.8 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7.Psyctological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | O | 0 | 0 | 0.0 | d. 0 | 0.0 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 8-Unhkom | 4 | 0 | 4 | $\underline{6} 6$ | 0.0 | 5.6 | 3 | 0 | 3 | 20.0 | 0.0 | 20.0 | 1 | 0 | 1 | 91 | 0.0 | 9.1 | 1 | 0 | 1 | 50.0 | 0.0 | 50.0 |
| Other | $\angle$ | 1 | 2 | 1.4 | 1.4 | 2.8 | 0 | 0 | 0 | 0.1 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 36 | 36 | 72 | 50.01 | 50.0 | 100 | 5 | 10 | 15 | 33.3 | 66.7 | 100.1 | 8 | 3 | 11 | 72.7 | 27.3 | 100. | 0 | 0 | 2 | 0.0 | 0.0 | 100. |


| Evaluation | 61 Secondos- 5 Menetes. |  |  |  |  |  | 6-30 Minuter |  |  |  |  |  | Quee 10 Monuter |  |  |  |  |  | Duration nor Stated |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Percoml |  |  | Humber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Pertent |  |  |
|  | Cerdain | Boobthol | Total | Centain | Doubitul | Total | Cerlinin | Dowbthil | Total | Certio | Doobitul | Toial | Certain | Doubltad | Total | Certain | Doubtul | Total | Certain | Douttul | Total | Certain | Doubtu! | Total |
| Q-Balicon | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | , | $\bigcirc$ | 1 | 9.1 | 0.0 | 9.1 | 1 | 0 | 1 | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astromamical | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 1 | 3 | 4 | 91 | 27.3 | 36.4 | , | 0 | 1 | 16.7 | 0.0 | 16.7 | 14 | 19 | 33 | 30.4 | 413 | 11.7 |
| 2-Auciath | 0 | 6 | 6 | 0.0 | 50.0 | 50.0 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 1 | 0 | , | 16.7 | 0.0 | 16.7 | 1 | 2 | 3 | 2.2 | 4.3 | 6.5 |
| 3 Ligtit Phemom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2. | 18.2 | 0.0 | 18.2 | 0 | 0 | 0 | 0.0 | 2. 0 | 0.0 | 0 | 0 | 0. | 0.0 | 0.0 | 0.0 |
| 4 -Birds | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0. | 0.0 |
| 5. Clouds, Dust etc. | 0 | 0 | 0 | 08 | 00 | 20 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | . 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6-Insutica tino. | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 6 | 0. | 6 | 13.0 | 00 | 13.0 |
| 7.Psyctologican | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  | 0.0 |
| Buninom | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 3 | 0 | 3 | 50.0 | 0.0 | 50.0 | 3 | 0 | 3 | 6.5 | 0.0 | 6.5 |
| 200ter | , | 0 | 1 | 8.3 | 0.0 | 8.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.2 | 0.0 | 2.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 5 | 7 | 12 | 41.7 | 583 | 100. | 8 | 3 | 11 | 72.7 | 273 | 100 | 6 | 0 | 6 | 100.0 | 0.6 | 100 | 25 | 21 | 46 | 54.3 | 43: 7 | 100 |



| Evalution | $\begin{aligned} & \text { EOR } \\ & \text { LESRS } \end{aligned}$ |  |  |  |  |  | PURATION OE SIGHTIN |  |  |  |  |  | NG, YELGOW DC GLOWING YELLOW DBVECTS |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mmber |  |  | Per Cort |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Hunber |  |  | Per Cent |  |  |
|  | Cortain | Dovithy | Total | Cerana | Doubilui | Total | Certain | Doubitul | Tobi | Cerixin | Doutftul | Total | Centin | Doubfiful | Total | Cartion | Doubtfol | Tolut | Certain | Doubtai | Totai | Cortin | Doubtith | Tota |
| Qaballoen | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 8 | - | 0.0 | 2.0 | e. 0 |  | 1 | 2 | 63 | 6.3 | 12.6 | 0 | 0 | 0 | De | 0.0 | 0.0 |
| 1-Aatronomial | 0 | 5 | 15 | 4.0 | 20.0 | 60.0 | $\checkmark$ | 0 | 5 | es. | 1.0 | 6j. 6 | 3 | 1 | 4 | 18.8 | 6.3 | $2 r .1$ | 6 | 1 | 7 | 31.3 | 1.9 | 41.2 |
| 2-Aircrift | 2 | 2 | 4 | 1.0 | 1.0 | 16.0 | 1 | 0 | 1 | $1 / 4$ | 1.0 | $1 / .1$ | 3 | 0 | 3 | 18.8 | e. | 182 | 3 | 2 | 5 | 12.6 | 11.8 | 294 |
| 3Limi Phmom. | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 | 0 | 0 | 0 | 20 | 0.0 | en | 0 | 0 | 0 | 0.8 | 0.0 | 0.0 | 0 | 1 | 1 | 1.0 | 5.2 | 5.4 |
| 4 - Bius | 2 | 1 | 1 | 0.0 | 4.0 | 4.0 | 0 | 1 | 1 | 00 | 11.1 | 11.1 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Sclouts, Doust, etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 6.3 | 6.3 | 0 | 0 | 0 | ae | 0.0 | 0.0 |
| flasumic min. | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 | 0 | 0 | 0 | e, 0 | 0.0 | 0.0 | 3 | 0 | 3 | LR. 1 | 0.0 | 18.8 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 7.Psycrobiocal | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 6.3 | 2.0 | 6.3 | 1 | 0 | 1 | 4, 9 | 0.0 | 5.9 |
| 8 Bundoum | 3 | 0 | 3 | 12.0 | 0.0 | 12.0 | 2 | 0 | 2 | 22.2 | 1.0 | 22.2 | 2 | 0 | 2 | 12.5 | 0.0 | 12.5 | 3 | 0 | 3 | 17.6 | $0 \cdot$ | L7.6 |
| 90 trem | 0 | 0 | 0 | 0.0 | 1.0 | 1.0 | 0 | 0 | 0 | 0.0 | 0.1 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 17 | 8 | 25 | 68.01 | 31.01 | 100.1 | 8 | 1 | 9 | 81.9 | 11.1 | 100. | 13 | 3 | 16 | 81.2 | 18.8 | 100. | 13 | 4 | 17 | 16. | 23. | 100 |


|  | 6/ Ficenas-5 Mivures |  |  |  |  |  | 6-30 Menutse |  |  |  |  |  | Oversto Mirutes |  |  |  |  |  | Duratuer net states |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  | Number |  |  | Pecent |  |  | Number |  |  | P Per Cent |  |  | Number |  |  | PelCat |  |  |
| Evaluation | Cerrain | Dowttou | Total | Cetrain | Doutthil | Tolal | Certain | Doibltul] | Total | Certain | Doubitul | Total | Certain |  | Total | Centain | Doustul | Total | Cernin | Douttrul | Total | Certain | Doubtul | Total |
| Q-Batioon | 1 | 0 | 1 | 3.0 | 0.0 | 3.0 | 6 | 3 | 9 | 16.2 | 81 | 24.3 | 4 | 3 | 7 | 235 | 17.6 | 41.1 | 1 | 3 | 7 | 16.1 | 6.5 | 22.6 |
| 1-Astonomical | 1 | 2 | 3 | 3.0 | 6.1 | 91 |  | 3 | 8 | 13.0 | 8.1 | 21.6 | 0 | 2 | 2 | 0.0 | 11.8 | 11.8 | 4 | 3 | 7 | 12.9 | 97 | 226 |
| 2-Aicraft | 7 | 8 | 15 | 2/2 | 24.3 | 4i4 | 4 | 3 | 7 | 10.8 | 8.1 | 18.9 | 6 | 1 | 2 | 5.9 | 5.9 | 116 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |
| 3-Light Phenom. | 2 | , | 3 | 6.1 | 3.0 | 9.1 | 3 | 0 | 3 | 8.1 | 0.0 | 8.1 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 1 | 0 | 1 | 32 | 0.0 | 3.2 |
| 4 - Birds | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | D. 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Cliouds, Dust, etc | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 |
| 6 -nsulfice, Info. | 3 | 0 | 3 | 91 | 0.0 | 9.1 | 1 | 0 | 1 | 2.7 | 0.0 | 2.7 | 2 | 0 | 2 | 11.8 | 0.0 | 118 | 5 | 0 | 5 | 161 | 0.0 | 16.1 |
| 7.Psyctiolegical | 0 | 0 | 0 | 0.2 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 -Unksom | 8 | 0 | 8 | 243 | Rie 2 | 24.2 | 6 | 0 | 6 | 16.2 | 0.0 | 16.2 | 3 | 0 | 3 | 17.6 | 0.0 | 11.6 | 9 | 0 | 9 | 29.0 | 0.0 | 29.0 |
| gothet | 0 | 0 | 0 | e.e | 0.0 | 0.0 | 2 | 1 | 3 | 5.4 | 2.7 | 8.1 | O | 1 | 1 | 2.0 | $1: 9$ | 5.9 | 1 | 0 | 1 | 3.2 | 0.0 | 3.2 |
| Total |  |  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tour | 12 | 1 | 3 |  | 3 | 100. | 27 | 10 | 37 | 13.0 | 27.0 | 100 | (0) | 7 | 117 | 58.8 | 41.2 | 100.1 | 26 | 5 | 3 | 85.9 | 16.1 | 100. |



| Evaluation | 5 Secencos en hars |  |  |  |  |  | 6-10 Secards |  |  |  |  |  | 11130 Secenas |  |  |  |  |  | 31.60 sfceros |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Percent |  |  | Number |  |  | Per cent |  |  | Number |  |  | Per cent. |  |  | Number |  |  | Per Comt |  |  |
|  | Certain | Daubtiol | Total | Cetrain | Dasthil | Tolal | Cerain | Dobithl | Total | Certain | Dowthes | Total | Certain | Doubtful | Total | Centain | Dovitifu | folai | Certain | Doubitur | Totad | Certain | Dobetul | Total |
| Q.Balloon | 0 | 1 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | L | 2 | 3 | 5.6 | 11.1 | 16.7 |  | 1 | 7 | 7.7 | 7.7 | 15.4 |
| 1-Aslinommical | 12 | 9 | 26 | 39.5 | 209 | 604 | 5 | 1 | 6 | 33.3 | 6.7 | 40.0 | 4 | 1 | 5 | 22.2 | 5.6 | 278 | 0 | 1 | 1 | 00 | 77 | 77 |
| 2-Aitctat | 5 | 1 | 6 | 116 | 23 | 13.9 | 0 | 2 | 2 | 0.0 | 13.3 | 13.3 | 4 | 1 | 5 | 22.2 | r. 6 | 278 | 2 | 3 | J | 16.4 | 23.1 | 38.5 |
| 3 Light Phemoa. | 0 | 0 | 0 | 0.0 | 0e | 0.0 | 0 | 1 | 1 | 0.0 | 6.7 | 67 | 1 | 0 | 1 | 5.6 | 0.0 | 5.6 | 0 | 0 | 0 | 10 | 0.0 | 8.0 |
| 4 Birds | 0 | 1 | 1 | 100 | 2.3 | 2.3 | 0 | 0 | 0 | Qe | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | r.b | 5.6 | 0 | 0 | $\bigcirc$ | el 0 | 0.0 | 10 |
| S-Clouds, Dust eth | 0 | 1 | 1 | 0.0 | 2.3 | 2.3 | 0 | 0 | 0 | ee | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| S-Insulfic, mito. | 3 | 0 | 3 | 10 | 0.0 | 70 | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1.Psyctrologioal | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | ee | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 5.6 | 5.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| AUnknown | 6 | 0 | 6 | 14.0 | 0.0 | 140 | 1 | 0 | 1 | 6.7 | 0.0 | 6.1 | 2 | 0 | 2 | 11.1 | 0.0 | 11.1 | 4 | 0 | 4 | 30.8 | 0.0 | 308 |
| 9-0thet | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 6.7 | 0.0 | 6.1 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 7.1 | 0.0 | 71 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T | 31 | 12 | 43 | 12.1 | 27.9 | 100. | 11 | 4 | 15 | 73.3 | 26.2 | 100 | 12 | 6 | 18 | 66.7 | 33.3 | 100 | 8 | 5 | 13 | 6/5 | 38.1 | 100. |


| Evaluation | 61 Sfceres. - 5 Muruter |  |  |  |  |  | 6-30 Monvers |  |  |  |  |  | OUER 30 Minvier |  |  |  |  |  | Duration vei STATEDE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percom |  |  | Humber |  |  | Percent |  |  | Number |  |  | Per Cent |  |  | Nunber |  |  | Pert cent |  |  |
|  | Centain | Coubtul | Otai | Cerrain | Doubturi | Total | Cetbin | Doubitul | Total | Cetrin | Dostitiol | Total | Eertain | Doibthe | Total | Certain | Doubltu | Total | Certain | Doubtru | Total | Certain | Doublua | Tota |
| O-Ballom | 1 | 2 | 3 | 3.3 | 6.7 | 10.0 | 3 | 3 | 6 | 94 | 9.4 | 18.8 |  | 0 | 1 | 2.1 | 0.0 | 9.1 | 2 | 1 | 3 | 4.9 | 2.4 | 13 |
| 1.Astronomial | 2 | 1 | 3 | 6.2 | 3.3 | 10.0 |  | 1 | 6 | 15.6 | 3.1 | 18.7 |  | 1 | 4 | 273 | 91 | 36.4 | 10 | 4 | 14 | 24.4 | 98 | 34.2 |
| 2-Ailciat | 5 | 4 | 9 | 16.7 | 13.3 | 380 | 4 | 4 | 8 | 12.5 | 12.5 | 25.0 |  | 0 | 2 | 18.2 | 0.0 | 18.2 | 6 | , | 9 | 14.6 | 2.3 | 21.9 |
| 3Ligul Phenom, | 0 | 1 | 1 | 0.0 | 3.3 | 3,3 | 1 | 0 | 1 | 3.1 | 0.0 | 3.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 44 Birds | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.2 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| $5-$ Clouds, Dust, elc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 6-Insuficic min. | 1 | 0 |  | 3.3 | 0.0 | 3.3 | 1 | 0 | 1 | 3.1 | 0.0 | 31 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 6 | 14.6 | 0.0 | \% 6 |
|  | 2 | $L$ | 3. | 6.2 | 3.3 | 10.0 | 0 | 0 | 0. | 0.0 | 0.0 | 0.2 | < | 0 | 1 | 9.1 | 0.0 | 21 | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 |
| zunkrom | 10 | 0 | 10 | 33.3 | 0.0 | 383 | 9 | 0 | 9 | 28.1 | 0.0 | 28.1 | 3 | 0 | 3 | 27.3 | 0.0 | 21.3 | 2 | 0 | 7 | 17.1 | es | 17.4 |
| 9-006er | 0 | 0 | 0 | 0.0 | 0.0 | $0 \cdot$ | 0 | $L$ | 1 | 0.0 | 3.1 | 3.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 2.4 | 2.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tosis | 21 | 9 | 30 | 70.0 | 32.0 | 100. | 23 | 9 | 32 | 71.9 | 28.1 | 100 | 10 | 1 | 11 | 80.9 | 9.1 | 100. | 32 | 9 | 41 | 18.0 | 22.0 | 100. |



|  | 5 Secen er er less |  |  |  |  |  | 6:10 SEiends |  |  |  |  |  | $11-30$ sficends |  |  |  |  |  | 71-60 Secowns |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Per Cont |  |  | Munber |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Peicenl |  |  |
| Evduston | Cormin | Doubuthl | Total | Certan | [Doubthe] | Tola | Cerara | Doubterd | Toisa | Cetrin | Dosuther | Tota | Sertain | Doobthi | Total | Cerain | Dowaltu | Total | Certain | Doobliful | Total | Cerain | Dovetul | Tord |
| O-Ballosa | 4 | 3 | 4 | 1.3 | 3.91 | $\sqrt{2}$ | 0 | 1 | 1 | e. 0 | 3.1 | 3.1 | 1 | 2 | 3 | 26 | $\sqrt{ } 3$ | 1.9 | 2 | 1 | 1 | 0.0 | 2.8 | 28 |
| 1.Astomomical | 21 | 21 | 46 | 273 | 32.5 | $\sqrt{2} 8$ |  | 9 | 14 | <0:6 | 28.1 | 43.7 |  | 2 | 7 | 13.2 | 53 | 15,5 | 2 | 3 | 4 | 5.6 | 5.6 | 11.2 |
| 2.A.tridid | 4 | 2 | 11 | - 2.2 | 9.1 | 14.3 | 3 | 4 | 7 | 94 | 12.5 | 219 |  | 6 | $1 /$ | 13.2 | <5.8 | 24.0 | 5 | 4 | 9 | 13.9 | 11. | 25:0 |
| 3 Limm Pherom. | 0 | 2 | 2 | 0.0 | 26 | 2.6 | 1 | 0 | 1 | 3.1 | 8.0 | $3 /$ | 0 | 1 | 1 | 0.0 | 1.6 | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4-Biros | 1 | 1 | 2 | 1.3 | $1 / 3$ | 2.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\theta$ | 0 | - | 00 | 0.0 | 0.0 | 3 | 1 | 4 | 8.3 | 2.8 | UL |
| scloous, Dust ele | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Glosetric mo. | 1 | 0 | $L$ | 13 | 0.0 | 1.3 | 3 | 0 | 3 | 94 | 0.0 | 9.4 | 4 | 0 | 4 | 10.1 | 0.0 | 105 | 6 | 0 | 6 | 16.7 | 00 | 16.7 |
| 1-Pydralogical | 0 | 0 | 0 | 0.9 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 Unksom | 7 | 0 | 7 | 9.1 | 0.0 | 9.1 | 6 | 0 | 6 | 18.8 | 0.0 | 18.8 | 10 | 0 | 10 | 26.3 | 0.0 | 26.3 | 12 | 0 | 12 | 33.3 | 0.0 | 33.3 |
| 9, | 3 | 1 | 4 | 3.9 | 1.3 | 5.2 | 0 | 0 | 0 | 0.0 | 0. | 00 | 2 | 0 | 2 | $\sqrt{3}$ | 0.0 | $\sqrt{ } 3$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 38 | 39 | 71 | 49.4 | 6 |  | 18 | 14 | 32 | 56.3 | 43.7 | 100. | 27 | 11 | 38 | 71. 1 | 289 | 100. | 28 | 8 | 36 | 77.8 | 22.2 |  |


| Evalualion | $6 /$ srcends - 5 Mwuyes |  |  |  |  |  | 6-30 MUNTES |  |  |  |  |  | Ovel 30 Minutes. |  |  |  |  |  | Duratien Mar States |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pet Cent |  |  | Number |  |  | Percent |  |  | Nunbel |  |  | Percent |  |  | Nomber |  |  | Percat |  |  |
|  | Centain | Douttuil | Tota | Cetain | Dountiol | Total | Certain | Doubtitul | fotal | Certain | Dabituil | Total | Cerbin | Doubtoul | Total | Certain | Doubtrul | Total | Certain | Doulthol | Tota | Centain | Douithel | Total |
| O-Balloon | 15 | 18 | 33 | 15.1 | 18.9 | 34.7 | 18 | 12 | 30 | 194 | 12.9 | 32.3 | 8. | 3 | 11 | 18.6 | 1.0 | 25.6 | 13 | 5 | 18 | 12.6 | 49 | 17.5 |
| 1-Astemomical | 2 | 3 | $1{ }^{-1}$ | 2.1 | 3.2 | 5.3 | 10. | 4 | 14 | 10.8 | 4.3 | 15.1 | 11 | $5-$ | 16 | 215 6 | 11.6 | 31.2 | 10 | 8 | 18 | 9.7 | 7.8 | 17.5 |
| 2-Aicrath | 10 | 8 | 18 | 10.5 | 8.4 | 18.9 | 3 | 10 | 13 | 3,2 | 10.8 | 14.0 | 2 | 1 | 3 | 4.7 | 2.3 | 20 | 9 | 4 | 13 | 8.2 | 3.9 | 12.6 |
| 3-Limt Pheom. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 4 | 6 | 22 | 4.3 | 6.5 | 0 | 0 | 0 | Do | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 Biras | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | - | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5-Clouds, Dust etc. | $\theta$ | 3 | 3 | 0.0 | 3.2 | 3.2 | 6 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | e, | 4 | 0 | $L$ | 1.0 | 0.0 | 1.0 |
| GInsuffic mo. | 5 | 0 | 5 | 53 | 0.0 | 5 | 7 | 0 | 7 | 75 | 0.0 | 7.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 22 | 0 | 22 | 21.4 | 0.0 | 21.4 |
| 1.Psyctionazal | $\angle$ | 1 | 2 | 1.1 | 11 | 2.2 | 5 | 0 | 5 | 5.4 | 0.0 | 5.4 | 0 | 0 | 0 | 0.0 | 0.0 | e. 0 | 2 | 1 | 3 | 1.9 | 10 | 2.9 |
| ${ }^{\text {B }}$ Unaknow | 26 | 0 | 26 | 212 | 0.0 | 21.4 | 16 | 0 | 16 | 17.2 | 0.0 | 12.2 | 11 | 0 | 11 | 25.6 | 0.0 | 21.6 | 24 | 0 | 24 | 23.3 | 0.0 | 23.3 |
| gouter | 3 | 0 | 3 | 3.2 | 0.0 | 3.2 | 2 | 0 | 2 | 22 | 0.0 | 2.2 | 2 | 0 | 2 | 4.7 | 0.0 | 4.7 | 4 | 0 | 4 | 3.9 | 0.0 | 3.9 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T자리 | 62 | 33 | 85 | 6, 6 | 34.7 | 100.1 | 631 | 30 | 93 | 671 | 32.3 | 100 | 34 | 9 | 43 | 79/ | 20.9 | 100 | 85 | 18 | 103 | 82.J | 17.5 | 100 |

TAREE ALQZ EUALLATION DF DUECT SLGHTLNGS FOR RLL YEARS BV RRLORS REPURTER

| Evaluation | 5 Secourds are <ecs. |  |  |  |  |  | 6-10 skcans |  |  |  |  |  | 11-30 SEcenar |  |  |  |  |  | 31-60 SEcendos |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Per cemt |  |  | Nurber |  |  | Per Cont |  |  | Nunter |  |  | Peecent |  |  | Humber |  |  | Percent |  |  |
|  | Centio | Doubtion | Total | Centin | Dowithol | Totai | Certain | Doattiol | Tota | Certain | Dowbith\| | Totail | Certain | Doubtaul | Total | Certain | Doobitat | Total | Certain | Doduthy | Total | Certain | Dabitul | Total |
| O-Balloon | 2 |  | 3. | 9.1 | 4 | 13.6 | 0 | 2 | 2 | 0.0 | 10.5 | 10 | l | 3 | 4 | 2.0 | 6.1 | 81 | 2 | 2 | 4 | 5.3 | C. 3 | 10.6 |
| 1.Astronomical | 1 | 1 | 2 | 4.5 | 45 | 90 | 0 | 2 | 2 | 0.0 | 10.5 | 10.5 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 2-Aicrath |  | 6 | 8 | 91 | 27.3 | 36 A | 8 | 1 | 9 | 42.1 | 5.3 | 42.4 | 18 | 11 | 33 | 36.7 | 30.6 | 673 | 15 | 6 | 21 | 39.5 | 158 | 55.3 |
| 3-Light Phemoe | , | 0 | 1 | 4.1 | 0.0 | 45 | 0 | 1 | 1 | 0.0 | 5.3 | 5.3 | 0 | 0 | 0 | $Q .0$ | 0.0 | 1.0 | 0 | 1 | 1 | 0.0 | 2.6 | 2.6 |
| 4 Birds | 1 | 0 | 1 | 4.5 | 0.0 | 4.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 2.6 | 0.0 | 2.6 |
| 5-Clouds, oust etc. | 0 | 0 | 0 | De | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 120 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-insuttic. Mro. | 1 | 0 | 1 | 4.5 | 0.0 | 4.5 | 1 | 0 | 1 | $\sqrt{3}$ | 0.0 | 53 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 | 2 | 0 | 2 | 5.6 | 0.0 | 5.6 |
| 1.Psychotorical | 1 | 0 | 1 | 4.5 | 0.0 | 45 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 2 | 1 | 3 | 4.1 | 2.0 | 6.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 UUnkrom | 3 | 0 | 3 | 13.6 | 0.0 | 13.6 | 4 | 0 | 4 | 21.1 | 0.0 | 21.1 | 7 | 0 | 7 | 14.3 | 0.0 | 14.3 | 8 | 0 | 8 | 21.1 | 0.0 | 21. |
| Yober |  | 0 | 2 | 91 | - 0.0 | 9.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | - | 1 | 2.6 | 0.0 | 2.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 19 | 8 | 22 | 163.6 | 36.4 | 100. | (3) | 6 | 19 | 68.4 | 31.6 | 100. | 30 | 19 | 49 | 16/21 | 38.8 | 10a | 291 | 9 | 38 | 16.3 | 23.1 | 100. |


| Evaluation | 6/5Ecener-5 Mnvures |  |  |  |  |  | 6-30 Minuter |  |  |  |  |  | Oufe 30 Munutes |  |  |  |  |  | Dratien por Statis |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percort |  |  | Number |  |  | Pei Cont |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  |
|  | Centrin | Doubtral | Total | Cerlan | [Dowitra] | Totat | Certaín | Doublta | Tobil | Cetain | Doubitul | Tota | Eentain | Doabtitu | Total | Certain | Doubtail | Tolal | Certain | Dowterul | Total | Ceria | Dountifut | वad |
| Q-8alloon |  |  | 2 |  |  | 8.6 |  | 9 | 22 | 24 | 12.0 | 3 | 6 | 3 | 9 | 24. | 12.0 | 36 | 10 | 3 | 13 | 11.9 | 3.6 | 15.5 |
| 1-Astronmaica | 1 | 0 | 1 | $1 / 3$ | 0.0 | 1.3 | 0 | 1 | 1 | ee | 13 | 1.3 | 3 | 1 | 4 | 12.0 | 4.0 | 16.0 | 1 | 5 | 4 | 1.2 | 3.6 | 4.8 |
| 2-Alciadt | 13 | 10 | 23 | 16.9 | 13.0 | 29.9 | 9 | 10 | 19 | 12. | 13.3 | 253 | 1 | 0 | 1 | 4.0 | 0.0 | 4.0 | 9 | 1 | 23 | 22.6 | 4.8 | 27.4 |
| 3-Lagh Phen | 1 | 1 | 2 | 13 | 1.3 | z. | 0 | 1 | 1 | 00 | 1.3 | 3 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 1 | 0 | 1 | 1.2 | 0.0 | . 2 |
| 4 4-Bids | , | 0 | 1 | 1.3 | 0.0 | 1.3 | 0 | 0 | 0 | 0.0 | 0.0 |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 12 | 1.2 |
| 5-Clouds, Dust, | 0 | 0 | 0 | . | e.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 1 | 40 | 0.0 | 4.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| GImsuntic min. | $x$ | 0 | 5 | 6.11 | 0.0 | 6.5 | 0 | 0 | 8 | 10.7 | 0.0 | 10.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 20 | 0 | 20 | 23.1 | 0.0 | 23.8 |
| 7. Prycturicia | 1 | 0 | 1 | $1 / 3$ | 0.0 | 13 | 1 | 0 | 1 | 1.3 | 0.0 | 1.3 | 2 | 0 | 2 | 8.0 | 0.0 | 80 | 1 | 0 | 1 | 1.2 | 0.0 | 12 |
| 2Unknom | 20 | 0 | 20 | 26.0 | 0.0 | 26.0 | 12 | 0 | 12 | 16.0 | 0.0 | 16.0 | 7 | 0 | 7 | 28.0 | 0.0 | 28.0 | , | 0 | 15 | 179 | 0.0 | 179 |
| Fother | 1 | 1 | 2 | 1.3 | 1.3 | 2.6 | 4 | 2 | 6 | 5.3 | 2.7 | 80 | $d$ | 1 |  | 0.0 | 4.0 | 4.0 | C | 0 | 6 | 7.1 | 0.0 | 21 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 60 | 17 | 17 | 11.9 | 22.1 | 100 | 5 | 23 | 75 | 693 | 30.7 | 100. | 20 | 5 | 25 | 80.0 | 20.0 | 180 | 13 | 11 | 89 | 869 | 13.1 | 100. |

TABLE AIRS EVALVATIRN DF OBVERT SLGETINGS FOR ALL YEARS BY COLORS REPQRTEQ

| Evalation | 5 Secands er lers |  |  |  |  |  | 6-10 Seferds |  |  |  |  |  | $\text { 11-30 } 5 \text { ccones }$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | Num |  |  | Per Cent |  |  |  |  |  |  |  |  | Number |  |  | Perconl |  |  | Number |  |  | Pel Cent |  |  | Number |  |  |  | el Cont |  |
|  | Certain | Doubitul | Tolat | Certain | Doubtiol | Tolat | Ceterin | Dousthil | Total | Cerizin | Doustrol | Total | Certuin | Ooubitul | Total | Certain | Dousti\| | Tow | Certain | Doubltul | Total | Cortin | Doubttul | Total |
| aballom | 0 |  | 1 | 8.0 | 5.0 | 5.0 |  | 1 | 2 | $1 / 1$ | 11.1 | 22.2 | $\bigcirc$ | 1 | , | 0.0 | 3.1 | 3.1 | 3 | 1 | 4 | 13.0 | 4.3 | 17.3 |
| 1-Astonomial | 8 | 3 | 11 | 4e0 | Lr.o | 55.0 | 2 | 1 | 3 | 21.2 | $11 /$ | 33.3 | 3 | 1 | 4 | 94 | 3.1 | 12.5 | 2 | 1 | ? | 8.2 | 4.3 | 13.0 |
| 2-Ancratt | 4 | 1 | 5 | 20.0 | -1.0 | 25.0 | 1 | 1 | 2 | $1 / 1$ | $1 / 1$ | 22.2 | 5 | 4 | 9 | 166 | 12.1 | 28.1 | 3 | 1 | 4 | 13.0 | 4.3 | 17.3 |
| 3 Light Phamom. | 0 | 0 | 0 | 0.0 | 10 | 0.0 | 0 | 0 | 0 | 1.0 | 0.0 | 0.0 | 0 | 0 | 0 | 1.0 | 4.0 | 0.0 | 0 | 0 | 2 | 0.0 | 0.0 | 20 |
| 4 -8irds | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 2 | 0 | 0 | 0.0 | Q.e | al | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds, Dust, etc. | 0 | 0 | 2 | 0.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 3.1 | 31 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| E-insulicic min. | 3 | 0 | 2 | 11.0 | 0.0 | 150 | < | 0 | 1 | 11.1 | 0.0 | 11.1 | 1 | 0 | 7 | 21.9 | 2.0 | 21.9 | 2 | 0 | 2 | 8.2 | 0.0 | 8.7 |
| 1.Pyturiocion | 0 | 0 | 0 | 0.0 | 1.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | - | 0 | e | 0.0 | 0.0 | 0.8 |
| t-Uneriom | 0 | 0 | 0 | 0.0 | 0.0 | Q0 | 1 | 0 | 1 | $1 / 1$ | 0.0 | 11.1 | 4 | 0 | 4 | 12.5 | 0.0 | 125 | 9 | 0 | 9 | 39.1 | 0.0 | 39.1 |
| Sotrer | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 4 | 6 | 6.3 | 12.1 | 18.8 | 0 | 1 | 1 | 0.0 | 4.3 | 43 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 15 | 5 | 20 | 78.0 | 25.0 | 100. | 6 | 3 | 9 | 66.7 | 33.3 | 100 | 21 | 11 | $3 \lambda$ | 65.6 | 34.4 | 100 | 19 | 4 | 23 | 876 | 17.4 | 100. |


| Evaluation | 61 Secenos 5 M Mourse |  |  |  |  |  | 6-30 4nvures |  |  |  |  |  | Ouke 30 Mureres |  |  |  |  |  | Dupatiencxar Srates |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Percenl |  |  | Number |  |  | Per Canl |  |  | Munber |  |  | Per Call |  |  | Mumber |  |  | Percont |  |  |
|  | Certain | Ooubifly | Total | Cetrain | Dovottul | Total | Cents | Douthil] | Total | Certain | Doubttul | Total | Certain | Dovothlu | Tobal | Ceritain | Doutiou | Tatal | Ceftrin | Doultor | Total | Certain | Dabithl | Tota |
| a-bailoon | 12 | 3 | 15 | 19.7 | 4.9 | 24.6 | 8 | 11 | 19 | 11.1 | 18.3 | 26.4 | 3 | 2 | 5 | 17 | 5 | 12.8 | $1 /$ | 4 | 15 | 6.6 | 2.4 | 90 |
| 1-Astronemical | 0 | 1 | 1 | 0.0 | 1.6 | 1.6 | 3 | 2 | 5 | 42 | 2.8 | 7e | 3 | 1 | 4 | 7.7 | 2.6 | 12.3 | $\mathrm{CH}^{-}$ | 8 | 23 | 9.0 | 4.8 | 13,8 |
| 2-Aitctat | 8 | 2 | 15 | 13.1 | 11.5 | 24,6 | 12 | 1 | 17 | 16.7 | 6.9 | 23.4 | 1 | 3 | 4 | 2.6 | 1.1 | ko | 12 | 16 | 28 | 1.2 | 9.6 | 16.8 |
| 3-Light Pherom. | 2 | 1 | 3 | 3.3 | 1.6 | 49 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 1.2 | 0.6 | 1.8 |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | e0 | 0 | 1 | 1 | ee | 14 | 1.4 | 2 | 0 | 2 | 5 | 0.0 | 5.1 | 2 | 1 | 3 | 1.2 | 0.6 | 18 |
| 5-Clouds, Dust itc. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | $L$ | 14 | 0.0 | 1.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.2 |
| 6-Insulitic: Int. | 3 | 0 | 3 | 4.9 | 0. | 49 | 11 | 0 | $1 /$ | 115.3 | $0 \cdot 1$ | 153 | 8 | 0 | 8 | 20.5 | 0.0 | 225 | 48 | 0 | 48 | 28.7 | 0.0 | 28.7 |
| 7.-Psycmological | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 2 | 0 | 2 | 2.8 | 0.0 | 2.8 | 1 | 0 | 1 | 2.6 | 0.0 | 2.6 | 3 | 1 | 4 | 1.8 | 0.6 | 3.4 |
| 2-Unkrown | 20 | 0 | 20 | 32.8 | 0.0 | 32.8 | 9 | 0 | $\xi$ | 12.5 | 0.0 | 12.5 | 11 | 0 | 11 | 218.2 | 0.0 | 28.2 | 29 | 0 | 29 | 17.4 | 0.0 | 174 |
| 9-06ee | 4 | 0 | 4 | 6.6 | Qe | 6.6 | 7 | 0 | 7 | 9.7 | 0.0 | 9.7 | 4 | 0 | 4 | 10.3 | 0.0 | 10.3 | 14 | 0 | 14 | 8.4 | 0.0 | 8.4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 49 | 12 | 61 | 80,3 | 19.2 | 100 | 53 | 19 | 72 | 17.6 | 26.4 | /e0. | 33 | 6 | 39 | 84.6 | 11.4 | 100. | 136 | 31 | 162 | 81.4 | 18.6 | cel |

TABLE AIQY EVALUATION DE OBNECT SIGATINGS FOR ALL YEARS RY CDLORS REPORTED


|  | 6/Sccerds -5 Murunic |  |  |  |  |  | 6-3e Mracures |  |  |  |  |  | OVIR 20 M MUTES |  |  |  |  |  | Duratied Ner STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percent |  |  | Mumber |  |  | Percent |  |  | Number |  |  | Petcmt |  |  | Numbe |  |  | Per Cent |  |  |
| Evjuation | Cartion | Doubittol | Total | Cartin | Doutiful | Tornd | Certion | Doubtitil | Total | 2in | Dostotul | Total | artin | Doobtrou | Total | Certain | [Douthi] | Tolal |  | Doubtalul | rob | Certin | Dooubtal | Told |
| a-ballion | 5 | 1 | 8 | 6.7 | 11.1 | k\% | $J$ | 2 | 1 | 179 | 1.1 | 25.8 | 3 | 0 | 3 | L20 | 0.0 | 20.0 | 3 | 1 | 4 | 6.0 | 2.0 | 8.0 |
| 1.Astionomial | 0 | 3 | 3 | 0.0 | 6.7 | 4 |  | 1 | 2 | 5.6 | 3.6 | 72 | 3 | 4 | 1 | 260 | 24.7 | 46.7 | 7 | 5 | 12 | 14.0 | 10.0 | 240 |
| 2-Aitcrath | 4 | 6 | 10 | 8.9 | 13.3 | 22.2 | 1 | 1 | 2 | 3.6 | 2.6 | 72 | 0 | 1 | 1 | 0.0 | 6.7 | 67 | 6 | 5 | 11 | 12.0 | 10.0 | 23.0 |
| 3Limil Phemom. | 2 | 0 | 2 | 4.4 | 0.0 | 44 | 6 | $\bigcirc$ | 6 | 214 | 00 | 21.4 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 |
| 4 - ${ }^{\text {itra }}$ | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | eo | 0 | 0 | 0 | 08 | 0.0 | 0.0 |
| ScClouts, Dush, etc | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 |
| Ginsumica no. | 4 | 0 | 4 | 8,9 | 0.0 | 8.9 | 1 | 0 | 1 | 3.6 | 0.0 | 3.6 | 0 | 2 | 0 | 20 | 0.0 | 0.0 | 7 | 0 | 7 | 14.0 | 0.0 | 140 |
| 7-Psyateratioal | 1 | 2 | 3 | 2-2 | 4.4 | 6.16 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 6.7 | 6.7 | , | 0 | 1 | 2.0 | 0.0 | 2.0 |
| Sluaknom. | 12 | 0 | 12 | 26.2 | 0.0 | 267 | 9 | 0 | 9 | 32.1 | 0.0 | 32.1 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 9 | 0 | 9 | 18.0 | 0.0 | 18.0 |
| Sotre | 3 | 0 | 3 | 6.2 | 0.0 | 6.7 | 0 | 1 | 1 | 0.0 | 3.6 | 3.6 | , | 0 | 1 | 6.7 | 00 | 6.7 | 1 | 4 | 5 | 2.0 | 8.0 | 10.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toten | 29 | 16 | 45 | 64.4 | 35.6 | 100. | 23 | $1{ }^{-}$ | 28 | 82.1 | 17.2 | 100. | 9 | 6 | 11 | 62.5 | 325 | 100. | 35 | $\cdots$ | 50 | 70.0 | 30.0 | 100. |



| Eramamon | - 5 secenpr op hess |  |  |  |  |  | 6-10 sfrexps. |  |  |  |  |  | 11-30 Sferds |  |  |  |  |  | 3/-60 ficends |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mminer |  |  | Pricomt |  |  | Munber |  |  | Per Cort |  |  | Number |  |  | Pectemt |  |  | Number |  |  | Per Comt |  |  |
|  | Centan | Doubitic | Tobi | Centan | Dovilim | Toial | Cellan | Dovotul | Total | Certan 0 | Doabtul | Tola | Eeran | Doiditul | Total | in | Douthol | Tolal | certan | Dovibm | Tola | cita | Doouthal | Tबत |
| 9,balloan | 0 | 0 | 0 | 00 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 | 2 | 2 | 4 | 20.0 | 20 | 400 |
| 11-Astimpmal | 8 | 7 | 15 | 44 | 389 | 83.3 | 4 | 0 | 4 | 444 | 0.0 | 44.4 | 4 | 2 | 6 | 26.7 | 13.3 | 4 a | 1 | 0 | , | 10.0 | a. | 10.0 |
|  | 2 | 0 | 2 | 11. | 0.0 | 111 | 1 | 1 | 2 | 11.1 | 11.1 | 22.2 | , | 3 | 4 | 6.7 | 20.0 | 26.7 | 1 | 1 | 2 | 10.0 | 10.0 | 20.0 |
| 34 mm Phan | 0 | 0 | 0 | a0 | el | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | - | 0 | 0 | a0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | ae |
| - Bins | 0 | 0 | 0 | 0.0 | 120 | 0.0 | e | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | e0 | 0.0 | de | 0 | 0 | e | 0.0 | 0.0 | 0.0 |
| Iloods, D | $\bigcirc$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | a | 0 | 0 | 0 | 0.0 | Q0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| whic | e | 0 | e | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 11. | 0.0 | 11. | 0 | $\bigcirc$ | 0 | e.e | eo | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 7-Psyculorial | 0 | 0 | 0 | 0.0 | a0. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0. | 1 | 0 | 1 | 6.7 | 00 | 6.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Buncmom | 1 | 0 | , | 5.6 | 0.0 | 5.6 | 2 | 0 | , | 21.2 | 0.0 | 22.2 | 2 | 0 | 2 | 13.3 | 0.0 | 13,3 | , | 0 | 1 | 10 | 0.0 | 10.0 |
| 90ther | $\bigcirc$ | - | $a$ | 0.0 | 0.0 | 00 | 0 | 0 | e | al |  | 0.0 | 1 | - | 1 | 6. | 0.0 | 6.7 | L | 1 | 2 | e | 10.0 | 20.0 |
| Tolal | 1 | 7 | 78 | 61.7 | 384 | 100. | 8 | , | 9 | 89.9 | 11.1 | 100. | 10 | 5 | 15 | , | 33.3 | 100 | , | 4 | 0 |  | 40 |  |


| Evaluation | 6/ Seconcos - 5Menuter |  |  |  |  |  | 6-30 Medures |  |  |  |  |  | Duere 30 Neduter |  |  |  |  |  | Dueation ser States |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Per Cost |  |  | Munter |  |  | Per Cent |  |  | Mumber |  |  | Percat |  |  |
|  | Certain | Ooubtrol | Total | Centain | Dountioll | Toial | Certain | Doutitul | Total | Certin | Doubltril | Total | Certia | Doubttu] | Total | Centain | Doutitud | Tबतal | Centain | Doubtut | Total | Certain | Doubtici | Tola |
| 1-Baxloon | 3 | 2 | 5 | 130 | 8.7 | 21.7 | 4 | 0 | 4 | 11.4 | 0.0 | 11.4 | 3 | 1 | 4 | 15.0 | 5.0 | 20.0 | 0 | 4 | 4 | eo | 8. 2 | 8.2 |
| 1-Astromical | , | 1 | 2 | 43. | 4.3 | 86 | 6 | 0 | 6 | 121 | a0 | 17.1 | N | 2 | 7 | 25.0 | 10.0 | 35.0 | 9 | 4 | 13 | 184 | 8.2 | 26 |
| 2-Aircast | 6 | 1 | 1 | 26.1 | 43 | 30.4 | 3 | 5 | 8 | 8.6 | 14.3 | 22.9 | 4 | 2 | 3 | 5.0 | 10.0 | 15.0 | 7 | 1 | 8 | 14.3 | 2.0 | 16.3 |
| 3-Lighl Pherom. | 0 | 0 | 0 | 12.0 | 0.0 | 0.2 | 1 | D | 1 | 2.9 | 00 | 2.9 | 0 | 츠․ | 2 | 0.0 | 10.0 | 120 | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| 4 - ${ }^{\text {inds }}$ | 0 | 0 | 0 | 00 | 10.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | $\underline{0}$ | 0 | 0 | 0.0 | 0.0 | 00 |
| S-Clouds, Oust ete | 0 | 0 | 0 | 0.0 | 2.0 | 0.0 | 0 | 1 | 1 | 0.0 | 2.9 | 2.8 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| G-Insufic. into. | 4 | 0 | 4 | 1.4 | 0.0 | 17.4 | 3 | 0 | 3 | 8.6 | 0.0 | 8.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 10 | 0 | 10 | 20.4 | 0.0 | 20.4 |
| 7.Psyctiological | 0 | 0 | 0 | 0.0 | a 0 | 0.0 | 1 | 0 | C | 2.9 | 0.0 | 2.9 | 1 | 0 | 1 | 50 | 0.0 | 50 | 0 | 0 | 0 | Q. 0 | 0.0 | 00 |
| Bunknown | 3 | 0 | 1 | 13.0 | 0. | 13.0 | 11 | 0 | 11 | 31.4 | 00 | 31.4 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 12 | 0 | 12 | 24.5 | 0.0 | 44.5 |
| 9-Othe) | 2 | 0 | 2 | 8.7 | Qe | 8.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 50 | 50 | 10.0 | 2 | 0 | 2 | 4.1 | 0.0 | 4.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 19 | 4 | 23 | 182.6 | 174 | 100. | 29 | 6 | 35 | 829 | 17.1 | 100. | 12 | 8 | 20 | 60.0 | 40.0 | 100 | 40 | 9 | 49 | 81.6 | 18.4 | 100. |

TRRLE AIG FIGLUATION OF ABUECT SLGHTINGS FDE ALL YEARS BY COLDRS REPORTEQ


|  | 61 Stendes-5iMnurus |  |  |  |  |  | 6-30 Mervres |  |  |  |  |  | OvER 30.Menutes |  |  |  |  |  | Dueation Nei Statez |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mimber |  |  | Percot |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Percent |  |  |  |  |  | Per Cent |  |  |
| Evaluntion | Critain | Dowbtrol | Totat | Centain | Doultit | Totis | Certain | Dosithor | Tota | Cembin | Dovictind | Total | Cetrain | Dosotitol | Tolal | Certain | Doubtrin | Total | Cetrain | Doubthol | Tobal | Certain | Doubtiol | Total |
| O-Balloon | 1 | , | 1 | 11.1 | 20 | 11.1 | 1 | 0 | 1 | 21 | 0.0 | 9.1 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 02 |
| 1-Astronomial | 0 | 1 | 1 | Qe | 11.1 | 11. | 1 | 3 | 4 | 4.1 | 27.3 | 36.5 | 1 | 0 | - | 20.0 | 0.0 | 200 | 10 | 14 | 24 | 278 | 38.9 | 66.7 |
| 2-Auciath | 0 | I | 5 | 100 | 55.6 | 55.6 | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 1 | 0 | 1 | 20.0 | 0.0 | 20.0 | 4 | 1 | 1 | 2.8 | 28 | 5.6 |
| $3-1.101$ Pheron. | 0 | 0 | 0 | 100 | ad | 0.0 | 2 | 0 | 2 | 18.2 | 0.0 | 182 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Bilds | 0 | 0 | 2 | 120 | 10.2 | ae | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 |
| 5 Clouds, Oust, ett | 0 | 0 | 0 | 120 | 0. 2 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0. | 6.0 | 0.0 |
| 5-Insutfic, mo. | 1 | 0 | $\angle$ | 11.1 | 00 | 11.1 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 6 | 0 | 6 | 16.7 | 0.0 | 16.7 |
| 7.Psycrolopican | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 20 | 0 | 0 | 0 | 00. | 00 | 02 | 0 | 0 | 0 | 0.0 | 0.0 | O. 2. |
| 8 Oniknown | 0 | 0 | 0 | 00 | 0.0 | 0. | 2 | 0 | 2 | 18.2 | 0.0 | 18.2 | 2 | 0 | 2 | 40.0 | 00 | 40.0 | 3 | 0 | 3 | 8.3 | 00 | 8.3 |
| 9-0trem | 1 | 0 | 1 | ul | Q. 0 | 11 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0. | 0 | 0 | en | 0.0 | 0.0 | 1 | 0 | 1 | 2.8 | 0.0 | 2.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 3 | 6 | 9 | 333 | 66.7 | 100. | 8 | 3 | 11 | 12.7 | 21.3 | 100 | 5 | 0 | 5 | 100.0 | 0.0 | lop. | 21 | 15 | 36 | 58.3 | 41.7 | 100. |



| Evalution | 5 SECONDS OR LESS |  |  |  |  |  | 6-1 |  |  |  |  |  |  | 1-3 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Petcomt |  |  | Number |  |  | Patcomt |  |  | Nomber |  |  | $\mathrm{Percmm}^{\text {cme }}$ |  |  | Mumber |  |  | Per comt |  |  |
|  | Cotan | Oovotus | 1 Tout | Serain | Doobthes | Tota | Ebin | Dovitios | Toit | Eminin | Doabtul | Totar | erivin | Dowint | Total | Corrain | Dovertul | Toua | Sertio | Oowhin | Tout | contin | Oobblut | Toal |
| a,billoan | 0 | 0 | 0 | 20 |  |  | 0 | 0 | 0 | 0.0 | $\underline{C}$ | 00 | L | 1 | 2 | 77 |  | 15.4 | 0 | 0 | 0 | 0.0 | 0.0 | 2.e |
| Astrosmial | 6 | 3 | 9 | 35 | 17.6 | 52.9 | 5 | 0 | 5 | 55.6 | 0.0 | 55.6 | 1 | 1 | 2 | 77 | Z7 | 15.4 |  | 1 | 3 | 15,4 | z 7 | 23.1 |
| 2.Acrath | 2 | , | - 3 | 11.8 | 5.9 | 17.7 | , | 0 | ' | 11.1 | 0.0 | 11.1 | 3 | $\bigcirc$ | 3 | 23.1 | 0. | 23. |  | 2 | 5 | 23. | 15. | 38.5 |
| 3 3 Limil P Manom | 1 | 0 | I' | 59 | \% 0.0 | 5.9 | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | - | 0 | 0.0 | 0. | 0. |  | 1 | 1 | 0.0 | 77 | 77 |
| ris | 0 | 1 | 1 | 0.0 | 5.9 | 5.9 | - | 1 | 1 | a, | 11.1 | 11.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Cleods, Oost | 0 | $\bigcirc$ | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 0 | 0.0 | Q 0 | 0.0 | 0 | 1 | , | 0.0 | 77 | 77 | 0 | 0 | e | 0.0 | 0.0 | 0.0 |
| Glanslic mo. | , | 0 | 1 | 5.9 | a0 | 5.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | - | 3 | 231 | 0.0 | 23.1 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |
| 2.8 Prataligial | 0 | 0 | $C$ | 0.9 | e0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | , | 0 | 1 | 7.7 | . 0 | 77 |  | 0 | 1 | 77 | 0.0 | 77 |
| Ounk | 2 | 0 | 2 | 11.8 | 0.0 | 118 | 2 | 0 | 2 | 22.2 | 0.0 | 227 | 1 | 0 | 1 | 77 | 2.0 | 77 | 3 | 0 | 3 | 23. | , | 23. |
| 900 mm | 0 | 0 | D | 80 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | - | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | - |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 12 | 5 | 17 | 70.6 | 29.4 | 100 | 8 | 1 | 9 | 88.9 | 11.1 | 100. | 10 | 3 | 13 | 71.9 | 23.1 | 100. | 9 | 4 | 13 | 69.2 | 30.8 | 100 |


|  | 6/SECONOS - 5 MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OVER 30 MINUTES |  |  |  |  |  | DUAATION NOT STAIED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evalution | Number |  |  | Pacme |  |  | Number |  |  | Pec Cmt |  |  | manter |  |  | Per Cent |  |  | Manber |  |  | Percmt |  |  |
|  | Certion | Ooubtion | Tolal | cent | Dovothil | Tolal | Eent | Dowithi | Tout | Ceta | Davtrol | Total | Intia | Doobthal | Tolat | Serizin | Doubtitu |  | Certain | Doubter | To | Cote | Dabltal | Totad |
| -8allom | 1 | 0 | 1 | 3.3 | 20 | 33 | 6 | 2 | 8 | 18,2 | 6.7 | 24.3 | 4 | 3 | 7 | 23,5 | 176 | 4 41 | 4 | 2 | 6 | 14.8 | 7.4 | 22.2 |
| 1.AStamanial | , | 1. | 2 | 33 | 3.3 | 6.6 | $\checkmark$ | - 3 | 8 | 152 | 9,1 | 24.3 | - | 2 | 2 | 0.9 | 118 | 11.8 | 4 | క | 7 | 14.8 | 11.1 | 25.9 |
| 2-Alicrat | 7 | 8 | 15 | 233 | 267 | 50.0 | 4 | - 2 | 6 | 12.1 |  | 18,2 | - | 1 | 2 | 59 | 5.9 | 11.8 | 1 | 0 | 1 | 37. | 0.0 | 37 |
| 3-Limit Phemen. | 1 | 0 | 1 | 3.3 | 2. 0 | 33 | 2 | 0 | 2 | 6.1 | 0.0 | 6. | 0 | 0 | Q | 20 | 0.0 | 0.0 | 1 | 0 | 1. | 3.7 | 0.0 | 3.7 |
| 4 Birds | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 0 | 0 | 0 | 0.0 | $0 \cdot 0$ | 0.0 | - | - | 0. | 20 | 0. | 0.0 | d | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 cilieds, Oust mic. | 0 | 0 | $\bigcirc$ | 00 | 0.0 | 2.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 |  |  | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| Glasylicic. $n$ Ino. | 5 | 0 | 3 | 10.01 | 0.0 | 10.0 | - | 0 | 1 | 3.0 | 0.0 | 3.0 | 2 | 0 | 2 | 11.8 | a0 | 11.8 | 4 | 0 | 4 | 14.8 | -20 | 44.8 |
| 7.Pspectabatial | 0 | $\bigcirc$ | 0 | 0.0 | Q0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | O | 0.0 | 0.0 | 0.0 | 0 | 0 | Q | 0.0 | 0 | 0.0 |
| Bunhown | 8 | 0 | 8 | $25^{7}$ | -e | $26 \%$ | 5 | ? | 5 | 15,2 | 0.0 | 15.2 | 3 | 0 | 3 | 17.6 | 0.0 | 176 | 7 | 0 | 7 | 25.9 | 0 | 25.9 |
| gomer | 0 | - | 0 | 0.0 | 0.0 | 0.0 | 2 | 1 | 3 | 6.1 | 30 | 9.1 | 0 | , | 1 | 0.0 | 5.9 | 5.9 | 1 | 0 | 1 | 37 | 0.0 | 3.7 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolat | 21 | 9 | 30 | 70.0 | 30.0 | 100. | 25 | 8 | 33 | 75.8 | 24.2 | 100. | 10 | 7 | 17 | 58.8 | 41.2 | 100 | 22 | 5 | 27 | 81,5 | 18.5 | 100. |

TABLE A19R EVRLUATIDN OF OBIEET SLGHTINGS EOR ALL YEARS GS CALQRS REPDETEO

| foe |  |  |  |  |  |  | DURETION |  |  |  |  |  | OBJECTS |  |  |  |  |  | OTHER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 5 Scends or LESS |  |  |  |  |  | E-10 SECONDS |  |  |  |  |  | 11-30 SEconos |  |  |  |  |  | 31-60 SEcones |  |  |  |  |  |
|  | Humbes |  |  | Percent |  |  | Number |  |  | Per Cont |  |  | Numbe! |  |  | Per Cent |  |  | Number |  |  | Percat |  |  |
| Eraluation | Cettrin | Dosoditu | Tobil | zin | Doubtul | Total | Certain | Doubtio] | Total | Centain | Dowbtal | Tota | ertain | Doubtur | Total | ertain | Doubtay | Total | Ceftrain | Doobth1 | Total | Certo | Doubthu | Total |
| O-Balloon | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 8.3 | 0.9 | 8.3 |  | 2 | 3 | 71 | 14.3 | 21.4 | 1 | 1 | 2 | 7.7 | 77 | 15.4 |
| 1-Astronomial | 9 | 6 | 15 | 29.0 | 19,4 | 48.4 | 4 | 0 | 4 | 33.3 | 10 | 33.3 | 2 | 0 | 2 | 14.31 | 0.0 | 14.3 | 0 | 1 | 1 | 0.0 | 7.7 | 27 |
| 2. Aircalt | 4 | 1 | 5 | 120 | 3.2 | 16.1 | 0 | 2 | 2 | 0.0 | 16.7 | 167 | 3 | 1 | 4 | 21.4 | 71 | 28,5 | 2 | 3 | 5 | 15.4 | 23.1 | 38.5 |
| 3.Light Phenom. | 0 | 0 | $\ell$ | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 1 | 0 | 1 | 71 | 0.0 | 71. | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| 4 Birds | 0 | 1 | 1 | 0.0 | 3.2 | 3.2 | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 7/ | 71 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clouds, Dash, et | 0 | 1 | 1 | 0.0 | 3.2 | 3.2 | 0 | 0 | D | Q 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| FInsulic. inti. | 3 | 0 | 3 | 9.7 | 0.0 | 9.7 | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 0 | 0 | 0 | 100 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.7 |
| 7. Psyctological | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | $0 \cdot 1$ | 7.1 | 71 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
| BUnknom | 6 | 0 | 6 | 19.4 | 0.0 | 19.4 | $L$ | 0 | 1 | 8.3 | 00. | 83 | 2 | 0 | 2 | 14.3 | 0.0 | 143 | 4 | 0 | 4 | 30.8 | a | 30.8 |
| 90 her | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 83 | 0.0 | 8.3 | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 7.7 | 00 | 77 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 22 | 9 | 31 | 710 | 290 | 1100 | 9 | 3 | 12 | 75.0 | 25.01 | 100 | 9 | 5 | 14 | 65 | 35.7 | 100. | 8 | 5 | 13 | 615 | 38.5 | 100 |


| Eyaluation | 61SECONDS-5MMUTES |  |  |  |  |  | 6-30 MNUTES |  |  |  |  |  | QVER 3PNLMUTES |  |  |  |  |  | DIVAATION NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percmit |  |  | Mumber |  |  | Par Cont |  |  | Number |  |  | Percent |  |  | Number |  |  | Per cont |  |  |
|  | Cerlvin | Doubthis | (ta) | Centrain | Doouttol | Total | Certain | Doubtur | Tota | Cert | Doastinl | Total | Tin | Daotitol | roar | tin | Doubtiol | Total | Cortain | Douthol | Total | Carthin | Doubtul | Tra |
| O-Ballown | 1 | 2 | 3 | 3.6 | 71 | 10.7 | 3 | 2 | 5 | 103 | 6.9 | 172 | 1 | 0 | 1 | 12.5 | 0.0 | 12.5 | 2 | 1 | 3 | 6.3 | 3.1 | 94 |
| 1-Astrammia | 1 |  | 2 | 36 | 3.6 | 72 |  | 1 | 6 | 17.2 | 34 | 20.6 | 3 | 0 | 3 | 37.5 | 0.0 | 375 | 6 | 2 | 8 | 18.8 | 6.3 | 25.1 |
| 2.Aircert | 4 | 4 | 8 | 14.3 | 14.3 | 28.6 | 4 | 4 | 8 | 13.8 | 13.8 | 276 | 2 | 0 | 2 | 25.0 | 0.0 | 25.0 | 1 | 3 | 8 | 15.6 | 94 | 25.0 |
| 3 3-ifill Phemen | 0 | 1 | , | 0.0 | 3.6 | 3.6 | 2 | 0 | 1 | 34 | 0.0 | 3.4 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 10 | 0.0 | 0.0 |
| 4 4-iris | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 8.0 | 0 | 0 | 0 | 0.0 | (1) | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 5-Clouds, Oust | 0 | 0 | 0 | 0.9 | 0.0 | 1.0 | $b$ | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Glasulice mbe. | 1 | 0 | 1 | 3.6 | 0.0 | 3.6 | 1 | 0 | 1 | 3.4 | 00 | 34 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 6 | 0 | 6 | 18.8 | 0. | 18.8 |
|  | 2 | 1 |  | 71 | 3.6 | 10.7 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 0 | 1 | 125 | 0.0 | 12.5 |  | 0 | 1 | 3.1 | 0.0 | 3.1 |
| 2unkoum | 10 | 0 | 10 | 35.2 | 0.0 | 35.7 | 2 | 0 | 7 | 240 | 0.0 | 241 | 1 | 0 | 1 | 12,5 | 0.0 | 125 |  | 0 | 5 | 15.6 | 0.0 | 15.6 |
| Sother | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $L$ | 1 | 80 | 34 | 3.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 31 | 31 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toll | 19 | 9 | 28 | 9 | 32. | 100. | 2 | 8 | 29 | 72.4 | 276 | 100. | 8 | 0 | 8 | 1000 | 0.0 | 100. | 25 | 7 | 32 |  | 9 | 100. |

 - PEe skenting ERe Dueation of sighting, ene object

| Eviluston | 5 SECCNDS OR LESS |  |  |  |  |  | 6.10 SEconos |  |  |  |  |  | 11-30 SECONOS |  |  |  |  |  | 31-60 SECONDS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percent |  |  | Aumber |  |  | Per Cent |  |  | Munier |  |  | Percent |  |  | Munber |  |  | Per cent |  |  |
|  | Ceran | Doubblal | Tolal | Cendan | Dowbthil | Total | Cetan | Dousitul | Total | Cetan | Denditrol | Total | Centio | Dadidiol | Total | Certain | Doubthil | Totil | Certain | Doubthil | Total | Cutain | Doubtiol | Total |
| C-Butlom | 3 | 5 | 8 | 2.8 | L4 | 2.2 | 3 | 4 | 7 | 2.2 | 2.9 | 51 | A | 6. | 10 | 2.0 | 29 | 419 | 9 | 11 | 20 | 5.6 | 6.8 | 12.4 |
| 1-Astomomial | 136 | 138 | 274 | 368 | 313 | 241 | 43 | 26 | 69 | 31.6 | 19.1 | 50.7 | 46 | 15 | 61 | 22.4 | 73 | 347 | 15 | 8 | 23 | 4.3 | 50 | 14.3 |
| 2-Auciat | -20 | 16 | 36 | 5.4 | 43 | 9.7 | 14 | 13 | 27 | 10.9 | 9.6 | 19.9 | 28 | 28 | 56 | 13.7 | 13 | 274 | 30 | 18 | 48 | 18.6 | 11.2 | 29.8 |
| 3-Limi Phexmm. | 2 | 0 | 2 | 0.5 | 00 | 0.5 | 1 | 1 | 2 | 0.7 | 01 | 14 | 1 | 1 | 2 | 0.5 | 0.5 | 10 | 0 | 0 | 0 | 0.0 | 0.2 | 0.0 |
| 4-Buds | 0 | 0 | 0 | 0.0 | 80. | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | D | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 018 |
| SClowds Doust, elc | 1 | 1 | 2 | 0.3 | 03 | 06 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 00 | 10 | 1.0 | 0 | 0 | 2 | 00 | 00 | 0.0 |
| Ginswtic mio. | 12 | 0 | 12 | 3 ? | 00 | 32 | 7 | 0. | 7 | 51 | 2.0 | 51 | 14 | 0 | 14 | 68 | 02 | 6.8 | 12 | 0 | 12 | 75 | 00 | 15 |
| 7-Psydelogial | 2 | 0 | 2 | 05 | 0.0 | 125 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 3 | 1 | 4 | 15 | 05 | 2.0 | 2 | 0 | 2 | 12 | 0,0 | 12 |
| 8. Undoum | 23 | 0 | 23 | 6.2 | 00 | 62 | 22 | 0 | 22 | 佑 2 | 0.0 | 16.2 | 44 | 0 | 44 | 21.5 | 00 | 215 | 51 | 0 | 51 | 31.7 | 0.0 | 317 |
| 9.0 nes | 8 | 3 | $1 /$ | 2.2 | 08 | 3.0 | 2 | 0 | 2 | 15 | 0.0 | 1.5 | 4 | 8 | 12 | 20 | 3.9 | 5.9 | 3 | 2 | 5 | 1.9 | 12 | 31 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 202 | 163 | 370 | 55.9 | 14.1 | 100 | 92 | 44 | 136 | 676 | 324 | 0. | 144 | 67 | 205 | 702 | 298 | 100. | 122 | 39 | 161 | 15.8 | 24.2 | 100 |


|  | 61 Seconos -5MWUTES |  |  |  |  |  | 6-30 M/NUTES |  |  |  |  |  | OUER 30 MUNUES |  |  |  |  |  | DURATION NOT STATEL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Numbes |  |  | Percent |  |  | Number |  |  | Parcort |  |  | munter |  |  | Percmer |  |  | Munber |  |  | Pex Cat |  |  |
| Evaluation | Certain | Doubtisil | Total | Certain | Dabituil | Total | Certain | Doustuly | rotal | Certain | Doubtren | Total | entoin | Dosbotiol | Total | Cerixin | Doubitul | Toxal | Cartain | Dostitay | Tota | Certia | Ooubtul | Totail |
| Q-Balloon | 55 | 33 | 88 | 14.9 | 4.0 | 23.9 | 68 | 42 | 110 | 19.8 | 12.2 | 920 | 37 | 17 | 54 | 18.0 | 8.3 | 26.3 | 49 | 29 | 78 | 7.9 | 47 | 12.6 |
| 1-Astomomica | 10 | 13 | 23 | 2.7 | 3.5 | 6.2 | 40 | 12 | 52 | 11.7 | 3.5 | 15.2 | 28 | 13 | 4/1 | 13.6 | 6.3 | 19.9 | /18 | 86 | 204 | 19.0 | 13.8 | 32,8 |
| 2-Aicrath | 46 | 38 | 84 | 12.5 | 10.3 | 22.8 | 28 | 37 | 60 | 82 | 2.3 | 17.5 | 9 | 15 | 14 | 4.4 | 1.3 | 11.7 | 52 | 37 | 89 | 8.4 | 6.0 | 144 |
| 3-LighiPhexam | 5 | 2 | 7 | 1.4 | 0.5 | 1.9 | 7 | 4 | 11 | 2.0 | 1.2 | 32 | 0 | 2 | 2 | 0.0 | 10 | 1.0 | 3 | 1 | 4 | 0.5 | 0.2 | 0.1 |
| 4 Bits | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.2 | 02 | 0.4 |
| 5-Clouds Dust, elc | 0 | 7 | 7 | 00 | 1.9 | 1.9 | 1 | 1 | 2 | 0.3 | 0.3 | 0.6 | 6. | 0 | 6 | 2.9 | 0.0 | 2.9 | , | 1 | 2 | 02 | 02 | 0.4 |
| 6-Insulfic. into. | 34 | 0 | 34 | 9.2 | 00 | 9.2 | 23 | 0 | 23 | 67 | 0.0 | 6.7 | 12 | 0 | 12 | 5.8 | al | 5.8 | 101 | 0 | 101 | 16.3 | 0.0 | 16.3 |
| 7.Psyctiological | 4 | 2 | 6 | 1.1 | 0.5 | 1.6 | 9 | 0 | 9 | 2.6 | 0.0 | 2.6 | 6 | 0 | 6 | 2.9 | al | 2.9 | 5 | 0 | 5 | 0.8 | 0.0 | 0.8 |
| BUnlomm | 104 | 0 | 104 | 28.3 | 0.0 | 28.3 | 61 | 0 | 61 | 17.8 | 00 | 178 | 48 | 0 | 48 | 233 | 0.0 | 23.3 | 110 | 0 | 110 | 171 | 00 | 117.7 |
| 9-0thee | 12 | 3 | 15 | 33 | 128 | 41 | 11 | 4 | 15. | 32 | 1.2 | 44 | 8 | 5 | 13 | 3.9 | 2.4 | 63 | 22 | 4 | 26 | 3.5 | ab | 4.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 279 | 28 | 368 | 78.4 | 26.6 | 100 | 248 | 95 | 343 | 2.3 | 171 | 100. | 154 | 52 | 206 | 14.8 | 25.2 | 100. | 462 | (59] | 6.21 | 74.4 | 256 | 100. |


| Evalualion | 6/SECONDS-5MINUTES |  |  |  |  |  | 6-30 MNUTES |  |  |  |  |  | DVEP 30 MTNUTES |  |  |  |  |  | DURATICN NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Parcort |  |  | Number |  |  | Percent |  |  | Munber |  |  | Per Cent |  |  | Number |  |  | Percent |  |  |
|  | Cratin | Doubtroul | Total | Centain | Dountui] | Tolal | Certain | Doublitu | Total | Cetran | Dactitul | Total | Certain | Doubititu | Total | Centoin | Doubltu | Totad | Certion | Douldtiol | Total | Catbin | Doubtiol | Ttai |
| 10-Ealloon | 7 | 2 | 14 | 11.5 | 11.5 | 23.0 | 6 | 6 | 12 | 13.3 | 13.3 | 26.6 | 3 | 1 | 4 | 15.0 |  | 200 | 4 | 3 | 7 | 5.2 | 3.9 | 91 |
| 1.Astronomical | 1 | 0 | 1 | 1.6 | 00 | 1.6 | 2 | 3 | 5 | 4.4 | 6.6 | 11.0 |  | 0 | 1 | 5.0 | 0.0 | 50 | 6 | 3 | 9 | 18 | 3.9 | 11.7 |
| 2-Airctat | 17 | 11 | 28 | 27.9 | 180 | 45.4 | b | 8 | $1 / 4$ | 13.3 | 17.8 | 311 | 4 | 6 | 10 | 20.0 | 30.0 | 50.0 | 13 | H | 17 | 16.9 | 5.2 | 22.1 |
| 3 LLight Preom. | 0 | 0 | 0 | 0.0 | 0.0 | 2e | 3 | 0 | 3 | 66 | 0.0 | 6.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | -1 | 0 | - 1 | 1.3 | 0.0 | 1.3 |
| 4 Bircs | 0 | 0 | $\stackrel{1}{ }$ | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 |
| 5 SCloods, Dost etc | 1 | 0 | 1 | 1.6 | 0.0 | 1.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 |  | 5.0 | 1 | 0 |  | 13 | 00 | 1.3 |
| Glinsutic mio. | 2 | D | 2 | 3.3 | 0.0 | 3.3 | $\lambda$ | 0 | 2 | 44 | 0.0 | 4.4 | 2 | 0 | 2 | 10.0 |  | 10.0 | 7 | 0 | 7 | 9.1 | 0.0 | 9.1 |
| 7. Pydulogica | 1 | 1 | 7. | 1.6 | 1.6 | 3.2 | 2 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 8.0 | 0.0 | 0.0 | 20 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8 Leatrom | 11 | 0. | 11 | 180 | 00 | 18.0 | 6. | 0 | 6 | 13.3 | 00 | 13.3 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 28 | Q | 28 | 36.4 | 0.0 | 36.4 |
| 90the | 2 | D | 2 | 33 | 00 | 33 | 3 | 0 | 3 | 6.6 | 0.0 | 6.4 | 1 | 0 | 1 | 5.0 | 0.0 | 5.0 | 5 | 2 | 7 | 6.5 | 2.6 | 91 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 421 | , 9 | 61 | 68.9 | 31.1 | 100. | 28 | 17 | 45 | 62.2 | 37 | 100 | 12 | 8 | 20 | 60.0 | 40.0 | 100 | 65 | 12 |  | 84.4 | 15.6 | 100 |


|  | 5 SECONOS OP LfESS |  |  |  |  |  | 610 SECONES |  |  |  |  |  | II-30 Seconos |  |  |  |  |  | 1-60 SECONES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Evalution | munner |  |  | - |  |  | Humber |  |  | Per Comt |  |  | Nunber |  |  | Peicent |  |  | Nunter |  |  | Percent |  |  |
|  | Centan; | Douthil | Total | efan | Dovibim | Total | Certuin | Doobitur | Totil | Eetion | Daustiti | Total | Cention | Doobtral | Fola | Centain | Doubthil | T017 | Cerain | Dovituol | Tolal | Sor | Douatul | Total |
| Ballam | 0 | 2 | 2 | 0.0 | 6.1 | 6.1 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | 2 | 0. | 17 | 177 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astionmmal | 3 |  | 3 | 91 | 0.0 | 91 | 1 | 0 | 1 | 6.1 | 0.0. | 6.7 |  |  | 1 | 0.0 | 3.8 | 3.8 |  | 1 |  | 0.0 | 5. | 5 |
| 2.Aicerat | 6 | 4 | 10 | 18.2 | 12. | 30.3 |  | 0 | 5 | 33,3 | 0.0 | 33.3 | 10 |  | 13 | 38.5 | 1.5 | 50. | ح | - | 8 | 41.2 | 5.9 | 4711 |
| 3 Luth Phemmi. | 0 | 1 | 1 | 00 | 30 | 30 | 0 | 3 | 3 | 0.0 | 20.0 | 20.0 |  | 1 | 1 | 00 | 38 | 3.8 | 0 | 1 | 1 | 00 | 5.9 | 5.9 |
| 4 ABins | 2 | 4 | 6 | 6. | 12.1 | 182 | 0 | 1 | 1 | 0.0 | 67 | 6.7 |  | 0 | 1 | 3.8 | 20 | 3.8 | , | 1 | 2 | 5.9 | 59 | 118 |
| 5 clouds, Dust, etc | 0 | 0 | 0 | e. 0 | - 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | e | 0.0 | 0.0 | 0. | 0 | 0 | 0 | 0.0 | 0.0 | 20 |
| G-1msaticicimb | 2. | 0 | 2 | 6.1 | 0.0 | 6.1 | 1 | 0 | 1 | 6.7 | 0.0 | 6.7 |  |  | 2 | 0.0 | 0.0 | b. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| 7.fyumologial | 0 | 0 | 0 | 00 | eo | 20 | , | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 1 | 1 | Qe | 3.8 | 3.8 |  | 0 | 0 | 0.0 | 00 | 00 |
| Ouman | 7 | 0 | 7 | 26.2 | 0.0 | 21.2 | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 |  | 0 | 7 | 26.9 | 0.0 | 26.9 | - 5 | $C$ | 5 | 24.4 | 0.0 | 29. |
| 90 ther | 2 | 0. | 2 | 6.1 | 0.0 | 6.1 | 0 | 0 | 0 | $0 \cdot 1$ | 0.0 | 0.0 |  | 0 | 0 | 0.0 | $0 \cdot$ | 20 | 0. | 0 | D | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 22 | $1 /$ | 33 | 66.7 | 33.3 | 1100 | III | 4 | 15 | 73.3 | 26.7 | 1100 | 18 | 8 | 26 | 69.2 | 308 | Le0 | 13 | 4 | 17 | $1 / 65$ | 23.5 | 100 |


|  | G/SECONES - F MINuTES |  |  |  |  |  | 6-30 N/NUTES |  |  |  |  |  | OVER 30 MUNTES |  |  |  |  |  | DURATUN NET STATER |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cont |  |  | Nunber |  |  | Per Cent |  |  | Number |  |  | Percmt |  |  |
| Evaluation | Certain | Ooubtol | Total | Certrin | Doubthil | Tolal | Certain | Doubitiol | Yotal | Certion | Doubtbiol | Total | Certain | Coubttol | Tobal | Certain | Dovotroil | total | Certain | Doubtrul | Totai | Certain | Doubtul | Totai |
| O-Balloon | L | 3 | 4 | 1.6 | 4.8 | 6.4 |  | 3 | 6 | 4.8 | 4.8 | 96 | 6 | 0 | 6 | 12.8 | 00 | 12.8 | 5 | 0 | 5 | 5.3 | 0.0 | 5.3 |
| 1-Astranomical | 0 | 2 | 2 | 0.0 | 3.2 | 3.2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 5 |  | 4.3 | 10.6 | 14.9 | 1 | 3 | 4 | 1.2 | 3.2 | $4 . ?$ |
| 2-Aircrith | 12 | 10 | 22 | 19.4 | 16.1 | 35.5 | 8 | 15 | 23 | 12.9 | 24.2 | 371 | 1 | 1 | 2 | 2.1 | 2.1 | 42 | 18 | 4 | 22 | 18.9 | 4.2 | 23.1 |
| 3.Limil Phenom. | 1 | 2 | 3 | 16 | 3.2 | 48 | 2 | 2 | 4 | 3.2 | 3.2 | 64 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 1.1 | 0.0 | 11 |
| 4 Birds | 0 | 0 | 0 | 00 | 0.1 | 0.0 | 0. | , | 1 | 0.8 | 1.6 | 1.6 | 0 | 0 | 0 | 00 | 00 | 0.0 | 2 | 1 | 3 | 2. | Li | 3.2 |
| 5 -clouds, Dust, ela, | 0 | 0 | C | 0.0 | 0.0 | 02 | 0 | 0 | 0 | 0.0. | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 00 | al | 0.0 |
| G-nsylfite. Into. | 7 | 0 | 7 | 11.3 | 0.0 | 113 | 10 | 0 | 10 | 16.1) | 0.0 | 16.1 | 2 | 0 | 2 | 42 | 0.0 | 42 | 20 | 0 | 20 | 21.1 | 0.0 | 21.1 |
| 2.Psyctrological | 0 | 1 | 1 | 0.0 | 16 | 1.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 7 | 20 | 2.1 | 2.1 | , | 1 | 2 | 11 | 1.1 | 2.2 |
| 8Unakom | 21 | 0 | 21 | 33.9 | 0.0 | 33.9 | 15 | 0 | 15 | 24.2 | 0.0 | 24.2 | 25 | 0 | 25 | 53.2 | 0.0 | 53? 2 | 24 | 0 | 24 | 25.3 | 20 | 25.3 |
| 9-0.ther | 2 | 0 | 2 | 3.2 | 0. | ? 2 | 1 | 2 | 3 | 16 | 3.2 | 4.8 | 4 | 0 | 4 | 8.5 | 00 | 8.5 | 14 | 0 | 14 | 14.7 | 0.0 | 147 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 44 | 18 | 62 | 11.01 | 29.0 | 100. | 39 | 23 | 62 | 62.91 | 37 | 0. | 40 | 7 | 47 | 5. 1 | 419 | 100. | 86 | 9 | 951 | 90.5 | 9.5 | 100. |



| RE |  |  |  |  |  | sGuTING FOE nupition$6-10$ SFCONOS |  |  |  |  |  | of SIGHTING, $1 /-30$ SECONOS |  |  |  |  |  | VEN QR MORE DRLEETS ?1-60 SECONOS |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | SE | ard | 350 | $\leq E 55$ |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Evaluation | Humber |  |  | Per Cent |  | Hunber |  |  | Per Cont |  |  |  |  |  |  |  |  | Number |  |  | Percmit |  |  |
|  | Celtain | Dowbtal | Tolal | cmin | Dowbitul Toul | Cerain | Doubtrin | Total | Certain | Doubthol | Tot | Certain | Doubthil | Total | Cerrain | Doubthul | Total | cerrain | Doutitul | T06 | ain | Doubtiol |  |
| O-Balloon | 0 | 0 | 0 |  | 0.000 | 0 | - | 1 | 0.0 | 33 | 33 | 0 | 0 | 0 | 0. | 0.0 | 0 |  |  | 0 |  |  | - |
| 1 -Astronomica | 0 | 1 | 1 |  | 10.0110 .0 | 0 | 2 | 0 | 0.9 | 0 | 0.0 | 10 | 1 | 1 | 0.0 | 33.3 | 33.3 | 2 | 0 | $\square$ | 0.0 | 2 | 0 |
| 2-Aicriat | 2 | 2 | 3 | 10 | 20.0130 .0 | 1 | 0 | T | 33,3 | 0.0 | 33,3 | 0 | 0 | 0 |  | 0. | 0.0 | 1 | 0 | 1 | 12.5 | 0.0 | 125 |
| 3-LLut Prien | 0 | 0 | 0 | 00 | 0.010 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 |  |  | 0 | 0.0 | 0.0 | 0.0 |
| $4 \cdot \mathrm{Bras}$ | 0 | 0 | C | 0.0 | 0.0 | 1 | 0 | 1 | 33.3 | 0.0 | 333 | 0 | 1 | 1 | 0.0 | 33.3 | 3.3 | - | $C$ | 4 | 510 | 0.0 | 50.0 |
| F-Clouds, Dust | 0 | 0 | 0 | 0 | 0.0100 | 0 | 0 | 0 | 0. | 0.0 | 0.0 |  | 0 | 0 | 0.0 |  | 0.0 | 0 | 0 | $C$ | -2.0 | 0.0 | 0.1 |
| f-Insulfic. | 3 | 0 | 3 | 30 | 0.030 .0 | 0 | 0 | 0 | 0.0 | 00 |  | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | C0 |
| 7. Psychlogic | 0 | 0 | 0 | 0. | 0.010 .0 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 33,3 | 333 | - | 0 | 0 | 0.0 | 02 | 0.0 |
| 8-IMnhom | 3 | 0 | 3 | 30.0 | 0.031 .0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 2 | 0 | 0 | 0.0 |  | 60 | 3 | 0 | 3 | 375 | 0.0 | 37.5 |
| $9-001$ er | 0 | 0 | 0 | 0 | 0.00 .6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0. | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total |  | 3 | 10 | 70.1 | 30.100. | 2 | 1 | 3 | 66.7 | 33.3 | 100 | 0 | 9 | 3 | 0.0 | 10001 | 100. |  |  |  | 1000 | 0.8 | 100.1 |


| Evaluation | $6 /$ SECOROS-5MINUTES |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | DVER 30 MINUTES |  |  |  |  |  | AURATON NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cont |  | Nunber |  |  | Percent |  |  | Number |  |  | Percent |  |  | Number |  |  | Percent |  |  |
|  | Cendain | Doubthi | Total | Centan | Doubtiot Total | Certain | Doubltur | Total | Certain | Doubthi] | ToIa! | Certain | Doubtiol | Total | Cetain | Doouthil | Total | Certain | Doubtid | Total | Certio | Doutitul | Total |
| O-8alicon | 0 | 0 | 0 | 0.6 | 0.0 .0 | 1 | 0 | 7 | 12.5 | 10.0 | 12.5 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |
| 1-Astmonicial | 2 | 1 | 1 | 0.0 | 919.1 | 0 | 11 | 1 | 0.0 | 12.5 | 12.5 | 6 | 0 | 6 | 20.01 | 0.0 | 20.0 | 1 | 0 | 1 | 45 | 00 | 45 |
| 2. Antratt | 0 | 2 | 2 | 0.0 | 18.218 .2 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | O | 1 | 1 | 0. 0 | 3.3 | 33 | 0 | 1 | 1 | 0.0 | 4.5 | 4.5 |
| 3-Ligtl Phemom. | 0 | 0 | 0 | 0.9 | 0.0 .0 .0 | 2 | 0 | 2 | 25.0 | 0.0 | 250 |  | 0 | 1 | 3.3 | 0.0 | 3.3 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 4-iids | 1 | 0 | 1 | q. 1 | 0.091 | 0 | 0 | 0 | 0.9 | - 0.0 | 0.0 | 0 | 0 | 0 | 0.0. | 0.0 | 0.0 | 0 | 0 | $C$ | 00 | 02 | 20 |
| 5-Clouds, Dust, etc | $?$ | , | C | 60 | 00000 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 6 | 00 | 0.0 | 00 |
| G6ansticic int. | C |  | C | 00 | 0.00 .0 | $\triangle$ | 0 | 1 | 125 | 0.0 | 12,5 | 0 | 0 | $C$ | 0.0 | 0.0 | 0.0 | 7 | 0 | 7 | 31.8 | 00 | 31.8 |
| 7.Psyctological | 0 | 0 | 0 | Ob | 0.010 .0 | 0 | 10 | 0 | 0.0 | a0 | 0.9 | 1 | 0 | 1 | 3.3 | 0.0 | 33 | , | D | 2 | 4.1 | 0.0 | 4.1 |
| 2Unksown | 4 | 0 | 4 | 36.4 | 0.036 .4 | 3 | 0 | 3 | 37,5 | 0.0 | 37.5 | 20 | 0 | 20 | 66.7 | 0.01 | 66.7 |  | 0 | 9 | 10.9 | 0.0 | 40.9 |
| rother | 3 | 0 | 3 | 27,3 | 0.0273 | 0 | 0 | 0 | 0.0 | Q0 | 20 | 0 | 1 | 1 | 0.0 | 33 | 33 | 2 | 0 | 2 | 9.1 | 02 | 9.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | $q$ | 3 | 11 | 727 | 27,3100. | 71 | 1 | 8 | 1875 | 12.5 | 100.1 | 28 | 2 | 30 | 93.3 | 6.7 | 100 | 21 | 1 | 22 | 95.5 | 4.5 | 100. |


| －001 | 27 | 888 | 28 | 9 | 18 |  | 02 | $p$ | 2 | 0 | 27 |  | \％＇8E |  | 5 | 7 | $Z$ |  | 00 | \％01 | 9 | 0 | 9 | 101 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 00 | 72 | 7 | 0 | 7 |  |  |  | 7 | 0 | 7 |  |  |  | 0 | 0 |  |  |  |  | 0 | 0 |  |  |
| 7 | 00 | 7 | 7 | 0 | 9 | 273 | 00 | 2．13 | 5 | 0 | 5 | $\varepsilon$ | 00 |  | 7 | 0 | 1 | $0 \cdot$ |  |  | 0 | 0 |  | 8 |
| 22 | L\％ | 00 | 7 | 7 | 0 | $0 \%$ | 100 | $0 \%$ | 0 | 0 | 0 |  |  | $0 \%$ | 0 | 0 | 0 | 00 | 00 | d | 0. | 0 | 0 | midocay ${ }^{\text {a }}$ |
| 7\％ | $0 \cdot 0$ | 万ワ | 8 | 0 | 8 | F－91 | 100 | 2\％ | \％ | 0 | 2 | 00 | $10 \%$ | 00 | 0 | 0 | 0 | $\square 17$ | $0 \cdot$ | ［\％1 | 7 | ， | 7 | 944 כın |
| $2 \%$ | 00 | L＇Z | 1 | 0 | 7 | 00 | 00 | 00 | 0 | 0 | 0 | 00 | 00 | $0 \%$ | 0 | 0 | 0 | $0 \%$ | 100 | 00 | 0 | 0 | 0 | 20 3 sman tanoil |
| 7\％ | 00 | prs | 2 | 0 | 7 | 0.58 | 00 | 05 | $z$ | 0 | 5 | 00 | $0 \%$ | 00 | 0 | 0 | 0 | 00 | 00 | 100 | 0 | 0 | 0 | Split |
| $2 \%$ | 1－2 | $0 \cdot 0$ | 7 | 7 | 0 | 00 | 00 | 00 | 0 | 0 | 0 | 588 | F\％E | 0.8 | 7 | 0 | 7 | ¢ $\pi^{1}$ | DV | ［\％ | 1 | 0 | 7 |  |
| 801 | 18 | $\underline{L}$ | \＄ | $\underline{8}$ | 7 | 08 | $0 \cdot$ | 00 | 0 | 0 | 0 | 00 | 50 | 0.0 | 0 | 0 | 0 | $\overline{588}$ | $0 \cdot 0$ | 888 | 2 | 0 | 8 | Hexiviz |
| 578 | 27 | 432 | \％ | 7 | 17 |  | $0 \cdot$ | 58 | 7 | 0 | 1 | 00 | 0.0 | 00 | 0 | 0 | 0 | $0 \%$ | 00 | 00 | 0 | 0 | 0 |  |
| $7 \cdot \overline{2}$ | 0\％ | L＇$\overline{6}$ | ／ | 0 | 1 | 0 | 00 | 00 | 0 | 0 | 0 | E82 | E 88 | 00 | 7 | 7 | 0 | 586 | 00 | E 8 | 2 | 0 |  | 400128 |
| R101 | Ialanmo | vicaies | nal | Tundoon | UTipe | P01 | imumea | บiexa | ［1701 | In4upan |  | 701 | mu900 ${ }^{\text {a }}$ | प皮句 | ［150］ | Imingood | Hipix | 18201 | impumoo． | vipues | $1 \times 1$ | Impeña | บ！ | vonemerien |
|  | j00 \％${ }^{\text {d }}$ |  |  | savm |  |  | Wesend |  |  | 19 DWM |  |  | $11000^{\circ} \mathrm{d}$ |  |  | 18 Uuns |  |  | 践哏 |  |  | maunk |  |  |
| $03.664510 N$ NaItund |  |  |  |  |  | s．anith of 730 |  |  |  |  |  | $5310 \mathrm{~N} / \mathrm{V}^{\text {d }}$ |  |  |  |  |  |  |  |  |  |  |  |  |



TRELE 2204
EURLUATIAN DE UNUT SIGHTUNGS FDR RLL SIERLS BY NUMRER DE DRIERTS PEL


| Evaluation | 61 SECONDS - 5 - Minutes |  |  |  |  |  | 6-30-MINUTES |  |  |  |  |  | OVER 30 minutes |  |  |  |  |  | Durbtion not stereo |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Percmit |  |  | Cothin Mounber - |  |  | Pacsat |  |  | Nunber |  |  | Pacterl |  |  | Mimber |  |  | Percmt |  |  |
|  | certain | Dablumu | Tobl | Cenian | Dabethol | Tolal |  |  |  | Certai | Doastu\| | Tota | Serain | Doobtrol | Total | Centin | Doubitut | Total | Centio | Dovilior | Total | Centian | Dasbtul | Total |
| Balloon | 46 | 30 | 76 | 156 | 10.2 | 25.8 | 57 |  | 94 | 18.3 | 11.9 | 30.2 | 27 | II | 38 | 21.4 | 6. 2 | 30.1 | 42 | 23 | 65 | 8.8 | 4.8 | 13.6 |
| 1-Astomanial | 8 | 10 | 18 | 27 | 3.4 | 6.1 | 32 | 11 | 43 | 10,3 |  | 13.8 | 26 | 11 | 32 | 20.6 | 8.7 | 29,3 | 84 | 55 | 139 | 17.6 |  | $2 \varepsilon_{1} /$ |
| 2-Aictaph | 36 | 33. | 69 | 12.2 | 12 | 23. | 26 | 27 | 53 | 8.4 | 8.9 | 123 | 7 | 6. | 13 | 5.6 | 4.8 | 10.4 | 4.8 | 26 | 71 | 9.2 |  | 4.7 |
| 3Ligt Phenom. | 5 | 2 | 7 | 1.1 | 07 | 2.4 | 7 | 4 | 11 | 2.3 | 1.3 | 3.6 | - | 2 | 2 | 0.0 | 1.6 | 1.6 | 3 | 1 | 4 | 0.6 |  | 0.8 |
| -Bids | 0 | 0 | 0 | 0. | 0.0 | 2.0 | , | 0 | 0 | 00 | 0.0 | 20 | 0 | 0 | D | 0.0 | 0.0 | 06 |  | 1 | 2 | 0.2 | 0.2 | 0.4 |
| Scllouds Dust | 0 | 3 | 3 | 0.0 | 1.0 | <0 | 1 | 1 | 2 | 0, 3 | 0.3 | 0.6 | 1 | 0 | 1 | 0.8 | 0.0 | 0.8 | 1 | 0 | 1 | 0.2 | 0.0 | 2. 2 |
| Glnuticic. mb. | 21 | 0 | 21 | 1.1 | 0. | 71 | 23 | 0 | 23 | 7.4 | 0.0 | 74 |  | 0 | 6 | 48 | 0.0 | 4.8 | 90 | 0 | 90 | 18.7 |  | 18.7 |
| 7.Psycriological | 4 | 2 | , | 1.4 | 27 | 2.1 | 9 | 0 |  | 2,9 | 0 | 29 | H | 0 | 4 | 32 | 0.0 | 32 | 5 | 0 | 5 | 1.0 | 0.0 | 10 |
| Sunkom | 82 | 0 | 82 | 219 | 0.0 | 279 | 61 | 0 | 61 | 19.6 | 0.0 | 19.6 | 19 | D | 19 | 15.1 |  |  | 79 | 0 | 79 | 16.6 | 00 | 16.6 |
| Sother | 9 | 3 | 12 | 3.1 | 1.0 | 41 | $1 /$ | 4 | 15 | 3.5 | 1.3 | 4.8 | 4 | 2 | 6 | 3.2 | 1.6 | 4.8 | 19 | 3 | 27 | 4.0 | 0.6 | 46 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tota | 21] | 83 | 294 | 11.8 | 28.2 | 100 | 227 | 84 | 311 | 73.01 | 27. | 100. | 94 | 32 | 126 | 774.6 | 25:4 | 100. | 368 | 109 | 47 |  | 2.9 | 100 |



| Evalubion | GL SECONDS-5 MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | Quel 30 minutes |  |  |  |  |  | DURATION NOT STATES |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Numbet |  |  | Per Cent |  |  | Number |  |  | Per Cent |  |  | Mumber |  |  | Per Cent |  |  |
|  | Certzin | [Dowbthil | Tola | Cerldin | Doubtal | Otal | Certain | Doubliul | Tob1 | Certain | Dovibtou | Total | rtain | Doutwol | Total | Certain | Doubtiol | Tetal | Certain | Dowthry | Total | Cetrin | Doubt | Total |
| Q.8allicon |  |  | 13 | 11 | 13. | 25.5 | 6 | 4 | 10 | 14.0 | 9.3 | 23.3 | 3 | 1 | A | 231 | 77 | 308 | 3 | 2 | 3 | 6. |  | 10.0 |
| 1.Astionoxial | 0 | 0 | Q | 0.0 | 0.0 | 0.0 | 2 | 3 | 5 | 47 | 70 | 11.7 | 1 | 0 | 1 | 7.7 | 0.0 | 7.7 | 3 | 2 | 5 | 6.0 | H.O | 10.0 |
| 2-Aitcrat | 13 | 11 | 24 | 25 | 21.6 | 41 | 6 | 8 | . 14 | 14.0 | 18.6 | 32.6 | 2 | 3 | 5 | 15.4 | 23.1 | 38.5 | 10 | 年 | 14 | 20.0 | 8.0 | 28.0 |
| 3 Lidit Pheno | 0 | 0 | 0 | 00 | 00 | 0.0 | 3 | 0 | 3 | 70 | 0.0 | 20. | - | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | Q | - 1 | 20 | 0.0 | 2.0 |
| 4 - 1 inds | C | 2 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 1.0 | 09 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 10 | 0.0 | 00 |
| s-cloves, Dost, | 0 |  | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | $0: 0$ | 0.0 | 00 | 0 | 0 | 0 | O. 0 | 0.0 | 0.0 | 0 | $D$ | 0 | 0.0 | 0.0 | 0.0 |
| Ginsumic matb. | 2 | , | 2 | 3.9 | 0.0 | 3.9 | 2 |  | 2 | 4.7 | 0.0 | H24 | 2 | 0 | , | 15.4 | 0.0 | 15.4 | 7 | D | 7 | 14.0 | 0.0 | 14.0 |
| 1. Psydrolopical | 1 | 1 | 2 | 201 | 20 | 40 | 0 | , | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| $\checkmark$ Unaknom | 8 | 0 | 8 | 15.7 | 0.0 | 157 | 6 | 5 | 6 | 14.0 |  | 14.0 | 7 | 0 | , | 77 | $0 \cdot 1$ | 77 | 12 | Q | 12 | 24.0 | 0.0 | 24.0 |
| Somm | 2 | 0 | 2 | 3.9 | 0.0 | 3.9 | 3 | 0 | $\checkmark$ | 7.0 | 0.0 | 70 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 4 | 2 | 6 | 8.0 | 1.0 | 12.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 32 | 19 | $5 \%$ | 627 | 37, | 1100 | 28 | 5 | 143 | 65.1 | 34.9 | 100 | 9 | 4 | 13 | 692 | 30.8 | 100 | 40 | T0 | 50 | 80 | 20.0 | 100. |



| PER |  |  |  |  |  |  | SISHTNG: |  |  |  |  |  | af |  |  |  |  |  | TD TEN |  |  |  | ABJECTS |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | SECR | - | S | ES |  | Nunber |  |  | secenos |  |  | 11130 |  |  |  |  |  | 31.60 SECONDS |  |  |  |  |  |
|  | mumber |  |  | Per Colt |  |  |  |  |  |  | Pel Corl |  | Number |  |  | Percent |  |  | Mumber |  |  | Peycont |  |  |
| Eviuation | Certan | Doobitul | Total | Centain | [Doubltu] | Total | cembin | Doublul | Tobal | Cevtin! | Dosobtiol | Total | Cellia | Dovitul | Total | Certa | Dovotitio | Tom | Certain | Douthtil | Total | Certain | Doantal | Toxil |
| a, Balicom | 0 | 2 | 2 | 0.0 | 7.1 | 7.1 | 0 | 0 |  | , | 0.0 | 00 | 0 | 1 | 1 | 0.0 | 4.8 | 4.8 | 0 | 0 |  | 20 | 00 | 0.0 |
| 1-Astimomal |  | 0 | 3 | 10.7 | 0.0 | 10.7 | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 |  | 1 | 0.0 | 48 | 4.8 | 0 |  | 1 | 0.0 | 6.7 | 6.7 |
| 2-Atrerith |  | 2 | 7 | 17.9 | 7.1 | 25.0 | 3 | 0 | 3 | 30.0 | 0.0 | 300 | 8 | 3 | 11 | 38.1 | 143 | 53,4 | 6 |  | 7 | 400 | 6.7 | 46.7 |
| 3 LComil Pherom. | 0 | 7 | 1 | 0.0 | 36 | 36 | 0 | 2 | 2 | 0.0 | 20.0 | 20.0 | 0 | 0 | 0 | 0.0 | D0 | 0.0 | 0 | 1 | 1 | 0.0 | 6.7 | 6.7 |
| 4 A-Bircs | 2 | 4 | 6 | 2.1 | 14.3 | 214 | 0 | 1 | 1 | 10 | 10.0 | 10.0 | 1 | 0 | 1 | 4.9 | 0.0 | 48 | - | 1 | 2 | 6.7 | 6.7 | 13.4 |
| 5-Clouds, Oust elc. | 0 | 0 | 0 | 0,0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.01 | 8 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 |
| Ginsuntic mb. | 2 | 0 | 2 | 7.1 | 0.0 | 71 | 1 | 0 | 1 | 10.0) | C-j | 10.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| T-Protelopical | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0. | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 8.10 manom | 5 | 0 | 5 | 12.9 | 0.0 | 17.9 | 3 | 0 | 3 | 30.0 | 0.0 | 300 | 7 | 0 | 7 | 33.3 | 0.0 | 333 | 4 | 0 | 4 | 26.7 | 0.0 | 26.7 |
| gothe | 2 | 0 | 2 | 21 | 0.0 | 7 l | 0 | 0 | D | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| cotal | 19 | 9 | 2 |  | 32, |  | 7 | 3 | 10 | 7ad | 30.0 | 100. | 16 | 5 | 2 | 762 | 23.8 |  | /7 | 4 | 15 | 733 | 26.7 |  |


| Evaluation | GL SECONAS - 5 MINUTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OLER 30 MINUTES |  |  |  |  | DURATION NOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Patcent |  |  | Number |  |  | PaComt |  |  | Number |  |  | Per cent |  | Mumber |  |  | Percont |  |  |
|  | Certain | Doobitiol | Total | Certain | Doubtuil | Total | Certain | Doubtilut | Totad | Centin | Dowbtol | Total | Certain | Doubtitul | Tobit | Sentrin | Doubtict Toma | Cetrin | Doubtioy | Tota | Centrin | Dowditul | Total |
| O-Balloon |  | 3 | 4 | 22 | 6.7 | 8.9 |  | 3 | 6 | 5.4 | 5.4 | 10.8 | 5 | 0 | 5 | 16.7 | 0.016 .7 | 5 | 0 | 5 | 6.2 | 0.0 | 62 |
| 1-Attomonical | 0 | 2 | 2 | 0.0 | 4:4 | 4.4 | 0 | 0 | 0 | 0.0 | 0. 0 | 0.0 | 2 | 5 | 7 | 6.7 | 76. 723.4 | 0 | 3 | 3 | 0.0 | 38 | 38 |
| 2-Aitrath | 6 | 8 | 14 | 13.3 | 17.8 | 31.1 | 8 | 9 | 17 | 14,3 | 16.1 | 31.4 | 1 | 0 | 1 | 3.3 | 0.013 .3 | 17 | 4 | 21 | 24.2 | 5.0 | 26.2 |
| 3-Light Phenm |  | 2 | 3 | 22 | 44 | 6.6 | 2 | 2 | 4 | 3.6 | 3.6 | 7.2 | 0 | 0 | 0 | 90 | 0.0100 | 1 | 0. | 7 | 1.2 | 0.0 | 1.2 |
| 4 Birds |  | 0 | 0 | 0.0 | 0.0 | 00 | , | 1 | 1 | 0.0 | 1.8 | 1.8 |  | 0 | 0 | 0 | 0.010 .0 | 1 | 1 | 2 | 12 | 1.2 | 2.4 |
| 5 Clouds, Doush er |  | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0000 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-Insurfic. int. | 6 | 0 | 6 | 13.3 | 0.0 | 13.3 | 10 | 0 | 10 | 17.9 | 0.0 | 17.9 | , | 0 | 1 | 3.3 | 0.033 | 19 | 0 | 19 | 23.8 | 0.0 | 23.8 |
| 1.Psycrological | 0 |  | 1 | 0.0 | 22 | 22 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 3.3 3,3 | 1. | 1 | 2 | 13 | 1.2 | 24 |
| 8-Unknom | 14 | 0. | 14 | 31.1 |  | 31.1 | 15 | 0 | 15 | 268 | 0.0 | 268 | 12 | 0 | 12 | 4h. 0 | 0.0420 | 18 | 0 | 18 | 22.5 | 0.0 | 235 |
| 906 mex | 1 | 0 | 1 | 2,2 | 0.0 | 2.2 | 1 | 2 | 3 | 1.8 | 3.6 | 5.4 | 3 | 0 | 3 | 10.0 | 0.010 .0 | 9 | 0 | 9 | 11.2 | 0.0 | 11.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 29 | 16 | 45 | 64 | 35.6 | 100. | 39 | 17 | 56 |  | 30.4 | 100. | 24 | 6 | 30 | 88.0 | 20.0100 | $7 /$ | 9 | 80 | 888 | 11.21 | 100 |



| Eralurion | $61.5 E S Q N D S$ - 5 MINUTES |  |  |  |  |  | 6-30 Minvtes |  |  |  |  |  | QuER 30 MINUTES |  |  |  |  |  | DUEATION pot STaTED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Percout |  |  | Mumber |  |  | Per Corl |  |  | Munbes |  |  | Per Cent |  |  | Munber |  |  | Percent |  |  |
|  | Certain | Dosibtul | Tolai | Centan | Doubthil | Toual | Cembin | Dowblua | Tote | Centan | Dostituf | Tota | ertain | Docothad | Total | Centrin | Doubitui | Tolal | Centrin | Doustoul | Total | Cerain | Doubltul | Tota |
| O-ballom | 0 | 2 | 7 | 20 | 0.0 | 0.0 | 1 | - | 1 | 12.5 | 0.0 | 125 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astronomica | 0 | 1 | 1 | 0.0 | 10.0 | 10.0 | 0 | 1 | 1 | - 0.0 | 125 | 125 | 3 | 0 | 3 | 15.0 | 0.0 | 15.0 | 1 | 0 | 1 | 5.3 | 0. | 5.3 |
| 2-A1rciat | 0 | 2 | 2 | 0.0 | 20.02 | 20.0 | , | D | 0 | 0.0 | 0.0 | 0.0 | 0. | , | - | aO | 5.1 | 51.2 | 0 |  | , | 0.0 | 5.3 | 5.3 |
| 3Liblt Premen | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 2 | 0 | 2 | 25.0 | 00 | 250 | 1 | 0 |  | 5.0 | 0.0 | 5.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Birds | 1 | 0 | 1 | 10.0 | 0.0 | 10.0 | 0 | 0 | 0 | 0.0 | . | 0.0 | 0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 Claods, Dust elc. | 0 | 0 | 0 | 0.0 | 0.0 | Q. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 6 Graftic Mo. | 0 | 0 | 0 | D, 0 | 0.0 |  | 1 | 0 | 1 | 125 | 0.0 | 125 | 0 | 0 | 0 | 0.0 | 0.8 | 0.0 | 6. | 0 | 6. | 31.6 | 0.0 | 31,6 |
| 7-Pyyctiopical | 0 | 0 | 0 | 0.0 | 0.0 | d. 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.4 | 1 | 0 | 1 | 5.0 | 10 | 5.0 | 2 | 0 | 2 | 10.5 | 0.0 | 10.5 |
| 2umbrom | 31 | 0 | 3 | 300 | 0.0 | 30.0 | 3 | 0 | 3 | 375 | 0.0 | 375 | 13 | 0 | 13 | 65.0 | 0.01 | 65.0 | 7 | D |  | 36.8 | 0.0 | 36.8 |
| Howe | 3 | 0 | 3 | 30.0 | 0.0 | 30.0 | 0 | 0 | 0 |  | 0.0 | 0.0 | 0 | $\%$ | 7 | 0.0 | 5.8 | 5.0 | , | D | 2 | 10,5 | 2, 0 | 10.5 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toun |  | 3 | 10 | 70.0 | 30.0 | 100. | 7 | 1 | 8 | 87, ${ }^{1}$ | 12.5 | 100. | 18 | 2 | 20 | 920 | 10.01 | 100. | 78 | 2 | 19 | 94.7 | 5.3 | 100. |



|  | LLSECONDS- 5 Minutes |  |  |  |  | 6-30 Minutes |  |  |  |  |  | DVER zo MUNUTES |  |  |  |  | DUEATEN not STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Erruation |  |  |  | Percmit |  | Number |  |  | Pascont |  |  |  |  |  | Paccomt |  | Monom |  |  | Pracmi |  |  |
|  | Corain | Doabltay | Tobi | Combin | Dabbtar Total | centin | Doabthin | Tolon | Catain | Dabthol | Tota | Centio | Dowetal | T Tobi | Certain | Doubtem Totan | Cotran | 1 Dowltu | Town | Coru | Dauktal | Tota |
| -8alom | 2 | 0 | 2 | 14.0 | 10440 | 0 |  | 1 |  | 33, 3 | 33.3 | 0 | 0 | 0 | 00 | 0.00 .0 | 1 | 0 | 7 | 30 | 1.0 | 3.0 |
| 1.Astomma | 0 | 0 | 0 | 0.0 | 0.000 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | - 1 | 0 | 1 | 12,5 | 0.0125 | $1 /$ | , | 12 | 33.3 | 3.0 | 363 |
| 2.ARicrath | 1 | 0 | , | 20.0 | 0.020 .0 | 0 | 0 | 0 |  | 00 |  | D | 0 | 0 | 00 | 0.00 .0 |  | 3 | 4 | 3.0 | 9.1 | 12.1 |
| 3-Litut Phame | $L$ | 0 | 1 | 20.8 | 0020.0 | 0 | 0 | 0 | 0.0 | 0, 0 |  | 0 | 0 | 0 | 0.0 | 0.00 .8 | 0 | 1 | 1 | 0.0 | 3.0 | 3.0 |
| 4 - ${ }^{\text {inds }}$ | 0 | 0 | 0 | Q 0 | 0.00 .0 | - 7 | 0 | 1 | 33.3 | 0.0 | 33.3 | 2 | 0 | 2 | 25.0 | 0.25 .0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 5 clouess Duse ic | 0 | 0 | 0 | 0.0 | 0.000 | 0 | 0 | 0 | 0.0 | 0.0 |  | 0 | 0 | 0 | 00 | $0.0 \times 0$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| G-munulic. mic. | 1 | 0 | , | 200 | 0.0220 | 0 | 0 | 0 | 00 | 0.0 | a 0 | 2 | 0 | 2 | 25.0 | 0.02250 | 8 | 0 | 8 | 24.2 | 0.0 | 242 |
| IPPrycrobopical | 0 | 0 | 0 | 0.0 | 0.000 | 0 | 0 | Q | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.008 |  |  | 7 | 0.0 | 3.0 | 30 |
| 8 Unatom | 0 | 0 | 0 | 0,0 | 0.010 .0 | -1 | 0 | 1 | 33,3 | 0.0 | 33.3 | 2 | 0 | 2 | 25.0 | 0.025 .0 | 5 | 0 | 5 | 15.2 | 0.0 | 15.2 |
| Soluir | 0 | 0 | 0 | 0.9 | 0.00 | d | 0 | 0 | 06 | 0.0 | 0.0 | - | 0 | - | 12.3 | 1012.5 | 1 | 0 | 1 | 3.0 | 0.0 | 3.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tost | 5 | 0 | 5 | 1000 | 0.0100. | 2 | 1 | 3 | 66.7 | 33.3 | 100. | 8 | 0 | 18 | 10001 | 0.0100. | 27 | 6 | 33 | 81.8 | 18.2 | 102 |



|  | 5 secomes oe less |  |  |  |  |  | 6-10 SECONDS |  |  |  |  |  | 11-30 Secorios |  |  |  |  |  | $31.60 \text {, SECONDS }$ |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumper |  |  | Pet Coml |  |  | Mumber |  |  | Percomt |  |  | Mumbe |  |  | Percent |  |  | Mumber |  |  | Pet Com |  |  |
| Evaluation | Catan | Dowbitur | Total | Centrin | Doubinil | rous | Certain | Soubsion | Tobs | Cestrin | Datiox | Totx | Eertin | Dostitiow | Tot | entain | Donetul | Towal | Certain | Doubtiol | Total | Cort | Uubtion | Tax |
| O-8alloen | 3 | 3 | b | 1.3 | 1.3 | 2.6 | 2 | 3 | 5 | 2.2 | 3.3 | 5.5 | 3 | 5 | 8 | 2,2 | 3.6 | 5.8 | 9 | 9 | 18 | 75 | 75 | 150 |
| 1-Astionomical | 82 | 2 | 159 | 35.D | 329 | 67.9 | 26 | 17 | 43 | 28.6 | 18.2 | 473 | 24 | 9 | 33 | 173 | 6.5 | 238 | 9 | 5 | 14 | 7.5 | 42 | 11.7 |
| 2-Aitrem | 15 | 14 | 29 | 64 | 6.0 | 12.4 | 12 | 8 | 20 | 13.2 | 8.8 | 220 | 27 | 23 | 45 | 15.8 | 165 | 323 | 23 | 15 | 38 | 19.2 | 125 | 31.7 |
| 3 Lidal Pheno | 2 | 0. | 2 | 0.9 | OL | 0.9 | 1 | 0 | 1 | 1.1 | 0.0 | 1.1 | 1 | 1 | 2 | 0.7 | 0.7 | 64 | 0 | 0 | D | 0.0 |  | 0.0 |
| lirds | 0 | 0 | 0 | 0.0 | QO | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.4 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | a | 00 |
| 5 Clowss, Dust | 0 | - 1 |  | 0.0 | att | 0.4 | 0 | 0 | 0 | 0.01 | 0.0 | 0.0 | 0 | 2 | 2 | 0.0 | 1.4 | 1.4 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| Cosaticic ino. | 10 | 0 | 10 | 43 | 0.0 |  | 6 | 0 | 6 | 6.6 | 0.0 | 6.6 | 13 | 0 | 13 | 9.4 | 0.0 | 9,4 | 10 | 0 | 10 | 8.3 | 0.0 | 83 |
| XPyscolotical | 2 | 0 | 2 | 0.9 | 0.0 | 0.9 | 0 | 0 | 0 | 20 | 0.0 | 0.0 | 2 | 1 | 3 | 1.4 | 07 | 2.1 | 2 | 0 | 2 | 17 | 00 | 1.2 |
| 4 Uaksom | 15 | 0 | 15 | 6.4 | 0.0 | 64 | 1 Ht | 0 | 14 | 15.4 | 0.0 | 15.4 | 25 | 0 | 25 | 18.0 | 0.0 | 18.9 | 33 | 0 | 33 | 27,5 | 00 | 27.5 |
| Hemer | 7 | 3 | 10 | 3.0 | 1.3 | 4.3 | 2 | D | 2 | 2.2 | 0.0 | 2.2 | 4 | 4 | 8 | 29 | 29 | 5.8 | 3 | 2 | 5 | 2.5 | 1.7 | 4.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | 98 |  |  |  |  | 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |


| Evadotion | 61 SECONOS- 5 MINUTES. |  |  |  |  |  | 6-30 Minutes |  |  |  |  |  | QYER 30 Minutes |  |  |  |  |  | RURATION pot Statel |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Mumber |  |  | Percent |  | Number |  |  | Pacent |  |  | Munber |  |  | Per Cent |  |  | Numbes |  |  | Per Cort |  |  |
|  | Cetrain | Doubthu) | Tobil | Certain | Dostitul | Tolai | Centain | Dabitiol | Total | Cettin | Dabltip | Toted | Certain | Dovolitil | Total | Centin | Doubtiul | (tal | Certin | Doubtiol | Total | Certain | Douttal | rots |
| 0-8alloon | 44 | 29 | 73 | 164 | 10.9 | 274 | 55 | 31 | 86 | 19.9 | 11.2 | 31.1 | 23 | $1 /$ | 34 | 204 | 9.7 | 30.1 | 37 | 18 | 53 | 9.4 | \#16 | 40 |
| 1-Astomonical | 6 | 8 | 14 | 22 | 3.0 | 5.2 | 29 | 11 | 40 | 10.5 | A0 | 14.5 | 23 | 10 | 33 | 20.4 | 8.8 | 29.2 | 49 | 41 | 90 | 124 | 10.4 | 22.8 |
| 2-Aicrath | 32 | 31 | 63 | 11.9 | 11.6 | 23.5 | 26 | 23 | 49 | 9.4 | 8.3 | 17.7 | 7 | 4 | 11 | 6.2 | 3.5 | 97 | 37 | 25 | 62 | 9.4 | 6.3 | 15.7 |
| 3-Limitpemon | 4 | 1 | 5 | 1.5 | 14 | 1.9 | 6 | 3 | 9 | 22 | 1.1 | 3.3 | 0 | 2 | 2 | 0.2 | 1.8 | 1.8 | 3 | D | 3 | 0.8 |  | 0.8 |
| 4 - Bilus | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 | 1 | 2 | 0.3 | 0.3 | 0.6 |
| 5-Clowds, Dust | 0 | 3 | 3 | 0.9 | 1.4 | lid | 1 | 1 | 2 | 0.4 | 0.4 | 0.8 | 1 | 0 | 1 | 0.9 | 0.0 | 0.9 | 1 | 0 | 1 | 0.3 | 0.0 | 0.3 |
| 6 -Insilic. mio. | 18 | - | 18 | 67 | 0.0 | 6.7 | 20 | 0 | 20 | 7,2 | 0.0 | 7.2 | 5 | 0 | 5 | 4.4 | 00 | 4.4 | 87 | 0 | 87 | 22, 11 |  | 221 |
| 7.Psycholesical | 4 | 2 | 6 | 1.5 | 0.7 | 2.2 | 9 | 0 | 9 | 3.2 | Q 0. | 3.2 | 4 | 0 | 4 | 3.5 | 0.0 | 3,5 |  | 0 | 5 | 1.3 | 0.0 | 1.3 |
| B-Lnknom | 76 | 0 | 76 | 28.4 | 0.0 | 284 | 48 | 0 | 48 | 17,3 | Q 0 | 173 | 17 | D | 17 | 15.0 | 0.0 | 15.0 | 69 | 0 | 69 | 17.5 | 0.0 | 7,5 |
| 9 Othes | 9 | 1 | 10 | 3.4 | 04 | 38 | $1 /$ | 3 | 14 | 40 | 7.1 | 5.1 | 4 | 2 | 6 | 3.5 | 1.8 | 5.3 | 17 | 3 | 20 | 43 | 0.8 | 5.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Yola | 193 | 75 | 268 | 72.0 | 28.0 | 100. | 205 | 72 | 270 | ZHD | 26.0 | 100. | 84 | 29 | $1 / 3$ | 74.3 | 25.1 | 00. | 306 | 88 | 394 | 7.7 | 22 | 100 |

TABLE RZIQ EVQLUATION OE QBLEET SIGHTWGS EAR RLE VEARS BY MWMRER OE QSVETS

|  | 5 SECONAS DR LESS |  |  |  |  |  | 6-10 5econds |  |  |  |  |  | 11-30 SEccieds |  |  |  |  |  | $3-60$ |  |  | seconos |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mrmbes |  |  | Pecent |  |  | Mumber |  |  | Per Cort |  |  | mumber |  |  | Pacent |  |  | Aunber |  |  | Pet cant |  |  |
| Evalualion | Certin | Doublur | Total | Certrin | Ooubthi | Total | Centrin | Dosodtail | Tota | Certrin | Doobtur | Toti | in | Doubtrul | Tolal | ertain | Doubtrul | Toal | Centin | Doutith | Tot | Cartsin | Daubtiol | Total |
| O-Bayloon | 0 | 0 | 0 | D, 0. | 0.0 | 1.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 1 |  | 4 | 4 | 13.0 | 173 | 0 | D | 0 | 0.0 | 0.0 | 0.0 |
| 1.Astomomical | 1 | 3 | 4 | 6.7 | 20.0 | 247 |  | 2 |  | 0.0 | 18.2 | 18.2 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 1 | 1 | 00 | 11.1 | 11.1 |
| caft | 1 | 3 | 4 | 6.7 | 20.0 | 26.7 | 3 | 1 | 4 | 27,3 | 9.1 | 36.4 | 6 | 5 | 11 | 26.1 | 21.7 | 47.8 | 1 | 3 | 4 | 11.1 | 33.3 | 4644 |
| imt Phe | V | 1 | 1 | 00 | 6.7 | 67 | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 0.0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 1 | , | 0.0 | 11.1 | 11.1 |
| 4 Birts | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |
| Clouds Dast | 0. | E | 0 | 6.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| mice mhe | 2 | 0 | 2 | 13.3 |  | 13.3 | 1 |  | , | 9.1 | 0.0 | 9.7 | 2 | 0 | 2 | 8.7 | 0.0 | 8.7 | , | 0 | 1 | 11.1 | 0.0 | 11.1 |
| yctologial | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | D | 2 | 8.7 | 0.0 | 87 | 0 | O | 0 | 0.0 | 0.0 | 0.0 |
| Nom | 4 | 0 | 4 | 267 | 0.0 | 26.7 | 4 | D | 4 | 36.4 | 0.0 | 36.4 | 2 | 0 | 2 | 87 | 0.0 | \% 7 | 2 | 0 | 2 | 232 | 0.0 | 272 |
| -Oher | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  | 2 | 43 | 43 | 9.6 | 0 | 0 | 0 | 10 | 0.0 | 0.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| rad | 8 | 7 | 1 |  | 46.7 | 1 | 8 | 3 | 11 | 727 | 27.3 | 100. | 14 | 9 | 23 | 60.9 | 39.1 |  | 4 | 5 | 9 | 44.4 | 55.6 | 100 |


|  | a/ Secones - 5 MUNuTES |  |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OWER 30 MINUTES |  |  |  |  |  | DURATION NOT STATEP |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percort |  |  | Number |  |  | ${ }^{\text {Per Cent }}$ |  |  | Number |  |  | Percent |  |  | Mumber |  |  | Percent. |  |  |
| Eralubion | Centin | Doubbitio | Total | Centan | [Doubtul] | Totad | Cétain | Downtru] | Tobed | Certain | Doadtrol | Tola | entain | Doubtul | Total | Certion | Dooutrui | Toul | Certrin | Dooultiol | Total | Cata | Doubitul | Tota |
| Balloon |  | 5 | 11 | 13.6 | 11 | 250 | 5 | 3 | 8 | 13.9 | 8 | 222 | 3 | 1 | 4 | 250 | 8.3 | 333 | 2 | 2 | 4 | 4.3 | 4.3 | 8.6 |
| 1.Astumamial | 0 |  |  | 0.0 | 0.0 | 0.0 | 2 | 3 | 5 | 5.6 | 83 | 3.9 | 0 | 0 | 0 | 0.0 | 0. | 0.0 | 3 | 2 | 5 | 65 | 4.3 | 10.8 |
| 2. inctadt $^{\text {a }}$ |  |  | 21 | 29,5 | 8.2 | 47.7 |  | 5 | 10 | 13.9 | 13.9 | 278 | 2 | 3 | 5 | 16.7 | 25. | 4.7 | 9 | 3 | 12 | 19.6 | 6.5 | 261 |
| 3-Ligt Prence |  | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 0 | - | 8,3 | 00 | 83 | 0 | 0 | 0 | 0. 0 |  | 0.0 | 7 | 0 | 7 | 2.2 | 0.0 | 22 |
| Bris |  | 0 | 0 |  | 00 | 00 | 0 | 0 | 0 | 0.0 |  | 0.0 | 0 | 0 | 0 | 0.0 |  | 0.0 | 0 | Q | 0 | 0.0 | 0.0 | 0.0 |
| Clouds, Oust | 0 | 0 | , | 0.0 | 00 | 00 | 0 | 0 | 0 | 00 | 0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| dsumic mat. | 2 | 0 | 2. | 45 | . | 45 | 1 | 0 | 1 | 2.8 |  | 28 | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 7 | 0 | 7 | 15.2 | 0.0 | 15.2 |
| Pyydelopia | 1 | 1 | 2 |  | 7 | - | 9 | 0 | 0 | 0.0 | 0.0 | 0.9 | 0 | 0 | 0 | 00 | 0.0 | Q 0 |  | 0 | 0 | 0.0 | 0.0 | 0.0 |
| mmom | 7 | , | 7 | 15.9 | 0.0 | 15.9 | 6 | 0 | 6 | 16.7 | 00 | 167 | , | 0 | 1 | 83 | 0.0 | 8.3 | $1 /$ | 0 | 11 | 23.9 | 0.0 | 23.9 |
| Hor | 1 | 0 | I | 23 | 0.0 | 23 | 3 | 0 | 3 | 8.3 | 0.0 | 4, ${ }^{3}$ | 0 | 0 | 0 | Q10. | 0.0 | 0.0 | 4 | 2 | 6 | 8.7 | 4.3 | 13.0 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| atal | 30 | 14 | 4 | 68 | 31.8 | 0 | 251 | $1 /$ | 3 | 69 | 30.6 | CO. | 8 | 4 | 12 | 667 | 333 | 100 | 37 | 9 | $1+6$ | 81.4 |  | 0 |



|  | CLSECONDS - 5 Munutes |  |  |  |  |  | -6-30 mpnotes |  |  |  |  |  | QUER zR MINUTES |  |  |  |  |  | DURARON MOT STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Pet Cent |  |  | Number |  |  | Percost |  |  | Munber. |  |  | Perceml |  |  | Mumber |  |  | Petcort |  |  |
| Evaluation | Centain | Dovobtul | Total | Ceridin | Doubitul | Total | Certain | Doobltui | Total | certain | Dowitul | Total | Centain | Doubtitul | Total | Certain | Doubthly | Total | Certain | Dowithy | Total | Certain | Daubtuil | Total |
| Q-Balloon | 1 | 1 | 2 | 2.4 | 2.4 | 48 | 2 | 3 | 5 | 3.8 | 58 | 26 | 3 | 0 | 3 | 12.0 | 0.0 | 12.0 | 4 | 0 | 4 | 6.1 | 0.0 | 6.2 |
| 1-Astronomica! | 0 | 2 | 2 | al | -1.9 | 49 | 0 | 0 | 0 | 20 | 0.0 | 00 | 2 | 5 | 7 | 8.0 | 20.0 | 28.0 | 0 | 3 | 3 | 0.0 | 4.5 | 4.5 |
| 2-Aircrath | 6 | 8 | 14 | 14.6 | 19.5 | 34 | 7 | 9 | 16 | 135 | 473 | 308 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 3 | 4 | 17 | 19.7 | 6.1 | 25.8 |
| 3-Liegt Phenom. | 1 | 2. | 3 | 2.4 | 4.8 | 12 | 2 | 2 | 4 | 3.8 | 3.8 | 76 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 | 1 | 0 | 1 | 1.5 | 00 | 165 |
| 4 Eiints | 0 | 6 | 0 | 0.0 | 0.0 | 120 | 0 | 1 | 1 | 0.0 | 1.9 | 1.9 | 0 | 0 | 0 | 0.0 | 0.01 | 0.0 |  | 1 | 2 | 1.5 | 1.5 | 3.0 |
| $5-$ Clouds, Dust, etc. | 0 | 0 | 0 | 00 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 20 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| F-nsulficic. mo. | 5 | 0 | 5 | 12.2 | 0.0 | 12.2 | 10 | 0 | 10 | 19.2 | 0.0 | $19: 2$ | 1 | 0 | 1 | 4.0 | 0.0 | 40 | 15 | 0 | 15 | 22.7 | 0.0 | 22.7 |
| 2.Psycrologital | 0 | 1 | 1 | 0.0 | 2.4 | 2.4 | 0 | 0 | 0 | 10.0 | 0.0 | 0.0 | 0 | 1 | 1 | 0.0 | 4.0 | 40 | 1 | 1 | 2 | 1.5 | 1.5 | 30 |
| 88. | 13 | 0 | 13 | 31.7 | 10.0 | 31.7 | 13 | 0 | 13 | 25.0 | 0.0 | 25.0 | 10 | 0 | 10 | 40.0 | 0.0 | 400 | 16 | 0 | 16 | 24.2 | 0.0 | 24.2 |
| S-Other | 1 | 0 | 1 | 2.4 | 0.0 | 2.4 | 1 | 2 | 3 | 1.9 | 38 | 5.7 | 3 | 0 | 3 | (2, ${ }^{2}$ | 0.01 | 120 | 6 | 0 | 6 | 911 | 0.0 | 91 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 27 | 14 | 4/1 | 659 | 3411 | 100 | 35 | 17 | 52 | 673 | 32.7 | 100. | 19 | 6 | 25 | 77.01 | 240 | 100. | 57 | 9 | 66 | 86.4 | 13.6 | 1e0 |



|  | G/ SECONOS - 5 MINUTES |  |  |  |  |  | L-30 M MNUTES |  |  |  |  |  | DuER 30 Minures |  |  |  |  |  | Dueqrion not 5 Eatee |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cort |  |  | Humber |  |  | Petcont |  |  | Number |  |  | Pet Cent |  |  |  |  |  |  |  |  |
| Evaluation | Cersan | Doubthl | Total | Certain | Dowbtol | Total | Ceftain | Doubthel | Tobil | Ceraina | [Dabithil | Tota | Certain | Doobbtal | Total | Cernain | Doouthi] | Total | Certria | Dovotal | Total | Cerain | Doubtol | Tot |
| O-Bailoon |  | - | , | 0.0 | 0.0 | 0.0 | -1 | 0 | 1 | 125 | , | 12.5 | 0 | 0 | 0 | 0.0 |  | 0.0 | 0 |  | O | U |  | 0.4 |
| 1-Astromomic | , | 1 | 1 | 0.0 | 10.0 | 10 | , | , | 1 | 0.0 | 12.5 | 125 | 3 | 0 | 3 | 200 | 0.0 | 28,0 |  | 0 |  | be |  | 6.2 |
| 2-Aicrath | 0 | 2 | 2 | 0.0 | 20.0 | 200 | O | 0 | 0 | 0.0 | 0.0 | 0.0 | , | 1 | 1 | 0.0 | 6.7 | 67 | 2 |  |  | 0.0 | 6.2 | 6.2 |
| 3 Lidim Phem |  | 0 |  | 00 | 0.0 | 0.0 | 2 | 0 | 0 | 25.0 | 2.01 | 25,0 | - | 0 | 1 | 6.7 | 0.0 | 67 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 4 - Bircts |  | 0 | , | 10.0 | 0.0 | 10.0 |  | 0 | 0 | 00 | 00 | 4.0 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | , | 0.0 |
| $5-$ Ciouds , Dust etc | , | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 |  | 0.0 | 10 | 0.0 | 0 | 0 | 0 | 0 | 00 | 00 |
| G-Insultic min. | 0 | 0 | 0 | 00 | 00 | 0.0 | -1 | 0 | 1 | 12,5 | 0.0 | 125 | 0 | 0 |  | 0.0 | 0.0 | 00 | 6 | 0 | 6 | 37.5 | 0.0 | 375 |
| 7.Pyyctopogical | d | 0 | 0 | 0.0 | Ob | 001 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |  | 0 |  | 6.7 | 0.0 | 6.7 | -2 | 0 | 2 | 12.5 | 0.0 | 12,5 |
| 8 Unknown |  | 0 |  | 30.0 | 0.0 | 30.0 | 3 | 0 | 3 | 37.5 | 0.0 | 30,5 | d | 0 | 6 | 53.3 |  | 53,3 | 5 | 0 | 5 | 312 | 0.0 | 31.2 |
| 90tuen | 3 | 0 | 3 | 30.0 | 0.0 | 30.0 | 0 | 0 | 9 | 0.0 | 0.9 | 0.0 | 0 | -1 |  | 0.0 | 6.7 | 6.7 | 1 | 0 | 7 | 6.2 | 0.0 | 6.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totaid | 1 | 3 | 10 | 70.0 | 30.0 | 100.1 | 7 | 1 | 8 | 87,5 | 7125 | 100. | 13 | 2 | 15 | 86.7 | 13.3 | 1100. | 15 | 7 |  | 93,2] | 6,2 | 100. |



|  | al SECONOS - 5 MINUTES |  |  |  |  | 6-30 MINUTES |  |  |  |  |  | OVER 30 Minutes |  |  |  |  |  | DURATIEN not STATED |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Humber |  |  | Pacmit |  | Munber |  |  | Pactat |  |  |  |  |  |  |  | ment |  |  |  |  |  |
| Evalusion | Centin | Doustuis | Tobi | Centin | Doabloir Total | Cerbia | Dosatron | Totad | Embin | Dostuta | Totad | Eatain | Oatabl | Toul | Cation | Obster | Tom | Cation | Dowh | Totid | Can |  |  |
| amalom | 2 | 0 |  | 48.0 | 0.0480 | 0 | 1 | 1 | 00 | 33.3 | 33.3 | - 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| 1-Astromoical | 0 | 0 | 0 | 0.0 | 0.000 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | 0 | 1 | 14.3 | 0.0 | 14.3 | -9 | 1 | 10 | 346 | 3 | 38.4 |
| irath | 1 | 0 | / | 20.0 | 0.02000 | $\sigma$ | 0 | 0 | 0.0 | 20 | 0.0 | 0 | 0 | 0 | 0.0 | al | 0.0 |  | 1 | 2 | 3.8 | 3.8 | 7.6 |
| Hiptomme | 1 | 0 |  | 20.0 | 0.0220 |  | 0 | 1 | 33,3 | ao | 33. | - | 0 | 0 |  | 0. | D. 0 |  | 1 |  | 0.0 | 3.8 |  |
| 4 Bins | 0 | 0. | 0 | 0.0 | 0.010 .0 | 0 | 0 | 0 | 0. |  | - | 2 | 0 | 2 | 28.6 |  | 29.6 | 0 | 0 | $\delta$ | 0.0 | 0.0 | 18 |
| Sclows, Qust | 0 | 0 | 0 | 0.0 | 0.900 | 0 | 0 | 0 | 0.0 | Q 0 | 0.0 | 0 | 0 | 0. |  | 0.0 | 00 | - | 0 | D | 0.0 | 0.0 | 00 |
| Snuticicani. | 1 | 0 | , | 20.0 | 0.020 .0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | 2 | 28.6 |  | 296 |  | 0 | 8 | 30.8 | 0.0 | 30.8 |
| arimesial | - | 0 | 0 | 00 | 0.00 .0 | 0 | , | 0 | 0.9 | 0.0 | 0.0 | 0 | 0 | 0 |  |  | 0.0 | 0 | 1 | 1 | ad | 3.8 | 3.8 |
| Henom | 0 | - | 0 | 0.0 | 0.00 .0 | 1 | 0 | , | 33.3 | 0.0. | 33,3 | 1 | 0 | 1 | 14.3 |  | 14.3 | 3 | 0 | 3 | 11.5 | Q 1 | 11.5 |
| Othat | 0 | 0 | 0 | 0.0 | 0.00 .0 | 0 | 0. | 0 | 0.0 | 0.0 | 0.0 | - | 0 | , | 14.3 | 0.0 | 14.3 | 1 | 0 | L | 3.8 | a 0 |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Todal | 5 | 01 | 5 | 10001 | 0.01000. | 2 |  | 3 | 667 | 33.31 | 100. | 7 | 0 | 7 | 100.0 |  | 100. | 22 | A |  |  |  |  |



| Evaluation | Munber $4 \leq 14$ |  |  | Per Cemt |  |  | AECLA |  |  |  |  |  | AUSTCALIA |  |  |  |  |  | Number |  |  | Per Cont |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | Number | Per Cort |  |  | Nunber |  |  | Percent |  |  |  |  |  |  |  |  |
|  | Certain | Doviotay | Total |  |  |  | Ceribin | Doubtrol | Tobal | Centain | Dovethin | Total | Certain | Baobthul | Tola | Cestain | Deabtiol | Tobl | Certain | Doubtrul | Toal | Cetrain | Doubitios | Toter | Certain | Doubtus | Totar |
| Q-balloon | 7 | 8 | 15 | 6.1 | 70 | 13.1 | 0 | 1 | 1 | 0.0 | 40 | 4.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astronomical | 18 | 1 | 25 | 15.7 | 6.1 | 21.8 | 7 | , | 8 | 28.0 | 4.0 | 12.0 |  |  |  | 1 |  |  |  |  |  |  |  |  |
| 2-Aircrath | 4 | 10 | 14 | 3.5 | 87 | 12.2 | 0 | 7 | 7 | 0.0 | 28.0 | 280 |  |  |  | $\sqrt{7}$ |  |  |  |  |  |  |  |  |
| 3-Lim Phemom. | 1 | 0 | 1 | 0.9 | 0.0 | 0.9 | 0 | 0 | 0 | 0.0 | 0.2 | 00 |  |  |  | $V$ |  |  |  |  |  |  |  |  |
| 4 Birds | 5 | 0 | 5 | 4.3. | 0.0 | 45 | 0 | 0 | - 0 | 00 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Clouds, Dust, etc. | 3 | 0 | 3 | 2.6 | 0.0 | 2.6 | 0 | 0 | - | 00 | 2.0 | 0.0 |  |  | A |  |  |  |  |  |  |  |  |  |
| 6 -insulfic. mito. | 4 | 0 | 4 | 35 | 0.0 | 3.5 | 5 | 0 | 5 | 100 | a0 | 100 |  |  | V |  |  |  |  |  |  |  |  |  |
| 1.Psyctiological | 0 | 0 | 0 | 0.0 | 0.0 | el | 0 | a | 0 | 0.0 | ad | Qe |  |  |  |  |  |  |  |  |  |  |  |  |
| BUnhnown | 32 | 0 | 32 | 278 | 0.0 | 278 | 4 | 0 | 4 | 16.0 | e.0 | 16.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 90trem | 12 | 4 | 16 | 10.4 | 35 | 139 | 0 | 0 | 0 | 00 | 0.0 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 86 | 29 | 115 | 748 | 25.2 | 100. | 16 | 9 | 25 | 68.0 | 36.0 | 200. |  |  |  |  |  |  |  |  |  |  |  |  |



| Evaluation | Tor2c |  |  |  |  |  | NQeth Amefica |  |  |  |  |  | Sourch Americh |  |  |  |  |  | Eveppe |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Peecort |  |  | Number |  |  | Percort |  |  | Humber |  |  | Per Cent |  |  | Number |  |  | Percmet |  |  |
|  | Certain | Dovolitul | Tobal | Certain | Davothil | Total | Certain | Doudthol | Total | Cetrain | Doubtrol | Tolal | Cetrin | boubtrol | Total | Certain | Doubitol | Total | Certain | Doubtul | Totas | Certaia | Dowbtul | Total |
| 0-8atloon | 228. | 150 | 318 | 6.9 | 5.9 | 148 | 214 | 143 | 357 | 20 | 6.0 | 150 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 7 |  | 8 | 10.9 | 1.6 | 12.5 |
| 1-Astomomical | 382 | 256 | 638 | 15.0 | 10.0 | 250 | 359 | 246 | 605 | 15.1 | 10.4 | 255 | 2 | 0 | 2 | 25.0 | 0.0 | 250 | 3 | 4 | 1 | 4.7 | 63 | 11.0 |
| 12-Aitraft | 222 | 235 | 527 | 11.4 | 92 | 20.6 | 281 | 213 | 494 | 119 | 40 | 20.9 | 2 | 0 | 2 | 15.0 | 0.0 | 25.0 | 5 | 8 | 3 | 18 | 12.5 | 20.3 |
| 3-Light Phenom. | 22 | 21 | 53 | 1.3 | 08 | 21 | 31 | 10 | 51 | 1.3 | 0.8 | 2.1 | 0 | 0 | 0 | 0.0 | a0 | 0,0 | 0 | 1 | 1 | 0.0 | 1.6 | 1.6 |
| 4 Birds | 13 | 10 | 23 | 0.5 | 0.4 | 0.9 | 11. | 9 | 20 | 05 | 0.4 | 0.9 | 0 | e | 0 | 20 | Q.p | 0.0 | 0 | 1 | 1 | Qe | 1.6 | 4.6 |
| 5.Clouds Oust etc | 3 | 7 | 10 | 01 | 0.3 | 1.3 | 2. | 7 | 9 | 01 | 0.3 | 0.4 | 0 | e | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | Q, 0 | 00 | 00 |
| G-Insutic. mo. | 161 | 0 | 261 | 10.2 | 00 | 10.2 | 236 | 0. | 236 | 10.0 | 0.0 | 10.0 | 2 | 0 | 2 | 25.0 | 0.0 | 250 | 4 | 0 | 14 | 21.9 | dio | 21.9 |
| 7.Psychalogical | 36 | 21 | 45 | 1.4 | 0.4 | 1.8 | 36 | 8 | 44 | 1.5 | 4.3 | 1.8 | e |  | 1 | 0.0 | 12.5 | 12.5 | 0 | 0 | 0 | 00 | 0.0 | 00 |
| 8 Unknom | 497 | 0 | 491 | 19.5 | 0.0 | 19.5 | 455 | 0 | 455 | 12.2 | ae | 19.2 | $\underline{1}$ | 0 | 1 | 12.5 | 0.0 | 125 | // | 0 | 11 | 12.2 | 00 | 17.2 |
| 90 ther | 92 | 28 | 120 | 3.6 | 11 | 47 | 19 | 20 | 99 | 33 | 08 | 4.1 | 0 | 0 | 0 | 20 | 00 | e0 | 3 | 6. | 9 | 47 | 9.4 | 14.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolad | (1836 | 716 | 2552 | 17.9 | 28.1 | 100 | 1,104 | 6662 | 2310 | 11.9 | 28.1 | 100. | 1 | 1 | 8 | 87.5 | 12.5 | 100 | 431 | 21 | 64 | 61.2 | 328 | 100. |


|  | $A 51 A$ |  |  |  |  |  | AEsLeA |  |  |  |  |  | $A \\| 51<4 \leq 1 A$ |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Pes Cemi |  |  | Humber |  |  | Percant |  |  | Nunber |  |  | Pet cent |  |  | Number |  |  | Pey Cent |  |  |
| Evaluation | Centuin | Doobbtuil | Total | Cendin | Doubtul | Total | Ceatbian | [Doubth] | Total | Ceatbin | Dosblitul | Total | Certain | Dobithol | Touat | Certain | Doobtrin | Total | Cerain | Doubthil | Totor | Ceratio | Doubtul | Total |
| Q-8allion | 1 | 5 | 12 | 1.9 | 5.6 | 13.5 | 0 |  | 1 | 0. | 47 | 47 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1.Astronomical | 12 | 5 | 17 | 13.5 | 5.6 | 19.1 | 6 | 1 | 7 | 28.4 | 41 | 33.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aictath | 4 | 10 | 14 | 45 | 112 | 15.7 | 0 | 4 | 4 | 0.0 | 19.0 | 19.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Limi Phenom. | 1 | 0 | 1 | 11 | 00 | $1 /$ | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  | $V$ |  |  |  |  |  |  |  |  |
| 4 4-iids | 2 | 0 | 2 | 2.2 | 0.0 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 -clouds, Oust etc: | 1 | 0 | 1 | $1 /$ | el | 11. | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6-1asertice, nlo. | 4 | 0 | 4 | 45 | 02 | 45 | 5 | 0 | 5 | 23.8 | 00 | 23.8 |  |  | , |  |  |  |  |  |  |  |  |  |
| 7.Psycrologiol | 0 | 0. | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  | 1 |  |  |  |  |  |  |  |  |  |  |
| 8undorm | 26 | 0 | 26 | 292 | 00 | 24.2 | 4 | 0 | 4 | 19.0 | 0.0 | 190 |  | N |  |  |  |  |  |  |  |  |  |  |
| Sother | 10 | 2 | 12 | /112 | 2.2 | 13.4 | 0 | Q | 0 | a. 0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 67 | 22 | 82 | 15.3 | 24.1 | 100. | 15 | 6 | 21 | 714 | 28.6 | 100 |  |  |  |  |  |  |  |  |  |  |  |  | * SEE FOOTNOTE ON NEXT PAgE.



|  | Asia |  |  |  |  |  | AERISA |  |  |  |  |  | AUSTRALA |  |  |  |  |  | mumber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | number |  |  | Percent |  |  | Wunber |  |  | Pecort |  |  | munber |  |  | Pas Cent |  |  |  |  |  | Pacent |  |  |
| Evaluation | Centia | Doubthol | Tobl | Certain | Dosothu | Total | Certain | Dabtituil | Totel | Cembion | Dounthal | T0\# | Cerbiain | Ooutitul | Total | Certain | Doubtol | T大क्ष | Catrin | Douthin | Total | Cotbin | Dustuol | Total |
| a-gavioon | 7 | 3 | 10 | 9.3 | 40 | 18.3 | 0 | 1 | 1 | 20 | 5.0 | 5.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astronomial | 9 | 3 | 12 | 12.0 | 40 | 14.0 | 5 | 1 | 6 | 25.0 | 50 | 30.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aircait | 4 | 7 | 11 | 53 | 4.3 | 146 | 0 | 4 | 4 | 10 | 10.0 | 20.0 |  |  |  | 4 |  |  |  |  |  |  |  |  |
| 3-Ligh Phame. | 1 | 0 | 1 | 1.3 | 0.0 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  | V |  |  |  |  |  |  |  |  |
| 4 Binds | 2 | 0 | 2 | 2.7 | ao | 2.7 | 0 | 0 | 0 | 0.0 | 0.0 | a, 0 |  |  | N |  |  |  |  |  |  |  |  |  |
| $5-\mathrm{Clouds}$ Onst ec | < | 0 | 1 | 1.3 | 20 | 1.3 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |  | , |  |  |  |  |
| GInuytic. mino. | 4 | 0 | 4 | 53 | 0.0 | 5.3 | 5 | 0 | 5 | 150 | 0.0 | 25.0 |  |  | - |  |  |  |  |  |  |  |  |  |
| 7.Pyyctological | 0 | 0 | 0 | 20 | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  | N |  |  |  |  |  |  |  |  |  |  |
| B-Unlorom | 24 | 0 | 14 | 320 | 0.0 | 31.0 | 4 | 0 | 4 | 20.0 | 0.0 | 20.0 |  | , |  |  |  |  |  |  |  |  |  |  |
| 9-0ther | 8 | 2 | 10 | 107 | 2.7 | 11.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 60 | 15 | 75 | 200 | 20.0 | 100. | 14 | 6 | 20 | 100 | 300 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |

[^3]

|  | MExice |  |  |  |  |  | Hawale |  |  |  |  |  | Nunter |  |  | Percent |  |  | Number |  |  | Percent |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Number |  | Per Cenl |  |  | Number |  |  | Pax Cext |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Eviluation | Certsin | Doublfil | Total | Centain | Doubtiol | Total | Certa | Doubitul | Total | Cortalin | Doubtur | Tolat | contain | Douittul | Total | Certain | Doubtul | Total | Certis | Dosittal | Tobi | Certain | Doubtul | Totar |
| Q-Buxioon | 2 | 0 | 2 | 13.3 | 0.0 | 13.3 | 3 | 1 | 4 | 2.1 | 3.2 | 12,9 |  |  |  |  |  |  |  |  |  |  |  |  |
| I-Astronomical | 1 | 2 | 3 | 6.7 | 13.3 | 20.0 | 4 | 9 | 13 | 12.9 | 29.0 | 41.9 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aircratt | 0 | 1 | 1 | a, 0 | 67 | 62 | 1 | 21 | 3 | 3.2 | 6.5 | 9.7 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 -Liat Phemom. | 1 | 0 | 1 | 67 | O0. | 6.7 | 0 | A) | e | 20 | 0.0 | Qe |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | e. 0 | 00 | ne | $\Omega$ | 0 | 0 | 120 | 0.0 | el |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 Clouds, Dust, eth | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 1 | 1 | e0 | 3.2 | 32 |  |  |  |  |  |  |  |  |  |  |  |  |
| G-Insulfic. Info. | 2 | 0 | 2 | 189 | 2.0 | 12.3 | 2 | 0 | 2 | 6.5 | 0.0 | 6.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7-Psychologial | 2 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 20. | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 -Unhkrom | 6 | : 0 | 6 | 40.0 | 0.0 | 40.0 | 6 | 0 | 6 | 19.4 | 0.0 | 19.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9-0ther | 0 |  | 0 | el | 0.0 | 20 | 2 | 0 | 2 | 65 | 0.0 | 6.5 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toial | 12 | 31 | 15 | 800 | 200 | 100. | 18 | 13 | 31 | 58.1. | 41.9 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |

TRBLE ARLG EKALVATION DF VNIT SIGHTINGS FOR ALL VERES BV NORTH AMERICRN $\angle O C A T I O N$

|  | NORTH AMERLCA |  |  |  |  |  | UNUTED STATES |  |  |  |  |  | Coneted |  |  |  |  |  | ALASKA |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percent |  |  | Number |  |  | Per Comt |  |  | Nunber |  |  | Per Cent |  |  | Number |  |  | Percmet |  |  |
| Evaluation | Certrin | Dovithil | Total | Certain | Docolital | otal | Cerata | Doubthil | Tolal | Certion | Daubtul] | Total | Certain | Doubtiol | Total | Certain | Doubitit | Total | Contain | Dooditul | Total | Certin | Doubtul) | Total |
| O-Balloon | 214 | 143 | 357 | 9.0 | 6.0 | 150 | 205 | 137 | 342 | 92 | 61 | 15.3 | 3 | 4 | 7 | 5.0 | 6.7 | 117 | 2 | 1 | , | 5.9 | 2.9 | 8.8 |
| 1.Astronomial | 359 | 246 | 605 | 15.1 | 10.4 | 15.5 | 328 | 228 | 556 | 42 | 102 | 24.9 | 17 | 2 | 24 | 28.3 | 117 | 400 | 9 | 0 | 9 | 26.5 | 0.0 | 26.5 |
| 2-Aicriatt | 281 | 213 | 494 | 11.9 | 90 | 208 | 272 | 210 | 482 | 12.2 | 94 | 21.7 | 5 | 0 | 5 | 8.3 | 00 | 8.3 | 3 | 0 | 3 | 8.8 | 0.0 | 8.8 |
| 3-Light Phemen | 31 | 20 | 51 | 1.3 | 08 | 2.2 | 29 | 20 | 49 | 13 | 0.9 | 2.2 | 0 | 0 | 0 | 0.0 | 0.0 | a, | 1 | 0 | 1 | 2.9 | 00 | 2.9 |
| 4 - Birds | 11 | 9 | 30 | 0.5 | 0.4 | 0.8 | 11 | 8. | 19 | 05 | 0 | 0.9 | 0 | 1 | 1 | 00 | 1.7 | 17 | 0 | 0 | 0 | 0.0 | 00 | 20 |
| S-Clouds, Dust, enc. | 2 | 7 | 9 | 0.1 | 03 | . 4 | 2 | 6 | 8 | 01 | 0.9 | e. 4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 00 | 00 |
| E-Insutfic. Into. | 236 | 0 | 236 | 10.0 | 00 | 100 | 226 | 0 | 226 | 10.1 | 00 | 10.1 | 4 | 0 | 4 | $k 7$ | 0.0 | 6.7 | 2 | 0 | 2 | 5.9 | 20 | 59 |
| 7.Psychalogial | 36 | 8 | $\underline{4} 4$ | 15 | Q 3 | 1.8 | 35 | 8 | 43 | 16 | 0.4 | 2.0 | 1 | 0 | 1 | 17 | 0.0 | 1.7 | 0 | 0 | 1 | 0.0 | 00 | 2.0 |
| B-Unknown | 455 | 0 | 455 | 12.2 | 0.0 | 19.2 | 418 | 0 | 418 | 18.7 | 0.0 | 18.7 | 15 | 0 | 15 | 250 | 0. | 25.0 | 13 | 0 | 13 | 38.2 | 0.0 | 38.2 |
| -other | 19 | 20 | 49 | 33 | 0.8 | 41 | 12 | 19 | 91 | 32 | 0.9 | 41 | 2 | 1 | 3 | 33 | 47 | 50 | 3 | 0 | 3 | 8.8 | 00 | 8.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1704 |  | 2310 | 11.9 | 28.1 | 10 | 1598 | 636 |  |  |  |  | 47 | 13 |  |  |  |  | 33 | 1 | 34 | 97 |  |  |


|  | MEXICO |  |  |  |  |  | HAWAIL |  |  |  |  |  | Number |  |  | Percent |  |  | Nunber |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Munber |  |  | Pex Cert |  |  | Humber |  |  | Por Cont |  |  |  |  |  |  |  | er Cent |  |  |  |  |
| Evaluation | Cenixin | Doubthil | tata! | Centain | Doubtitu\| | Total | Certain | Doubltu! | Total | Catrain | [Dobititul | Told | Certion | Doustiful | Total |  |  | Certain | Doobital | Total | Centain | Doubtur | Total | Cartion | Ooubtol | Total |
| O-Balconn | 1 | 0 | 1 | 8.3 | 0.0 | 8.3 | 3 | 1 | 4 | 10.0 | 23 | 18.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 13-Astronomial | - | 2 | 3 | 8.3 | 16.7 | 15.0 | 4 | 9 | 13 | 13.3 | 30.0 | 433 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-Aircist | 0 | 1 | 1 | 0.0 | 8.3 | 8.3 | 1 | 2 | 1 | 3.3 | 6.1 | 10.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Lidt Phenom. | - | 0 | 1 | 83 | 00 | 8.3 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| $4 \cdot 8 \mathrm{irds}$ | 0 | 0 | 0 | 0.0 | a0 | 00 | 0 | 0 | 0 | 00 | 00 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Clouts, Dust elc. | 0 | 0 | 0 | 00 | 00 | 00 | 0 | 1 | 1 | 0.0 | 3.3 | 2.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6-1nsuticic mio. | 2 | 0 | 2 | 16.7 | 0.0 | 16.7 | 2 | 0 | 2 | 6.7 | 0.0 | 6.7 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.Psycrologial | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 2 | 0 | ed | 00 | ae |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 8unknom | 4 | 0 | 4 | 333 | 00 | 33.3 | 5 | 0 | 5 | 16.7 | 0.0 | 16.7 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9.0 the | 0 | 0 | 0 | 0.0 | 0.0. | 0.0 | 2 | 0 | 2 | 6.7 | 00 | 6.7 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolat | 91 | 3 | 12 | 75.0 | 25.0 | 100. | 17 | 13 | 30 | 56.7 | 43.3 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |



| Evaluation | Torac |  |  |  |  |  | Noeth Efist |  |  |  |  |  | CENTRAL EAST |  |  |  |  |  | South EdST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Wmmen |  |  | Per Cent |  |  | Mumber |  |  | Percent |  |  | Humber |  |  | Percent |  |  | Nurber |  |  | Pet Cent |  |  |
|  | Cortan | Dowithl | Total | Centain | Douith | Total | Cerain | Doubliol | Total | Cembin | Dosutitul | Total | Certsin | [outetus] | Total | Centain | Doutitul | Total | Certbin | Dowtiol | Total | Catbin | Dovitul | T0, |
| a-Ballion | 241 | 163 | 404 | 86 | 5.8 | 414 4 | 9 |  | 10 | 116 | 20 | 12.6 | 52 | 12 | 91 | 8.9 | 67 | 15.6 | , | 0 | , | 31 | 0.0 | 3.1 |
| 1-Attronomial | 403 | 310 | 713 | 14.4 | 111 | 35.5 | 2 | 9 | 15 | 11.8 | 176 | 294 | 86 | 22 | 118 | 15.8 | 5.5 | 203 | 5 | 1 | 6 | 15.6 | 3.1 | 18.7 |
| 2-Aitrain | 329 | 156 | 585 | 118 | 8.2 | 110 | 5 | 6 | 11 | 9.8 | 11.8 | 21.6 | 100 | 65 | 165 | 172 | 112 | 28.4 | 7 | 4 | 1 | 21.9 | 12.5 | 344 |
| 3 Light Phemom, | 29 | 23 | 52 | 10 | 0.8 | 18 | 1 | 1 | 2 | 2.0 | 20 | 40 | 4 | 1 | 12 | 0.7 | 14 | 2.1 | 1 | 1 | 2 | 31 | 31 | 6.2 |
| 4 -Bids | 14 | 8 | 20 | 25 | 0,5 | 0.8 | 0 | 0 | 0 | 00 | 00 | 20 | 5 | 0 | 5 | 0.9 | 0.0 | 0.9 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| S-Clowds Dust ite | 9 | 12 | 21 | 23. | 0.4 | 0.7 | 0 | 0 | 0 | 0.0 | al | 00 | 0 | 9 | 9 | e0 | 15 | 1.5 | 0 | 0 | 0 | 0.0 | 0.0 | 120 |
| Gmantic mo. | 261 | 0 | 261 | 43 | 00 | 4.3 | 3 | 0 | 3 | 5.9 | 0.0 | 5.9 | 44 | 0 | 44 | 7.6 | 0.0 | 2.6 | 2 | 0 | 2 | 6.3 | 0.0 | 6.3 |
| 1.Psymeropioial | 31 | 9 | 46 | < 3 | 0.3 | 1.6 | 1 | 0 | 1 | 2.0 | 0.0 | 2.0 | 8 | 3 | 11 | 1.4 | 0.5 | 49 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| -intramm | 582 | 0 | 582 | 20.8 | 00 | 20.8 | 9 | 0 | 4 | 116 | 00 | 176 | 112 | 0 | 112 | 19.2 | 00 | 19.2 | 4 | 0 | 4 | 12.5 | 0.0 | 12.5 |
| 900\% | 88 | 21 | 109 | 31 | 0.8 | 3.9 | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 13 | 2 | 15 | 22 | 0.3 | 25 | 6 | 0 | 6 | 18.8 | 00 | 18.8 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 1993 | 802 | 2795 | 11.3 | 28.7 | 100. | 34 | 17 | 51 | 66.7 | 33.3 | 100. | 424 | 158 | 582 | 12.9 | 21.1 | 100. | 26 | 6 | 32 | 81.3 | 18.8 | 100 |


| Evaluation | NORTH MIAKEST |  |  |  |  |  | CENTRAS MIOWEST |  |  |  |  |  | South MIOWEST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cort |  |  | Number |  |  | Percent |  |  | number |  |  | Percont |  |  |
|  | Centain | Dooutitul | Total | Certain | Doubtuly | Tota | Certain | Doubtrol | Total | Centain | Doubtiol | Total | Certain | Doulthy | Total | Certain | Doubtiol | Total |
| O-Bayloon | 3 | 10 | 13 | 38 | 12.7 | 16.5 | 39 | 35 | 74 | 81 | 13 | 15.4 | 33 | 36 | 69 | 52 | 5.7 | 10.9 |
| 1-Astrocomical | 13 | 6 | 19 | 16.5 | 7.6 | 241 | 96 | 36 | 132 | 120 | 75 | 215 | 81 | 105 | 186 | 12.9 | 16.7 | 236 |
| 2-Aircont | 5 | 4 | 9 | 63 | 5.1 | 11.4 | 45 | 41 | 86 | 2.4 | 85 | 119 | 76 | 54 | 135 | 121 | 9.4 | 21.5 |
| 3-Ligith Phenom. | 0 | 2 | 2 | 20 | 2.5 | 2.5 | 11 | 8 | 19 | 2.3 | 1.7 | 40 | 5 | 1 | 6 | 0.8 | 22 | 1.0 |
| 4 Birds | 1 | 0 | 1 | 13 | 0.0 | 1.3 | 3. | 2 | 5 | 26 | 0.4 | 10 | 4 | 3 | 7 | 0.6 | 05 | 1.1 |
| 5 C.Clovds, Dust, elc. | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.2 |
| Grasutic, mb. | 10 | 0 | 10 | 12.7 | a0 | 1127 | 12 | 0 | 62 | 129 | 00 | 12.9 | 56 | 0 | 56 | 8.9 | 0.0 | 8.9 |
| 7.Psychological | 1 | 0 | 1 | 13 | 0.0 | 1.3 | 12 | 0 | 12 | 2.5 | 0.0 | 2.5 | 3 | 3 | 6 | 0.5 | 0,5 | 10 |
| 8-Unknown | 22 | 0. | 22 | 218 | 2.0 | 278 | 14 | 0 | 14 | 15.4 | 0.0 | 15.4 | 151 | 0 | 151 | 24.0 | 0.0 | 24.0 |
| Sother | 2 | 01 | 2 | 2.5 | 0.0 | 25 | 15 | 2 | 4 | 3.1 | 0.4 | 3.5 | 8. | 5. | 13 | 1.3 | 0.8 | 2.1 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toted | 57 | 22 | 19 | 72.2 | 278 | 100. | 351 | 124 | 481 | 1821 | 25.8 | 100. | 417 | 212 | 629 | 66.3 | 327 | 00. |


| Evaluation | NORTH |  |  | W/EST |  |  | CENTRAL WEST |  |  |  |  |  | Soutu Wlest |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cat |  |  | Number |  |  | ${ }^{\prime}$ Percent |  |  | Number |  |  | Per Cont |  |  |
|  | Certain | Doubiful | Total | Certain | Doubtru! | Total | Certain | Doubtful | Total | Certain | Doubtrit | Total | Certain | Douthol | Total | Certain | Daubtiol | Tota |
| a-ballion | 4 | 2 | L | 82 | 4.1 | 12.3 | 5 | - | 6 | 5.8 | 1.2 | 70 | 38 | 10 | 48 | 9.8 | 2.6 | 12.4 |
| 1-Astronomical | 10 | 1 | 11 | 20.4 | 2.0 | 22.4 | 29 | $1 /$ | 40 | 337 | 12.8 | 46.5 | 44 | 82 | 126 | 11.4 | 21.2 | 326 |
| 2-Aircaft | 5 | 1 | 6 | 10.2 | 2.0 | 12.2 | 1 | 4 | 7 | 3.5 | 4.7 | 81 | 26 | 32 | 58 | 6.7 | 8.3 | 150 |
| 3.Light Phemom. | 0 | 0 | 0 | 0.0 | 00 | al | $\angle$ | 0 | $<$ | 1.2 | 0.0 | 1.2 | 2 | 2 | 4 | 0.5 | 0.5 | 10 |
| 4 Bircts | $\angle$ | 0 | 1 | 2.0 | 0.0 | 20 | 0 | 1 | 1 | 0.0 | 12 | 12 | 2 | 2 | 2 | 0.0 | 0.5 | 0.5 |
| 5-Clouds, Dust, etc. | 3 | 0 | 3. | 6.1 | 0.0 | 6.4 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 5 | 2 | 1 | 1.3 | 0.5 | 1.8 |
| GInsuffic. mo. | 3 | 0 | 3 | a/ | 0.0 | 61 | 5 | 0 | 5 | 5.8 | 0.0 | 5.8 | 27 | 0 | 27 | 10 | 0.0 | 70 |
| 7.Psychelogical | 2 | 0 | 2 | 41 | 120 | 4 | 6 | 0 | 6 | 10 | 0.0 | 10 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |
| Bunaknown | 4 | 0 | 4 | 8.2 | 20 | 8.2 | 11 | 0 | 17 | 19.8 | 0.0 | 19.8 | 104 | e | 104 | 26.9 | 0.0 | 26.8 |
| 900ther | 13 | 0 | 13 | 26.5 | 0.0 | 26.5 | 3 | 0 | 3 | 3.5 | 0.0 | 3.5 | 4 | 6 | 10 | 1.0 | 16 | 2.6 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | (45) | 4 | 49 | 91.8 | 8.2 | 100. | 69 | 17 | 86 | 802 | 198 | 100 | 250 | 136 | 386 | 64.8 | 35.2 | 100. |


|  | North Faralest |  |  |  |  |  | CENTRAL EARWEST |  |  |  |  |  | Seuth FRRwEST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Per Cent |  |  | Nunber |  |  | Percent |  |  | Number |  |  | Pet Cent |  |  |
| Evaluation | Ceatin | Doubtbol | Total | Certrin | Dosestubl | Tota | Certzin | [Doubtrut] | Total | Errain | Doubtiol | Tola | Certain | Dovottol | Tola | Certain | Douthil | Tota |
| OBallionn | 15 | 3 | 18 | 13.3 | 2.7 | 16 | 20 | 44 | 34 | 120 | 8.4 | 20.4 | 22 | 12 | 34 | 15.6 | 8. 5 | 24.1 |
| 1-Astronomial | 11 | 10 | 21 | 92 | 8.8 | 185 | 16 | 6 | 22 | 96 | 3.6 | 13.2 | 6 | $1 /$ | 17 | 43 | 78 | 12.1 |
| 2-Aircraft | 13 | 1 | 44 | 115 | 9.1 | 21,2 | 26 | 23 | 49 | 15.7 | 13.9 | 246 | 18 | 6 | 24 | 12.8 | 4.5 | 1 |
| 3 LLight Phemor | 0 | 0 | 0 | 00 | Q 0 | 20 | 1 | 0 | 1 | 0.6 | 00 | 0.6 | 3 | 0 | 3 | 2.1 | $0 \cdot 1$ | 2. |
| 8.8 lints | 0 | 0 | 0 | lea | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 2.0 | 0.0 | 2.2 |
| 5 5-clouts, Dut, | 1 | 0 | 1 | 0.9 | 0.0 | 0.9 | 0 | 1 | 1 | 0.0 | 0.6 | 0.6 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |
| Emavilic inf. | 1 | 0 | 13 | 115 | 00 | 11.5 | 24 | 0 | 24 | 14.5 | 2.0 | 14.5 | 12 | 0 | 12 | 8.5 | 0.0 | 8.5 |
| 7. Pryetolotical | 0 | 0 | 0 | 00 | 02 | 0.0 | 1 | 2 | 3 | 06 | 12 | 1.8 | , | 1 | 4 | 2.1 | 0.7 | 2.8 |
| Cundroun | 23 | 0 | 23 | 20.4 | 00 | 20.4 | 28 | 0 | 28 | 16.1 | 0.0 | 16.7 | 34 | 0 | 34 | 24.1 | 0.0 | 24.1 |
| 20ther | 13 | ค | 13 | 115 | 0.0 | 11.5 | 2 | , | 4 | 1.2 | 1.2 | 2.4 | 9 | 4 | 13 | 6.4 | 2.8 | 9.2 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 69 | 24 | 11 | 18.8 | 21.2 | 100 | $1 / 8$ | 48 | 166 |  | 28.9 | 100 | 107 | 34 | 4 | 15.9 | 241 | 100. |



| Evalustion | Nerth hest |  |  |  |  |  | CENTRAL hiEST |  |  |  |  |  | Sourd hest |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumbes |  |  | PaCmit |  |  | Murber |  |  | Per cent |  |  | Muaber |  |  | Per cant |  |  |
|  | Certrain | Doodtul | (tal | Certsin | Dovotul | Total | Certion | Doubttur | Total | Centain | [Dowithil | (61 | Cortin | Douittul | Tota | Centrin | Darom | Total |
| O-Ballicon | 4 | 2 | C | 12.6 | 6.3 | 18.8 | 3 | 7 | 4 | 4.6 | 15 | 6.2 | 31 | 7 | 38 | 11.8 | 2.7 | 4.5 |
| 1 -Astronomica | 7 | 1 | 8 | 21.9 | 31 | 250 | 14 | 1 | 25 | 215 | 16.9 | 385 | 33 | 51 | 84 | 126 | 19.5 | 32.1 |
| 2-Aitraft | 5 | 1 | 6 | 15.6 | 31 | 187 | 3 | 3 | 6 | 4.6 | 4.6 | 42 | 23 | 23 | 46 | 8.8 | 8.8 | 176 |
| 3-Lidt Pheno | 0 | 0 | 0 | 00 | 00 | 0.0 | 1 | 0 | / | 1.5 | 0.0 | 1.5 | 2 | 2 | 4 | 0.8 | 0. | 16 |
| 4 Biras | 0 | 0 | 0 | 120 | 0.0 | 00 | 0 | $\angle$ | 1 | a0 | 15 | 15 | 0 | 2 | 2 | 20 | 0.8 | 0.8 |
| 5-Claods, Dust, et | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 2 | 0.0 | 0.0 | 0.0 | - | 2 | 3 | 0.4 | 0.8 | 12 |
| 6-1nstric mio. | 3 | 0 | 3 | 94 | 0.0 | 9.4 | 5 | 0 | 5 | 1.7 | 00 | 17 | 17 | 0 | 17 | 6.5 | 0.0 | 6.5 |
| 7-Psythologial | 2 | 0 | 2 | 6.3 | 0.0 | 6.3 | 4 | 0 | 4 | 62 | 0.0 | 6.2 | 0 | 0 | 0 | 2.0 | 0.0 | 0.0 |
| *Undiown | 4 | 0 | 4 | 12.5 | 00 | 12.5 | 16 | 0 | 16 | 24.4 | 00 | 246 | 59 | 0 | 59 | 22.5 | 0.0 | 22.5 |
| 9-ther | 3 | 0 | 3 | 24 | 00 | 94 | 3 | 0 | 3 | 4.6 | 00 | 4.6 | 4 | 5 | 9 | 1.5 | 1.9 | ? 4 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tolal | 281 | 4 | 32 | 82 | 12.5 |  | 49 | 16 | 65 | 154 | 24.6 | 100 | 110 | 92 | 2 | 649 | 35 | 00 |


| Evaluation | NORTH - ERKWEST |  |  |  |  |  | CENTRAL EARWEST |  |  |  |  |  | SOUTH FRRWEST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | munter |  |  | Per cent |  |  | Munber |  |  | Percent |  |  | Nunber |  |  | Percont |  |  |
|  | Ceftrin | Dabbrtul | Total | Certin | Dosbtiol | Total | Certain | Dountful | Total | Certion | Doubltu] | Total | Centain | Dooulthal | Toita | Certin | Daubtal | Totill |
| Q-Ballipon | 15 | 3 | 18 | 139 | 2.8 | $1 / 1.7$ | 17 | $1 /$ | 18 | 11.6 | 15 | 19.1 | 19 | 12 | 31 | Lhl | 10.2 | 216.3 |
| 1-Astronosier | 11 | 10 | 21 | 10.2 | 9.3 | 195 | 15 | 6 | 21 | 10.3 | 4.1 | 14.4 | 6 | $1 /$ | 17 | 51 | 9.3 | 184 |
| 2-Ailtart | 13 | 9 | 22 | 12.0 | 83 | 20.3 | 26. | 13 | 39 | 178 | 89 | 26.1 | 14 | 6 | 20 | 11.9 | 51 | 170 |
| 3-Ligt Phemen. | 0 | 0 | 0 | 0.0 | R0 | 120 | 1 | 0 | , | 0.7 | 00 | 0.1 | 3 | 0 | 3 | 2.5 | 0.0 | $25^{\circ}$ |
| 4 -Birds | 0 | 0 | 2 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 00 | $0 . C$ | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 20 |
| S-Clouds, Dost, ets. | 1. | 0 | 1 | 0.9 | 00 | 10.9 | 0 | 1 | 1 | 0.0 | 0.1 | 0.7 | 0 | 0 | 2 | 0.0 | 00 | 20 |
| G6asyfic, min. | 10 | 0 | 10 | 9.3 | 0.0 | 2.3 | 24 | 0 | 24 | 16.4 | 0.0 | 16.4 | 9 | 0 | 9 | 7.6 | 00 | 1.6 |
| 7.Pryctorexiai | 0 | 0 | 0 | 0.0 | 0.0 | 2.0 | 4 | 2 | 3 | 0.7 | 1.4 | 2.1 | 3 | 1 | 4 | 2.5 | 0.8 | 33 |
| 84kanom | 23 | 0 | 23 | 4.3 | 0.0 | 21.3 | 25 | 0 | 25 | 121 | 00 | 17.1 | 22 | 0 | 22 | 18.6 | 00 | 18.6 |
| Sother | 13 | 0 | 13 | 12.0 | 0.0 | 12.0 | 2 | 2 | 4 | 14 | 14 | 2.8 | 8 | 4 | 12 | 6.8 | 3.4 | 102 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 86 | 22 | 108 | 19.6 | 20.4 | 100. | /1/1 | 35 | 146 | \% 0 | 240 | 100. | 84 | 34 | $1 / 8$ | 11.2 | 28.8 | 100 |



|  | NeRTH MOWEST |  |  |  |  |  | CEncral Minwes |  |  |  |  |  | SOMTE MURWEST |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | mumber |  |  | Pra Cent |  |  | minbor |  |  | Percont |  |  | Munber |  |  | Percant |  |  |
| Evaluation | Certion | Doubtivl | Total | Certan | Doubtiol | Total | Contain | Doubtul | Total | centain | Doubtitul | Total | Cortion | Doubtuy | Total | Corain | Dowbthin | Total |
| O－Butioon | 3 | 7 | 10 | 48 | 11.3 | 16．1 | 30 | 28 | 58 | 6.0 | 1，5 | 1s．5 | 25 | 28 | 53 | 4.4 | 12 | 13.6 |
| 3－Astromamial | 8 | 3 | 1 | 12.9 | 4.8 | 171 | 53 | 24 | 17 | 142 | 6.4 | 20.4 | 51 | 59 | 110 | 130 | 151 | 28：1 |
| 2－alicary | 5 | 4 | 9 | 8.1 | 6.5 | 146 | 42 | 35 | 17 | 1112 | 4，4 | 20.6 | 50 | 41 | 91 | 12.5 | E5 | 23.3 |
| 3－LImit Phemen． | $0)$ | 2 | 2 | 0.0 | 3.2 | 3.2 | 11 | 5 | 16 | 2.9 | 1.3 | 42 | 4 | 0 | 4. | 12 | 20 | 1.4 |
| 4 Bliras | 1 | 0 | 1 | 1.6 | 0.0 | 1.6 | 3 | 2 | 5 | 0.8 | 0.5 | 13 | 3 | 2 | 6 | 25 | 28 | 16 |
| $55 . \mathrm{Clouds}$ ，Dost，etc． | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | eel | 0.0 | 0.0 | 0 | 0 | 0 | 20 | 20 | 0.0 |
| Ginsupfice int． | $\varepsilon$ | 0 | 8 | 12.9 | 2．0． | 12，2 | 57 | 0 | 57 | 15.2 | 10 | 15.2 | 35 | 2 | 35 | 8. | 2，${ }^{3}$ | qu |
| 7．Psyctological | 4 | 0 | 1 | 1.6 | 0.01 | 1.6 | 12 | 0 | 12 | 3．2 | 20 | 32 | 3 | 3 | 6 |  | 08 | 16 |
| 8unknomi | 18 | 0 | 18 | 240 | 0.0 | 296 | 57 | 0 | 57 | 15.2 | 0.0 | 15.2 | 14 | 0 | 74 | 18.9 | 0.0 | 181 |
| Sother | 2 |  | 2 | 92 | eo | ？ 2 | （4） | 1 | 15 | 37 | 0.3 | 40 | 8 | 4 | 12 | 2.0 | 10 | 3 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toted | 46 | 16 | 62 | 142 | 25.8 | 100. | 279 | 25 | 374 | 146 | 25.4 | kod． | 2531 | 138 | 391 | 16＜ 7 | 1，35．3 | 100. |


|  | Nesth WUES |  |  |  |  |  | CENTRAL WESS |  |  |  |  |  | South lest |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber． |  |  | Pecmi |  |  | Mumber． |  |  | Per Cent |  |  | Number |  |  |  |  |  |
| Evaluation | Cortain | Dowitul | Tolat | Centrin | Doobttol | Totan | Certia | Doubtit | Total | Centain | Dooubtin！ | Toxal | Cemian！ | Doubthy | Total | Centain | Dabithil | Total |
| Q－Baticom | 3 | 2 | 5 | $1 / 2$ | 77 | 122 | 3 | 1 | 4 | 51 | 67 | 6.8 | 28 | 5 | 33 | 12.6 | $\therefore 2$ | \％ |
| 1－Astramaica | 3 | 1 | 4 | 11.5 | 3.8 | 15.3 | ／l | 7 | 20 | 18.6 | 15.3 | 33.9 | 31 | $34^{\prime}$ | 65 | 139 | 15.2 | 12 |
| 2－Aicarat | 5 | 1 | 6 | 182 | 13．8 | 23.0 | 3 | 3 | 6 | 51 | 5.1 | 10.2 | 21 | 21 | 42 | 9.4 | 94 | 28.8 |
| 3－Limt Pheron． | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 1 | 0 | 1 | 1.1 | 0.0 | 4.7 | 2 | 2 | 4 | 2.9 | 2.9 | 1． 5 |
| 4 Binds | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | $\angle$ | 1 | 0.0 | 12 | 1.7 | 0 | 2 | 2 | aC | 0.7 | 19 |
| 5－Cloust，Dust，06： | 0 | 0 | 0 | 0.0 | 02 | 0.0 | 0 | 2 | 0 | 0.0 | 0.0 | 0.0 | 1 | 2 | 3 | 2.4 | 人9 | 43 |
| Gransutic，mo． | 3 | 0 | 3 | 115 | 00 | 115 | 5 | 0 | 5 | 8.5 | 0.0 | 8.5 | 14 | 0 | 14 | 63 | Cく： | 6．3． |
| 7．Psychological | 2 | 0 | 2 | 17 | 4.0 | 77 | 4 | 0 | 4 | 6.8 | 0.0 | 6.8 | 0 | 0 | 0 | 0.4 | \％ 2 | $0 c^{\circ}$ |
| 8，Unakom | 3 | 0 | 3 | 11.5 | 0.0 | 11.5 | 15 | 0 | $\angle 5$ | 25．4 | 120 | 25．4． | 53 | 0 | 53 | 235 | － | 378 |
| 990 herer | 3 | 0 | 3 | 14.5 | 0.0 | 11.5 | 3 | 0 | 3. | 5.1 | 2．l | 5.1 | 4 | 3. | 7 | $\therefore 8$ | $\therefore 3$ | 31 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 22 | 4 | 26 | 84：6 | 15.4 | 100. | 45 | 14 | 59 | 76． 3 | 13.7 | 100 | 154 | 69 | $2 \because 3$ | 69.1 | 30.9 | 100 |


| Ersuastion | Noeth |  |  | Farkest |  |  | CEATRAG FARWEST |  |  |  |  |  | Soutd Folucst |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Humber |  |  | Petcmt |  |  | Number |  |  | Percent |  |  | Number |  |  | Per Cent |  |  |
|  | Certain | Doubltal | Total | Certain | Dosoditul | Tata | rtain | Doctuthl | Tota | Cerain | Dosbthil | Total | Centain | Daubital | Total | Catain | Doubtol | Totad |
| －1．8alloon | ， | 3 | 16 | 13.6 | 3.2 | 16.8 | 16 | 2 | 25 | 122 | 6.7 | 19．1 | 7 | 2 | 27 | 6．S | 2， 1 | 3 |
| 1－Astrononical | 10 | d | 18 | 10.5 | 8.4 | 18.9 | $1 /$ | 6 | 17 | 8.4 | 46 | 13.2 | 5 | 2 | 5 | 42 | 21 | 6 |
| 2－Aircratt | 12 | 9 | 21 | 12.6 | 9.5 | 22.1 | 24 | 12 | 36 | 18．3 | 9.2 | 275 | 3 |  | 9 | 12.6 | 5.5 | 18.4 |
| 3 3－Lidil Phenow | 0 | 0 | 0 | 0.0 | 00 | 00 | 1 | 0 | 1 | 0.8 | 00 | 28 | 3 | ？ | 3 | Oq | 0.0 | 2.9 |
| 4 Birds | 8 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 0 | $\bigcirc$ | （i） | 0.2 | 0.2 |
| 5－Clows，Dust，etc | 1 | 0 | 1 | 1.4 | 0.0 | 1.1 | 0 | 1 | 1 | 0.0 | 0.8 | 08 | 0 | 2 |  | 20 | 20 | $\therefore$ |
| 6－Insutica min． | 18 | 0 | 10 | 10.6 | 0.0 | 10.5 | 22 | 0 | 22 | 16.8 | 00 | 16.8 | 8 | 0 |  | 18 | 光 | ． 5 |
| 7．Pyytiolegical | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 1 | 2 | 3 | $0: 8$ | 15 | 2.3 | 3 | 1 |  | $\cdots 9$ | 0 | 39 |
| （tunderown | 21 | 0 | 21 | 22.4 | 00 | 22.1 | 22 | 0 | 22 | 14.8 | 0.0 | 16.8 | 5 | 0 | 2 | 146 | $0 \cdot 0$ | 146 |
| 90 ther | ， | 0 | 8 | 8.4 | 2.0 | 8.4 | 2 | 2 | 4 | 1.5 | 15 | 3.0 | 8 | $\pm$ | 2 | 18 | 39 | $\therefore 7$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 751 | 20 | 95 | 18.9 | 21． 1 | 100 | 99 | 32 | 131 | 15.6 | $24^{\prime \prime}$ | 100. | 12 | 31 | 103 | 69.9 | 30.1 | 100. |



TRBLE A $22 T$ EVALVALION OF ALL SIGHTINGS IN THE STRATEG A ARERS

| Of THE |  |  |  |  |  |  |  |  |  |  |  |  | MUWEST REGION |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | CHICAGO |  |  |  |  |  | Dayten |  |  |  |  |  | GALANCE OE CENTRAL MIDAEST |  |  |  |  |  | Mumber |  |  |  |  |  |
|  | Number |  |  | Percent |  |  | Number |  |  | Pencent |  |  | Innber |  |  | Percent |  |  |  |  |  | Per cont |  |  |
| Evalualion | Certain | Dobbltul | Total | Certain | Doubtrul | Tolal | Centain | Doubtru] | Tolal | Certio | D Doubtiou | Total | Certia | Dovolful | Tobil | Cerrain | Doustol | Toad | Cortion | Dowitrul | Tota | Certain | Doublial | Toial |
| O-Bayloon | 2 | 5 | 7 | 2.3 | 5.7 | 8.0 | 21 | 2 | 30 | 11.2 | 48 | <6. 0 | 16 | 21 | 37 | 78 | 10.2 | 18.0 |  |  |  |  |  |  |
| 1-Astronomial | 20 | 8 | 28 | 127 | 9.1 | 31.8 | 37 | 18 | 55 | 19.7 | 9.6 | 29.3 | 39 | 10 | 49 | 18.1 | 48 | 23.9 |  |  |  |  |  |  |
| 2-Aimarat | 11 | 8 | 19 | 12.5 | 9.1 | 21.6 | 21 | 23 | 44 | U: 2 | 12.2 | 23.4 | 13 | 10 | 23 | 6.3 | 4.9 | 11.2 |  |  |  |  |  |  |
| 3 LLight Phamen. | 0 | 1 | 1 | 0.0 | 1.1 | 1.1 | 6 | 4 | 10 | 3.2 | 2.1 | 5.3 | 5 | 3 | 8 | 2.4 | 15 | 3.9 |  |  |  |  |  |  |
| 4 4ints | 1 | 0 | 1 | 1.1 | 0.0 | 11 | 1 | 0 | , | 0.5 | 0.0 | 0.5 | 1 | 2 | 3 | 0.5 | 1.0 | 1.5 |  |  |  |  |  |  |
| 5 Cllouts, Dust, eta | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 |  |  |  |  |  |  |
| Glasutic lim. | 11 | 0 | 11 | 18.5 | 0.0 | 12.5 | 20 | 0 | 20 | 106 | 0.0 | 10.6 | 31 | 0 | 31 | 15.1 | 0.0 | 151 |  |  |  |  |  |  |
| 7.Psyerchological | 5 | 0 | 5 | 5.7 | 0.0 | 5.7 | 2 | 0 | 2 | 1.1 | 00 | 1.1 | 5 | 0 | 5 | 2.4 | 0.01 | 2.4 |  |  |  |  |  |  |
| 8 Uniknown | 12 | 0 | 12 | 136 | 0.0 | 13.6 | 18 | 0 | 18 | 96 | 0.0 | 9.6 | 44 | 0 | 44 | 21.5 | 0.0 | 21.5 |  |  |  |  |  |  |
| 904 em | 4 | 0 | 4 | 4.5 | 00 | 4.5 | 6 | 2 | 8 | 3.2 | 1.1 | 4.3 | 5 | 0 | 5 | 2.4 | 00 | 2.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 66. | 22 | 88 | 75.0 | 25.0 | ves. | 132 | 56 | 188 | 70.2 | 29.8 | 100. | 1591 | 46 | 205 | 776 | 22.4 | 100 |  |  |  |  |  |  |




TABLE A227 EVGLUATION AF ALL SIGMTINGS IN THE STRATEGIC ARERS


TRGE AR28 EVALUATIOA OE ALL SIGHTINGS IN THE STRATEGIC AREAS

| Evaluation | LOS ANGELES OE |  |  |  |  |  | THE SOUTH FRCW |  |  |  |  |  | REGION |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | BRCAVEE DF SOUTH ERRWEST |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Per Cent |  |  |
|  | Numben |  |  | Percent |  |  |  | Wumber |  |  | Pacent |  | Nunber |  |  | Pex Cent |  |  | Humber |  |  |  |  |  |
|  | Cotion | Doobtiou | Total | Certain | Doubtul | Total | Centain | [0outitul | Totan | Cetrin | Doubttol | Tolal | Certain | Doubtul | Total | Certain | Doubthil | Toal | Centin | Doutity | Troad | Certain | Daibtuil | Total |
| Q-Batioon | 21 | 10 | 31 | 18.3 | 87 | 270 | $\cdots$ | 2 | 3 | 3.8 | 7.7 | 11.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 -Astrononical | 5 | 8 | 15 | 43 | 10 | 11.3 | 1 | 3 | 4 | 38 | 11.5 | 15.3] |  |  |  |  |  |  |  |  |  |  |  |  |
| 2-ailcrath | 14 | 5 | 19 | 12.2 | 4.3 | 16.5 | 4 | 1 | 5 | 154 | 38 | 19.2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Lipt Pherom | 2 | 0 | 2 | 17 | 0.0 | 11 | 4 | 0 | 4 | 3.8 | 0.0 | 78 |  |  |  |  | - |  |  |  |  |  |  |  |
| 4 Birds | 0 | 0 | 0 | 00 | 0.01 | 0.0 | 0 | 0 | 0 | ad | Q0 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Clavds, Dust etc. | 0 | 0 | 0 | 02 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6-Insutice mra. | 8 | 0 | 8 | 10 | 0.0 | 7.0 | 4 | 0 | 4 | 15.4 | 00 | 15.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7.Psychologica | 2 | 1 | 3 | 1.7 | 0.9 | 2.6 | 1 | 0 | 1 | 38 | 0.0 | 3.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8Undioum | 31 | 0 | 31 | 270 | 20 | 170 | 3 | 0 | 3 | 11.5 | 102 | 11.5 |  |  |  |  |  |  |  |  |  |  |  |  |
| Hother | 8 | 0 | 8 | 70 | 0.0 | 10 | 1 | 4 | 5 | 38 | 15.4 | 19.2 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toted | 91 | 24 | 115 | 19.1 | 20.9 | 100. | 16 | 10 | 26 | 61.5 | 38.5 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |

TABLE AR29 $\qquad$ ELACLITION
a
＜xitic

| Evalution | NEW YORK |  |  |  |  |  | Mumber |  |  |  |  |  | WdSH14GSCN |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Mumber |  |  | Percent |  |  |  |  |  |  |  |  | Mumber |  |  | Per cent |  |  | Munter |  |  | Percent |  |  |
|  | Certin | Doubtuil | Total | Centain | Doustul | Total | Cerbin | Doubitos | Total | Certain | Doobtut | Tolat | Certzin | ［Doust ${ }^{\text {dul］}}$ | Total | Certain | Dousitul | Tolar | Centain | Docubinil | Iotal | Catain |  | 1 |
| 0－Batioon | Cl |  | 18 | 8.5 | 3.4 | S\％ | 2 | 6 | 12 | 10．5 | 1.1 | 192 | de | 9 | 25 | 9.4 | 53 | 147 | 8 | 8 | 2 | ． | 82 | － |
| 1－Astronomical | 16 | 6 | 22 | 12.4 | 47 | 4 | 10 | 8 | 18 | 128 | 23 | 33.1 | 3 | 10 | 41 | 18.2 | 59 | $2 \times 1$ | 16 | 5 | 21 | 4，5 | 2 | \＃ |
| 2－Airceat | 31 | 9 | 40 | 240 | 70 | 310 | 14 | 10 | 24 | 119 | 12.8 | 30.7 | 21 | 25 | 46 | 12.51 | 142 | 271 | 10 | 13 | 23 | 0.3 | 3.4 | 23 |
| 3－Lidtr Phenom， | 2 | ， |  | 16. | 0.8 | 2.4 |  | 0 | 1 | 13 | 00 | 1.3 | 0 | 2 | 2 | 0.0 | 12 | 12 | 1 | 3 | 4 | $\therefore 0$ | 31 | 4 |
| 4 －Birds | 0 | 0 | 2 | 20 | 0. | 00 | 2 | 0 | 2 | 26 | 0.0 | 2.6 | 1 | 0 | 1 | 0.6 | 20 | 06 | 0 | 0 | 0 | Al | 22 | 0. |
| 5 －Clouds，Oust，etc． | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 2 | 2 | 2.0 | 20 | 0 | 2 | 2 | 2 | 0.0 | 12 | 12 | 0 | 1 | 1 | 00. | 10 |  |
| 6－musatic min． | 20 | 0 | 20 | 15. | 20 | 155 | 2 | 0 | 2 | 26 | 0.0 | 26 | 11 | 0 | 11 | 6.5 | 10 | 6.5 | 10 | 0 | 10 | 0.3 | 0.1 | L |
| 7．Psycrolopial | 7 | 0 | 7 | 54 | 0.0 | 54 | 1 | 0 | 1 | 1.3 | 0.0 | 13 | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | 2 | 2 | 分 2 | 21 | 促 |
| 8－tutsoum | 14 | 0 | 14 | 10.9 | 20 | 109 | 13 | 0 | 13 | 167 | 0. | 16.7 | 39 | 0 | 32 | 22.9 | 00 | 229 | 15 | 0 | 15 | \％ | 0.0 |  |
| 9－0ther | 5 | 0. | 5 | 3.7 | 00 | 37 | 2 | 2 | 2 | 2.6 | 0. | 26 | 3 | 0 | 3 | 18 | 00 | 18 | 3 | 2 | \％ | 51 | 2. |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Otal | 106 | 23 | 129 | 82． 2 | 178. | 100 | 54 | 24 | 181 | 69.2 | 30.8 | 100. | 122 | 48 | 170 | 11.8 | 28.2 | 100. | 63 | 34 | 97 | 649 | 351 | LRC |

TABLE AZ30 EVALUATION AE UNIT SIGHTINGS IN THE STRATEGIC TKLNE

| Evaluation | Chicaso |  |  |  |  |  | SHE |  |  |  |  |  | MIPEVEST |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | DAYT |  |  |  | R2\％ | NCE | or | ENTR | 人 Wo | WeSt |  |  |  |  |  |  |
|  | Humber |  |  | Peft Cent |  |  | Number |  |  | Pencerl |  |  | Number |  |  | Per cent |  |  | Number |  |  | Percent |  |  |
|  | Certain | Doubtul | Tom | Cetain | Dowbtut | Total | Certain | Doubtrul | Total | Certain | Doubtiol | Total | Certain | Boubttol | Total | Cettain | Dowthlul | Tơas | Cotrin | Dooutitia | Totad | Certain | Doubthel | Total |
| 0－8aticon | 2 | 5 | 7 | 25 | 6.2 | 8.7 | 20 | $q$ | 29 | 12.0 | 5.4 | 14 | 3 | 17 | 30 | 72 | 9.4 | 16.6 |  |  |  |  |  |  |
| －Astronomical | 16 | 6 | 22 | 19.8 | 7．4 | $2 \% 2$ | 29 | 1 | 40 | 174 | 6.6 | 240 | 34 | 10 | 44 | 189 | 5.6 | 24. |  |  |  |  |  |  |
| 2－Aircan | $\ddot{ }$ | 8 | 19 | $\times 3.6$ | 9.9 | 23.5 | 19 | 22 | 4 | $1 / 14$ | ＜3．2 | 24.6 | 13 | 10 | 23 | 182 | 5.6 | 128 |  |  |  |  |  |  |
| 3－Light Phenom | 0 | 1 | 1 | 0.0 | 12 | 12 | 6 | 4 | 10 | 36 | 2.4 | 6.0 | 5 | 2 | 7 | 2.8 | 11 | 3.9 |  |  |  |  |  |  |
| 4 Binds | 1 | 2 | 1 | 12 | 0.0 | 12 | 1 | 0 | 1 | 0.6 | 0.0 | 0.6 | 1 | 2 | 3 | 06. | 1.1 | 1.7 |  |  |  |  |  |  |
| 5－Cloous，Dust，etc． | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | Qd | 00 | 0.0 |  |  |  |  |  |  |
| Ginsufice mio． | 11 | 0 | 1 | 126 | 0.0 | 13．6 | 20 | 0 | 20 | 120 | 0.0 | 12.0 | 21 | 0 | 27 | 15.0 | 0.0 | 150 |  |  |  |  |  |  |
| 7．Psyctiolozica | 5 | 2 | 5 | 6.2 | 0.0 | 62 | 2 | 0 | 2 | 1.2 | 0.0 | 1.2 | 5 | 0 | 5 | 25 | 00 | 28 |  |  |  |  |  |  |
| 2 Unlenow | $1 /$ | 0 | $1 /$ | 13.6 | 0.0 | 136 | 4 | 0 | 17 | 10.2 | 0.0 | 10．2 | 37 | － | 37 | 20.6 | 2.0 | 20.6 |  |  |  |  |  |  |
| Yothe | 4 | 0 | 4 | 49 | 0.0 | 49 |  | 1 | 7 | 3.6 | 0.6 | 42 | 4 | 0 | 4 | 2.2 | 0.0 | 2.2 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 61 | 20 | 81 | 15．3 | 24.1 | 100 | 120 | 47 | 167 | 17.9 | 38.1 | 100 | 139 | 4 | 180 | 77，2 | 22.8 | 100 |  |  |  |  |  |  |





TABE AR34 EVALVATION DE UNUT SLGATINGS IN THE STRAZEGLC REERS

|  | C0S AnGESES |  |  |  |  |  | RSLANCE DE SOMH FRRWESA |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Number |  |  | Peacert |  |  |  |  |  |  |  |  | Number |  |  | Pactent |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Pet Cont |  |
| Eraluation | Certrin | Doubtuy | Total | Certain | Doobtitu | Total | Certain | Dowistul | Tolad | Cestain | Doubltul | Tota | Certain | Doubtul | $\overline{\text { Total }}$ | Celtain | Doubthil | Total | Certain | Doutitul | Total | Certain | Doubthel | Total |
| O-Balloon | 18 | 12 | 28 | 18.2 | 10.1 | 28.3 | 1 | 2 | 3 | 5.3 | 10.5 | 15.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1-Astroomical | 5 | 8 | 13 | 5. | 81 | 13.2 |  | 3 | 4 | 5.3 | 15.8 | 211 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 - incraft | 12 | 5 | 11 | 12.1 | 5.1 | 172 | 2 | 1 | 3 | 10.5 | 5.3 | 15.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3-Ligt Phexom. | 2 | 0 | 2 | 2.1 | 0.2 | 2.0 | 1 | 0 | 1 | 5.3 | a.e | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 - Bints | 0 | e | 0 | ne | el | 00 | 0 | 0 | 0 | L00 | $0 \cdot$ | a0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5-Clouds, Dust, ete. | 0 | 0 | 0 | 00 | 100 | Q0 | 0 | 0 | 0 | 00 | 00 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |
| G-msuficic mio. | 8 | 0 | 8 | 81 | 0.0 | 81 | 1 | -0 | 1 | 5.3 | 0.0 | 5.3 | - |  |  |  |  |  |  |  |  |  |  |  |
| 7.Psychalogical | 2 | 1 | 3 | 2.0 | $1 \cdot 0$ | 30 | 1 | 0 | 1 | 53 | 0.0 | 5,3 |  |  |  |  |  |  |  |  |  |  |  |  |
| SoUnlmom | 21 | 0 | 21 | 21.2 | 0.0 | 21.2 | 1 | 0 | 1 | 5.3 | 00 | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9-0ther | 7 | Q | 7 | 21 | 0.0 | 1.1 | 1 | 4 | 5 | 53 | 21.1 | 26.4 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Totel | 15 | 24 | 99 | 15.8 | 24.2 | 100: | 9 | 10 | 19 | 41.4 | 152.6 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |

TAGLE AZ35 EVALUATLON DE OBIECT SIGHTLNGS IN TAE STRATEGIC CREQS

|  | NEW YORK |  |  |  |  |  | Harpisquec |  |  |  |  |  | Lasherner |  |  |  |  |  | Batance at Entra Eas |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | maber |  |  | Pescomt |  |  | Number |  |  | $\mathrm{Pectant}_{\text {cent }}$ |  |  | Mupbe |  |  | Percomt |  |  | Hunce |  |  | Per Cent <br>  |  |  |
| Evalusion | Coltin | Doubtul | , | Cendin | Doandolm | Toal | Cerbin | Dobitur | Tola | erlian | Douthal | rola | eratan | Doadtul | Tota | cotan |  | rolat |  |  |  |  |  |  |
| Eallome | 8 | 7 | IS | 2.6 | 6. |  | 4 | 6 | 13 | 11.5 | 9.8 | 21.3 | /5 | 8 | 23 | 10. | 55 | 158 | $\delta$ |  | 4 | 49 | 7.4 | 1.3 |
| FAstosomial | 4 | 6 | 17 | 105 | 5 | the 2 | 10 | 6 | 16 | 1163 | 9.8 | 26.2 | 15 | 7 | 22 | 10.3 | 4 | 151 | 0 |  |  | 23 | 2 | 18.5 |
| 2 2Airath | 24 | 8 | 32 | 22.9 | 76 | 30.5 | 9 | 9 | 18 | 14.8 | 14.8 | 296 | 20 | 24 | 4 | 3, | le, | 30.4 | 9 | 9 | 8 | I | 11 | 223 |
| 3 Llieth Pman | 1 |  | 2 | 1.0 | $1 \cdot$ | 2.0 |  | 0 | , | 1.6 | 0.0 | 16 | 0 | 2 | 2 | 0.0 | 1.4 | 14 |  | 3 | 4 | -2 | 37 | 4.9 |
| 4 Bint |  |  | 0 | 40 | 20 | 10 | 2 | 2 | 2 | 33 | 0.0 | 33 | 1 | 0 | $\checkmark$ | 07 | 20 | 0.7 | 0 | 0 | 0 | 20 | 2 |  |
| Scloust Dost Hta | 0 | 0 | 0 | 20 | 0. | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 2 | 2 | 10 | 1.4 | : 4 | 0 | 1 |  | $\therefore 8$ | 2 |  |
| Gmatric mbe. | 17 | 0 | 17 | th. 2 | 0.0 | 16.2 |  | 0 | 1 | 1.6 | 00 | $\stackrel{1}{6}$ | 10. | 2. | 10 | 6.8 | 02 | 4.8 | 10 | 0 | 0 | 123 | al |  |
| 7.8 Practiopian | 6 | e | 6 | 57 | 20. | 5.7 |  | 0. | 1 | 1.6 | 0.0 | 1.6 | 0 | 0 | 0 | a0 | 0.0 | 0.0 | 0 | , |  | 20 | 25 | 2.5 |
| 8 andeom | $1 /$ | 0 | 1 | 10.5 | 0.0 | 10.5 | 7 | 0 | 7 | (15) | 00 | 115 | 39 | 2. | 39 | 26.7 | 0.0 | 26.7 | 2 | 0 | 2 | 148 |  |  |
| 90.3 mex | 5 | 0 | 5 | 48 | 0.0 | 48 |  |  | 2 | 3.3 | 20 | 3.3 | 3 | R | 3 | 21 | 0.0 | 2 | 3 | 2 | 5 |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 83 | 22 | 105 | 19.0 | 21.0 | 100 | 40 | 21 | 61 | 65.6 | 34.4 | 100 | 103 | 43 | 146 | 20.5 | 29.5 | 100 | 53 | 28 | 81 | 65.4 | 346 |  |

TRBLE A236 EKALUATION DF OBEET SIGHTNGS IN THE SERATEGIC AREFAS

|  | Chicoce |  |  |  |  |  | Dayton |  |  |  |  |  | Sacance of CEnZROL MOMES |  |  |  |  |  | Number |  |  | Pet Comt |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Number |  |  | Percmol |  |  | Number |  |  | Pacent |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Evalusion | Cotbin | Doubtul | Tonal | Setain | Dosathil | Tolan |  |  |  | Cetrin | Doabtuil | Tota | Setain |  | Tobl | Ptr Cent |  |  | Cention | Douthor | Tota | Cerrian ${ }^{\text {Per Coustul }}$ |  |  |
| O日asiose | 2 |  |  | 3.0 | $\underline{46}$ | 10.2 | 15 | 8. | 23 | 0.4 | 5.6 | 14.0 | 13 | 15 | 28 | 7.9 | 9. | 170 |  |  |  |  |  |  |
| -Astromanial | 5 |  | (1) | 76 | 2.1 | 1h. 7 | 21 | II | 32 | 4.6 | 76 | 22.2 | 27 | 7 | 34 | 165 | 43 | 20.8 |  |  |  |  |  |  |
| 2-Mirath | 10 | 8 | 18 | 15.2 | 12.1 | 213 | 19 | 18 | 37 | 13.2 | 12.5 | 257 | 13 | 2 | 22 | 19 | 5.5 | 13.4 |  |  |  |  |  |  |
| 3Limit Promat | 0 | 1 | , | 0.0 | 15 | 1.5 | 6 | 2 | 8 | 4.2 | 1.4 | 5.6 | 5 | 2 | 1 | 30 | $<2$ | 4.2 |  |  |  |  |  |  |
| 4Birs | 1 | 0 | 1 | 1.5 | 0.0 | 1.5 | 1 | 0 | , | 0.7 | 20 | 0.7 | 1 | 2. | 3 | 0.6 | 12 | 1.8 |  |  |  |  |  |  |
| 5 cliouse Dass etc. | 0 | 0 | 0 | 0.0 | $0 \cdot$ | 120 | 0 | 0 | Q | $0 \cdot$ | 0.0 | 0.0 | 0 | 0 | 0 | 00 | 0.0 | 0.0 |  |  |  |  |  |  |
| Slasulicic. mat: | 10 | 0 | 10 | 152 | 00 | 15.2 | 20 | 0 | 20 | 13.9 | 0.0 | 13.9 | 27 | 0 | 27 | 16.5 | 00 | 16.5 |  |  |  |  |  |  |
| IPsperchoricial | 5 | el | 5 | 1.6 | 0.0 | 16 | 2 | 0 | 2 | 14 | 0.0 | 1.4 | 5 | 0 | 5 | 3.0 | 0.0 | 3.0 |  |  |  |  |  |  |
| 31 mbown | 9 | 0. | 2 | 13.6 | 0.0 | 136 | 14 | 0 | 14 | 9.7 | en | 2.7 | 34 | 0 | 34 | 20.7 | e0 | 20.7 |  |  |  |  |  |  |
| 90 hme | 4 | 0 | 4 | 6.1 | 0.0 | 6.4 | 6 | 1 | 7 | 4.2 | 0.1 | 49 | 4 | e | 4 | 2.4 | 0.0 | 2.4 |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Tow | 46 | 20 | 66 | 69.7 | 30.3 | 100 | 102 | 42 | 144 | 10.8 | 29.2 | 100 | 229 | 35 | 164 | 48. 1 | 213 | 100. |  |  |  |  |  |  |

TRBLE A237 EKALUATION AF ABIECT SIGHTINGS IN THE STRQTEGIC RREAL


|  | TABLE A238 |  |  |  |  | EK2L | DE QQUEET |  |  |  |  |  | STGETENGS |  |  |  | IN THE |  |  | TRATEGAC |  |  | 7602s |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  | sour | זH | M10 | Wes |  |  | PES | $10 \times$ |  |  |  |  |  |  |  |  |
|  | ATLANTA |  |  |  |  |  | Wele |  |  |  |  |  | SAN intence |  |  |  |  |  | BACARCE OF Picit ？ |  |  |  |  |  |
|  | number |  |  | Per Cent |  |  | Number |  |  | Per Conl |  |  | Number |  |  | Per Cent |  |  | Number |  |  | Perceml |  |  |
| Evilution | Crition | Doubtul | Total | Certain | Doubtrui | Total |  |  |  | Cettoin | Doubtiv］ | Tota | Certain |  | Total | Cerrain | Doubtiol | Tolal | Cerrain | Doubltul | rotai | Cerain | Doubitu | Toin |
| a－Balloon |  |  | 13 | 29 | 12. | 206 | 3 | 5 |  | S | k． |  | 2 | 2 | $\leq$ | 56 | 56 | 11.2 | ＇2 | 13 | 23 | ， | 2 | ， |
| 1．Astomomical | k | 0 | $1 / 2$ | 9.5 | 15.9 | 154 | 18 | 28 | 46 | 220 | 341 | 56.1 | － 2 | 5 | 10 | 139 | 13.9 | 218 | 22 | 6 | 35 | S | 16 | 5 |
| 2 －Aimeratt | 8 | 5 | 13 | 12.7 | 79 | 10.6 | 3 | 7 | 10. | 3.7 | 8.5 | 12．2 | 4 | 6 | 10 | 1 | 16.7 | 218 | 35 | 23 | 35 | \％ | KU | ごつ |
| 3－Light Phenom． |  | 0 | 1 | 1.6 | 0.0 | 1.6 | 1 | 0 | 1 | 1.2 | 0.0 | 1.2 | 1 | 0 | $\angle$ | 28 | 0.0 | 2.8 | －1 | \％ |  | c． | 2 | －2 |
| 4 －Birds | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 3 | 1 | 4 | 37 | 12 | 4.9 | 0 | 0 | 0 | e0 | Cid | 20 | 2 | 2 |  | ＜ | 6 | ＜－ |
| 5－Clouts，Dust，etc． | 0 | 0 | 0 | $0 \cdot$ | 0.0 | 00 | 0 | 0 | 0 | 0.0 | 0.0 | 00 | 0 | 0 | 2 | 60 | 0.0 | －2ti | 0 | 0 | 0 | 运 | ： | $\because$ |
| G－Insurilc．mio． | 7 | 0 | 1 | 11. | 001 | 11. | 6 | 0 | 6 | 43 | 0.0 | 1.3 | 1 | 0 | 1 | 28 | 10 | 28 | 21 | 0 | 21 | C0 | ， | － |
| 7．Psyctologien | 0 | 2 |  | 0.0 | 32 | 32 | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 0 | 0 | 0 | 0.01 | $\therefore$ 二 | c゙i | 3 |  | 4 | ： | \％ |  |
| 8．lukicomm | 4 | 0 | 9 | 14.3 | 20 | 143 | 6 | 0 | 6 | 73 | 0.0 | 73 | 8 | 0 | 8 | 222 | 00 | 212 | 5 | c | 5 | 273 | C | $\cdots$ |
| 90 the | 1 | 1 | 2 | 1.6 | 1.6 | 3.2 | 1 | 0 | － | 12 | 120 | 1.2 | 1 | 1 | 2 | 2.8 | 2.8 | 56 | 5 | 2 | 7 | 2.4 | － | 32 |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Toted | 37 | 26 | ¢ 3 | 58.7 | 41.3 | 100. | 41 | 41 | 82 | 500 | 50.0 | 100. | 221 | $14^{\prime}$ | 36 | 61 | 384 | 190. | 155 | 55 | 20 | 738 | 2； 2 | 20 |



|  | ALBUQUERPUE |  |  |  |  |  | Bacance of South wlest |  |  |  |  |  | REGLRN |  |  |  |  |  |  |  |  |  |  |  |
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|  | Number |  |  | Per Cent |  |  | Number |  |  | Per Cont |  |  | Munter |  |  | Per Cent |  |  | Humber |  |  | Per Cent |  |  |
| Evaluation | Cetrain | Doubtul | Total | Cetain | Doubthal | Total | Certain | Doobtfu］ | Tolal | Certain | Doubtiol | Total | Certain | Doubtul | Total | Cerdin | Doubtoul | Tolal | Certain | Doutitu | Total | Certain | Doabitut | Total |
| 0－Belicon | 5 | 3 | 8 | 5.1 | 31 | 82 | 23 | 2 | 25 | 18，4 | 1.6 | 20.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1－Astranomical | 14 | 28 | 42 | 14.3 | 28．6 | 42.9 | 17 | 6 | 23 | 13.6 | 48 | 18.4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2－Aircaft | 8 | 8 | 16 | 8.2 | 8.2 | \％，${ }^{\prime}$ | 13 | 13 | 26 | 10.4 | 0.4 | 20.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3－Light Phenom． | 0 | 0 | 0 | 0.0 | 0.0 | 0.0 | 2 | 2 | 4 | $\therefore 6$ | $\therefore 6$ | 3.2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 Birds | 0 | 1 | $\cdots$ | 20 | 10 | 10 | 0 | 1 | 1 | 0.0 | 0.8 | 0.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5－Clouds，Dust，elc． | 1 | 0 | 1 | 10 | 10 | 1.0 | 0 | 2 | 2 | 00 | 16 | 1.6 |  |  |  |  |  |  |  |  |  |  |  |  |
| G－Insifica，info． | 5 | 0 | 5 | 51 | 00 | 51 | 9 | 0 | 8 | 72 | 00 | 12 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1．Psyclologicas | 0 | 0 | 0 | 0.0 | 00 | 0.0 | 0 | －2 | 0 | 0.0 | 00 | 20 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8．Unknom | 21 | 0 | 21 | 214 | 0.0 | 21.4 | 12 | 0 | 32 | 25.6 | 0.0 | 154 |  |  |  |  |  |  |  |  |  |  |  |  |
| 9－Other | 1 | 3 | 4 | 1.0 | 31 | 4．1 | 3 | 0 | 3 | 2.4 | 00 | 2.4 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 55 | 43 | 48 | 56.1 | 49．9 | 100. | 99 | 26 | 125 | 19.2 | 20.8 | 100. |  |  |  |  |  |  |  |  |  |  |  |  |

TABLE AZ4Q EUALVATDN OF DBIECT SLEHTLNGS UN THE STRATEGIC AREOS

|  | LOS ANGELES |  |  |  |  |  | Ratamee of South friwest |  |  |  |  |  |  |  |  |  |  |  | Number |  |  |  |  |  |
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|  | Nunber |  |  | Per Cent |  |  | Nundel |  |  | Per Cenl |  |  | Humber |  |  | Per Cent |  |  |  |  |  | Percomt |  |  |
| Evaluation | Centain | Doubtrui］ | Total | Certain | Doubthul | Total | Cerain | Doubtal | Tolat | Certain | Douttol | Total | Certain | Doubtal | Total | Centain | Doubltal | Total | Cetain | Doulthi | Total | Certain | Doubitul | Tota |
| 0－Balloon | 16 | 8 | 24 | qe | 4.5 | 28.5 | $\angle$ | 2 | 3 | 53 | 10.5 | 15.8 |  |  |  |  |  |  |  |  |  |  |  |  |
| 1－Astronomical | 4 | 7 | 11 | 48 | 83 | 13.1 | 1 | 3 | 4 | 53 | 15.8 | 21.1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2－Aircalt | $1 /$ | 5 | 16 | 131 | 6.0 | 121 | 2 | 1 | 3 | 10.5 | 5.2 | 157 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3．Light Phenom． | 2 | 0 | 2 | 2.4 | 0.0 | 2.4 | 1 | 0 | 1 | 5.3 | 00 | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 －Birds | 0 | 0 | 0 | 00 | 00 | 0.0 | 0 | 0 | 0 | 0.0 | 0.0 | 00 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5－Clouds，Dust，ec． | 0 | 0 | 0 | 00 | 0.0 | 0.0 | 0 | 0 | 0 | 0.0 | 00 | 0.0 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6－1nsutic．mint． | 1 | 0 | 1 | 83 | $\Omega \mathrm{O}$ | 8.3 | 2 | 0 | 1 | 53 | 0.0 | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7．Psycmologica！ | 21 | 1 | 3 | 2.4 | 12 | 3.6 | 1 | 0 | i | 5.3 | 00 | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 8 －Unknom | 14 | 2 | 14 | 14.7 | 0.0 | 16.7 | 1 | 0 | 1 | 53 | 0.0 | 5.3 |  |  |  |  |  |  |  |  |  |  |  |  |
| Pother | 7 | 0 | － 7 | 8.3 | 0.0 | 8.3 | 4 | 4 | 5 | 5.3 | 21．1 | 26.4 |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total | 63 | 21 | 84 | 15.0 | 25.0 | vob． | 9 | 10 | 19 | 414 | 52.6 | 100 |  |  |  |  |  |  |  |  |  |  |  |  |

## APPENDIX B

WORKING PAPER FORMS

## INDEX OF FORMS

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## EXHIBIT Bl

TENTATIVE OBSERVERS DATA SHEET

## Where Choice is Given, Circle Froper

 Answers, or Insert Answer1. Date of your otservation:
Day Month
2. Date you reported the observation:

$$
\overline{\text { Day }} \text { Month }
$$

3. What time was it when you sighted the object:
A.M. P.M. Daylight Standard

Zone: Eastern, Central, Mo:ntain, Pacific, Other
4. Length of time object was observed. Estimate:

Hours $\overline{\text { Ifinutes }} \overline{\text { Seconds }}$
5. Where observed:

Postal Adtress Coun Tom Country
6. Where were you at time of observation:

Inside building, In Car, Outdoors,
Other
7. Were you moving at any time during this sighting:

Yes or No
8. Did you stop at any time during this sighting: $\qquad$ -
9. If you were moving - give $\qquad$ and $\qquad$ niles per hour. Direction Speed
10. How was object observed: Naked eye

Eyo glasses
Other glass (Window or Wirdshield)
Binoculars, Teloscope, Theodolite Other $\qquad$
11. How did you happen to notice the object:
12. Describe what you saw as triefly as possible in the following spaces:
$\qquad$ b. Shape $\qquad$
c. Coior $\qquad$ d. Size $\qquad$

- Number $\qquad$ f. Light brightness $\qquad$
g. Lisht color $\qquad$ h. Motion $\qquad$
i. Speed $\qquad$ j. Other $\qquad$

13. How did object disappear from vicw: Suddenly or Gradually
14. At any time did the object:
a. Change direction. b. Change speed. c. Move behind sonething; Cloud, House, Tree, $\qquad$ d. Elend with background. e. Decrease
in size. f. Decrease in brightnes:. g. Move in front of something. h. $\qquad$
15. When you first looked at the object, what direction were you facing? $\qquad$
16. When you Jast saw the object, what direction were you facing? $\qquad$
17. In the following Sketch A, draw lines
from the observer's eye to the circular
arc to show the apparent elevation of the object in the sky.

A. When first seen, label a.
B. When last seen, label b.

18. On the following Siketch B, label a at the apparent position of the object when first seen ard $b$ at point last - $G$ seen. Trace the apparent path of the object between points $a$ and $b$.

If possible label 1, 2, 3, etc., along the traced path to show the successive positicns of the object after equal intervals of time during the sighting.


SKETCH B
19. In Sketch C please show the observed features of the object such as;
A. Apparent shape, (were edges poisted or rounded),
B. Apparent direction of notion (sinow by arrow), and
C. Other details, extiaust, trails, tails, surfaces, etc.

SKETCH C
20. The sun and the mon are shown below as they appear in their correct relative size. In this shetch 1 , show the apparent size of what you saw.


SKETCA D

21. In your own words please describe the sighting you observed. Use sketches if desired. All observations from the time of first sighting to the time of dissappearance are important. Include a description of the weather, wind, and cloud condjtions at the time of this sighting.

## 22. Your full name:

23. Your address:
24. Your occupation:
25. Last school you attended:
26. Year of last. attendance at this school:
27. Please.list the names and addresses of persons who discussed this sighting with you. It is not necessary to list tire names of officials or investigators.
28. Further coments which you believe are important should be entered here. Use aduitional shocts of the same sizz if nocessary.

## SECTION A

1. When did you see the object:

1.3 Time Zone: (Circle One):
a. Eastern
d. Pacific
b. Central
e. Other
c. Mountain
(Circle One): a. Daylight Saving
b. Standard
$\qquad$
1.4 Circle one of the following to indicate how certain you are of
your answer to the above question 1.2 :
a. Certain
b. Fairly certain
c. Not very sure
d. Just a guess
2. Where were you when you saw the object:
Postal Address City or Town Country

Additional Remarks: $\qquad$
3. Where were you located when you saw the object:
(Circle One): a. Inside a building
d. In an airplane
b. In a car
e. At sea
f. Other $\qquad$

### 3.1 Were you:

(Circle One): a. In the business section of a city?
b. In the residential section of a city?
c. In open countryside?
d. Flying near an airfield?
e. Flying over a city?
f. Flying over open country?
g. Other $\qquad$
4. How did you happen to notice the object?
$\qquad$
$\qquad$
5. When did you report to some official that you had seen the object?
Day Month Year

## SECTION B

6. What were you doing at the time you saw the object? $\qquad$

> 6.1 What had you been doing for the 30 minutes before you saw the object? Try to list the activity or activities and the approximate amount of time spent on each.
7. Were you moving at any time while you saw the object? (Circle One):

Yes or No
IF you answered YES, then complete the following questions:
7.1 What direction were you moving?

| (Circle One): $:$ | a. North | e. South |
| :--- | :--- | :--- | :--- |
|  | b. Northeast | f. Southwest |
|  | c. East | g. West |
|  | d. Southeast | h. Northwest |

7.2. How fast were you moving? $\qquad$ miles per hour.
7.3 Did you stop at any time while you were looking at the object?
(Circle One): Yes or No
8. What direction were you looking when you first saw the object?
(Circle One):
a. North
e. South
b. Northeast
f. Southwest
g. West
h. Northwest
8.1 What direction were you looking when the object disappeared?

| (Circle One): | a. North | e. South |
| :--- | :--- | :--- |
|  | b. Northeast | f. Southwest |
|  | c. East | g. West |
|  | d. Southeast | h. Northwest |

8.2 Circle one of the following to indicate how certain you are of your answer to the above question and preceding question (8 and 8.1).
a. Certain
c. Not very sure
b. Fairly certain
d. Just a guess
9. Were you wearing eye glasses when you saw the object? (Circle One):

## Yes or No

10. How was the object seen?
(Circle One): a. Through window glass e. Through theodolite
b. Through windshield f. Through sunglasses
c. Through binoculars g. Through open space
d. Through telescope
h. Other $\qquad$
11. What do you remember about the weather conditions at the time you saw the object?
11.1 CLOUDS (Circle One)
a. Clear sky
b. Hazy
c. Scattered clouds
d. Thick or heavy clouds
e. Don't remember
11.2 WIND (Circle One)
a. No wind
b. Slight breeze
c. Strong wind
d. Don't reinember
11.3 WEATHER (Circle One)
a. Dry
b. Fog, Mist, or light rain
c. Moderate or heavy rain
d. Snow
e. Don't remember
a. Cold
b. Cool
c. Warm
d. Hot
e. Don't remember

SECTION C
12. Estimate how long you saw the object?
12.1 Circle one of the following to indicate how certain you are of your answer to Question 12:
a. Certain
c. Not very sure
b. Fairly sure
13. Did the object look: (Circle One) Solid or Transparent
14. Did the object at any time:
(Circle One for each question)

| 14.1 | Change direction? | Yes | No | Don't know |
| :---: | :---: | :---: | :---: | :---: |
| 14.2 | Change speed? | Yes | Mo | Don't know |
| 14.3 | Change size? | $\overline{Y e s}$ | M | Don't know |
| 14.4 | Change color? | Yes | No | Don't know |
| 14.5 | Break up into parts or explode? | Yes | No | Don't know |
| 14.6 | Give off smoke? | Yes | No | Don't know |
| 14.7 | Change brightness? | $\overline{Y e s}$ | No | Don't know |
| 14.8 | Flicker, throb, or pulsate? | Yes | No | Don't know |
| 14.9 | Kemain motionless? | Yes | No | Don't know |

15. Did the object give off a light? (Circle One): Yes No Don't know
15.1 IF you answered YES, what was the color of the light? $\qquad$
16. Tell in a few words the following things about the object?
16.1 Sound $\qquad$
16.2 Color $\qquad$
17. IF there was MORE THAN ONE object, then how many were there?

Draw a picture of how they were arranged and put an arrow to show the direction they were traveling.
18. Did the object at any time:
13.1 Pove behind something? (Circle One) Yes No Don't know IF you answered YES, then tell what it moved behind.
18.2 Move in front of something? (Circle One) Yes No Don't knov

IF you answered YES, then tell what it moved in front of.
18.3 Blend with the background? (Circle One) Yes No Don't know
19. Which of the following objects is about the same actual size as the object you saw? (Circle One):
a. Pea
f. Automobile
b. Baseball
c. Basketball
cl. Bicycle wheel
g. Small airplane
e. Office desk
h. Large airplane
i. Dirigible
j. Other $\qquad$
19.1 Circle one of the following to indicate how certain you are of your answer to Question 19.
a. Certain
c. Not very sure
b. Fairly certain
d. Uncertain
20. Try to tell the following things about the object:
20.1 How high above the earth was it?
20.2 How far was it from you? $\qquad$ feet or feet. miles.
20.3 How fast was it going? miles per hour.
20.4 Circle one of the following to indicate how certain you are of your answer to the above questions:
a. Certain
c. Not very sure
b. Fairly certain
d. Just a guess
21. How did the object disappear from view?
(Circle One):
a. Suddenly
b. Gradual $1 y$
c. Other $\qquad$

## SECTION D

22. In the following sketch, imagine your eye at the point shown. Place an "A" on the curved line to show how high the object was above the horizon (skyline) when you first saw it. Place a "B" to show where it was when you last saw it.


273
23. In the following sketch place an "A" at the position the object was when you first saw it, and a "B" at its position when you last saw it.

24. Draw a picture that will show the motion that the object made. Place an "A" at the beginning of its path and a "B" at the end of its path.
25. Draw a picture that will show the shape of the object. Label and include in your sketch any details of the object that you saw and place an arrow beside the drawing to show the direction the object was moving.

## SECTION E

26. Was this the first time that you have seen an object like this? (Circle One): Yes or No
26.1 IF you answered NO, then when, where, and under what conditions did you see other ones?
$\qquad$
27. In your opinion what do you think the object was and what might have caused it?
28. Give the following information about yourself:


TELEPHONE NUMBER $\qquad$
What is your present job? $\qquad$
Age $\qquad$
Sex $\qquad$
29. Was anyone else with you at the time you saw the object?
(Circle One): Yes or No
29.1 IF you answered YES, did they see the object too?
(Circle One): Yes or No
29.2 Please list their names and addresses:
30. Please add here any further comments which you believe are important. Use additional sheets of the same size paper, if necessary.

EXHIBIT B3
U. S. AIR FORCE TECHNICAL INFORMATION SHEET

## U. S. AIR FORCE TECHNICAL INFORMATION SHEET

This questionnaire has been prepared so that you can give the U. S. Air Force as much information as possible concerning the unidentified aerial phenomenon that you have observed. Please try to answer as many questions as you possibly can. The information that you give will be used for research purposes, and will be regarded as confidential material. Your name will not be used in connection with any statements, conclusions, or publications without your permission. We request this personal information so that, if it is deemed necessary, we may contact you for further details.

1. When did you see the object?
$\qquad$
Day
Month

- 

2. Time of day $\qquad$
$\qquad$ Minutes
(Circle One): A.M. or P.M.
3. Time zone:
(Circle One):
a. Eastern
(Circle One):
a. Daylight Saving
b. Central
c. Mountain
d. Pacific
e. Other
4. Where were you when you saw the object?

Nearest Postal Address
City or Town
State or Country
Additional remarks:
5. Estimate how long you saw the object. $\qquad$ Minutes Seconds
5.1 Circle one of the following to indicate how certain you are of your answer to Question 5.
a. Certain
c. Not very sure
b. Fairly certain
d. Just a guess
6. What was the condition of the sky?
(Circle One):
a. Bright daylight
d. Just a trace of daylight
b. Dull daylight
e. No trace of daylight
c. Bright twilight
f. Don't remember
7. If you saw the object during DAYLIGHT, TWILIGHT, or DAWN, where was the SUN located as you looked at the object?
(Circle One):
g. In front of you
d. To your left
b. In back of you
e. Dverhead
c. To your right
f. Don't remember
8. IF you saw the object at NIGHT, TWILIGHT, or DAWN, what did you notice concerning the STARS and MOON?
8.1 STARS (Circle One):
a. None
b. A few
c. Many
d. Don't remember

### 8.2 MOON (Circle One):

a. Bright moonlight
b. Dull moonlight
c. No moonlight - pitch dark
d. Don't remember
9. Was the object brighter than the background of the sky?
(Circle One):
a. Yos
b. No
c. Don't remember
10. IF it was BRIGHTER THAN the sky background, was the brightness like that of an automobile headlight?:
(Circle One) a. A mile or more away (a distant car)?
b. Several blocks away?
c. A block away?
d. Several yards away?
e. Other
11. Did the object:
(Circle One for each question)
a. Appear to stand still at any time?
b. Suddenly speed up and rush away at any time?
c. Break up into parts or explode?
d. Give off smoke?
e. Change brightness?
f. Change shape?
g. Flicker, throb, or pulsate?
Yes
Yes
Yes
Yes
Yes
Yes
Yes

| No | Don't Know |
| :--- | :--- |
| No | Don't Know |
| No | Don't Know |
| No | Don't Know |
| No | Don't Know |
| No | Don't Know |
| No | Don't Know |

12. Did the object move behind something at anytime, particularly a eloud?
(Circle One): Yes No Don't Know. IF you answered YES, then tell what
it moved behind:
13. Did the object move in front of something at anytime, particularly a cloud?

| (Circle One): Yes No Don't Know. IF you answered YES, than tell what |
| :--- |
| it moved in front of: |

14. Did the object appear:
(Circle One):
a. Solid?
b. Transparent?
c. Don't Know.
15. Did you observe the object through any of the following?

| a. Eyeglasses | Yes | No | e. Binoculars | Yes | No |
| :--- | :--- | :--- | :--- | :--- | :--- |
| b. Sunglasses | Yes | No | f. Telescope | Yes | No |
| c. Windshield | Yes | No | g. Theodolite | Yes | No |
| d. Window glass | Yes | No | h. Other |  |  |

16. Tell in a few words the following things abouf the object.
a. Sound $\qquad$
b. Color
17. Draw, a picture that will show the shape of the object or objects. Label and include in your sketch any details of the object that you saw such as wings, protrusions, etc., and especially exhaust trails or vapor trails. Place an arrow beside the drawing to show the direction the object was moving.
18. The edges of the object were:
(Circle One): a. Fuzzy or blurred
b. Like a bright star
c. Sharply outlined
d. Don't remember
19. IF there was MORE THAN ONE object, then how many were there?

Draw a picture of how they were arranged, and put an arrow to show the direction that they were traveling.
20. Draw a picture that will show the motion that the object or objects made. Place an " $A$ " at the beginning of the path, $a$ " B " at the end of the path, and show any changes in direction during the course.
21. IF POSSIBLE, try to guess or estimate what the real size of the object was in its longest dimension. feet.
22. How large did the object or objects appear as compared with one of the following objects held in the hand and at about arm's length?
(Circle One):
a. Head of a pin
g. Silver dollar
b. Pea
h. Baseball
c. Dime
i. Grapefruit
d. Nickel
i. Basketball
e. Quarter
k. Other $\qquad$
f. Half dollar
22.1 (Circle One of the following to indicate how certain you are of your answer to Question 22.
a. Certain
c. Not very sure
b. Fairly certain
d. Uncertain
23. How did the object or objects disappear from view?
$\qquad$
24. In order that you con give as clear a picture as possible of what you saw, we would like for you to imagine that you could construct the object that you saw. Of what type moterial would you make it? How large would it be, and what shape would it have? Describe in your own words a common object or objects which when placed up in the sky would give the same appearance as the object which you saw.
25. Where ware you located when you saw the object? (Circle One):
a. Inside a building
b. In a car
c. Outdoors
d. In an airplane
e. At sea
f. Other
26. Were you (Circle One)
a. In the business section of a city?
b. In the residential section of a city?
c. In open countryside?
d. Flying near an airfield?
e. Flying over a city?
f. Flying over open country?
g. Other
27. What were you doing at the time you saw the object, and how did you happen to notice it?
28. IF you were MOVING IN AN AUTOMOBILE or other vehicle at the time, then complete the following questions:
28.1 What direction were you moving? (Circle One)
a. North
c. East
e. South
g. West
b. Northeast
d. Southeast
f. Southwest
h. Northwest
28.2 How fast were you moving? $\qquad$ miles per hour.
28.3 Did you stop at any time while you were looking at the object?
(Circle One) Yes No
29. What direction were you looking when you first saw the object? (Circle One)
a. North
c. East
e. South
g. West
b. Northeast
d. Southeast
f. Southwest
h. Northwest
30. What direction were you looking when you last saw the object? (Circle One)
a. North
c. East
e. South
g. West
b. Northeast
d. Southeast
f. Southwest
h. Northwest
31. If you are familiar with bearing terms (angular direction), try to estimate the number of degrees the object was from true North and also the number of degrees it was upward from the horizon (elevation).

### 31.1 When it first appeared:

a. From true North $\qquad$ degrees.
b. From horizon $\qquad$ degrees.
31.2 When it disappeared:
a.- From true North $\qquad$ degrees.
b. From horizon degrees.
32. In the following sketch, imagine that you are at the point shown. Place an "A" on the curved line to show how high the object was above the horizon (skyline) when you first saw it. Place a " $B$ " on the same curved line to show how high the object was above the horizon (skyline) when you last saw it.

33. In the following larger sketch place an " $A$ " at the position the object was when you first saw it, and a " $B$ " at its position when you last saw it. Refer to smaller sketch as an example of how to complete the larger sketch.

34. What were the weather conditions at the time you saw the object?
34.1 CLOUDS (Circle One)
a. Clear sky
b. Hazy
c. Seattered clouds
d. Thick or heavy clouds
e. Don't remember
34.3 WEATHER (Circle One)
a. Dry
b. Fog, mist, or light rain
c. Moderate or heavy rain
d. Snow
e. Don't remember

### 34.2 WIND (Circle One)

a. No wind
b. Slight breeze
c. Strong wind
d. Don't remember

### 34.4 TEMPERATURE (Circle One)

a. Cold
b. Cool
c. Warm
d. Hot

- Don't remember

35. When did you report to some official that you had seen the object?

Day $\qquad$
Month

36. Was anyone else with you at the time you saw the object?
(Circle One) Yes No
36.1 IF you answered YES, did they see the object too?
(Circle One) Yes
No
36.2 Please list the ir names and addresses:
37. Was this the first time that you had seen an object or objects like this?
(Circle One) Yes
No
37.1 IF you answered NO, then when, where, and under what circumstances did you see other ones?
$\qquad$
$\qquad$
$\qquad$
$\qquad$
38. In your opinion what do you think the object was and what might have caused it?
39. Do you think you can estimate the speed of the object?
(Circle One) Yes No
IF you answered YES, then what speed would you estimate?
m.p.h.
40. Do you think you can estimate how far away from you the object was?
(Circle One) Yes No

IF you answered YES, then how far away would you say it was?
feet.
41. Please give the following information about yourself:

NAME $\qquad$
$\qquad$
First Name
Middle Name

ADDRESS Street $\qquad$

TELEPHONE NUMBER $\qquad$

What is your present job? $\qquad$

Age $\qquad$ Sex $\qquad$

Please indicate any special educational training that you have had.
a. Grade school $\qquad$
e.e. Technical school $\qquad$
(Type)
f. Other special training $\qquad$
c. College
$\qquad$
d. Post graduate $\qquad$
State

## U. S. AIR FORCE TECHNICAL INFORMATION SHEET

In order that your information may be filed and coded as accurately as possible, please use the following space to write out a short description of the event that you observed. You may repeat information that you have already given in the questionnaire, and add any further comments, statements, or sketches that you believe are important. Try. to present the details of the observation in the order in which they occurred. Additional pages of the same size paper may be attached if they are needed.

## NAME

$\qquad$ (Do Not Write in This Space)
CODE:

## SIGNATURE

$\qquad$
DATE $\qquad$


## EXHIBIT B4

## CODES FOR WORK SHEET

## CODES

## CODE 1. GENERAL

a. Every column must have at least one entry. If no data are available for any column, the $Y$ should be used.
b. If a number in any column is used to enter data, then $X$ qualifies the data as indicated in the Code for the specific column.

CODE 25 DURATION UNITS

| $X$ |  |
| :--- | :--- |
| $Y$ |  |
| 0 | Days |
| 1 | Hours |
| 2 | Minutes |
| 3 | Seconds |
| 4 |  |
| 5 |  |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 |  |



CODE 41 POSITION

\section*{| $X$ |
| :--- |
| $\mathbf{Y}$ | <br> 1 In car Outdoors}

CODE 28 LATITUDE
CODE 32 LONGITUDE

| $X$ | South latitude | $X$ | East Iongitude |
| :--- | :--- | :--- | :--- |
| $Y$ |  |  |  |
| 0 |  | 0 |  |
| 1 |  | 1 |  |
| 2 |  | 2 |  |
| 3 |  | 4 |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  | 7 |  |
| 7 |  | 8 |  |
| 8 |  | 9 |  |
| 9 |  |  |  |

Wasn't moving
Was moving - atopped Was moving - didn't stop
$X$ Variable
Naked eye
Eye glasses
Window
Windshield
Binocular
Telescope
Theodolite
Radar
8 Photographic
Other

Variable
Motors
Jet or rockets
Explosion
Unlike aircraft
Hiss, swishing, whining |
Rumbiling
. 6 Huming or buzzing
7 None
8 Not stated
9 Other

```
CODE }45\mathrm{ COLOR
X Variable
O Metallic
1 Eight-glow-luminous
2.Red
3 Orange
4 Yellow
5 Green
6 Blue
Violet
8 Black
9 White
```

CODE 48 SPEED

```
Variable
Hovering, stationary
Less than }100\textrm{m}.\textrm{p}.\textrm{h}
100-400 m.p.h.
More than 400 m.p.h.
Meteor like
Not stated
```

6
6
7
8
8
9

CODE 46 NUMBER

X
$Y$
0-1
1-2
2-3
3-4
4-5
5-6
6-7-10
7-11-20
8-20-30
9-31 or more

CODE 47 LIGHT-COLOR

## X Variable

$Y$
0 White
1 Black
2 Grey
3 Red
4 Orange
5 Yellow
6 Green
7 Blue
8 Violet
9 Other

## CODE 49 SHAPE

```
Variable
Ellipse
Rocket
Conventional aircraft
Unconventional aircraft
Meteor, comet
Lenticular
Conical
Tear drop
Flame, tails, fire
Other
```

$\Psi$

CODE 50 SHAPE PARAMETER $a / b$
X - Variable
Y
$1-0.05$
2-0.1
3-0.2
4-0.3
$5-0.5$
6-0.75
7-0.9
8-1.0
9 - Other

CODE 51 SUBTENDED VISUAL ANGLE
(Referred to sun diameter)
$X$ - Decreased in size
$Y$
0-0.1
$1-0.2$
2-0.5
$3-0.75$
$4-1.0$
$5-1.5$
6-2.0
7-4.0
8-4.0 to 10.0
9 - Other

CODE 52 LIGHT BRIGHTNESS (Intensity)

| $X$ | Decreased |
| :--- | :--- |
| $Y$ |  |
| 0 | Sunlight on mirror |
| 1 | Sunlight on aluminum |
| 2 | Sunlight on plaster |
| 3 | Sunlight on stone |
| 4 | Sunlight on soil |
| 5 | Brighter than moon |
| 6 | Like moon |
| 7 | Duller than moon |
| 8 | Barely visible |
| 9 | Other |

CODE 54 ANGULAR ACCELERATION (Change in Angular Velocity)

CODE 53 ANGULAR VELOCITY

```
X Variable
Y
Zero
1 Very slow, 10 per second
Slow, 30 per second
3 Moderate, }\mp@subsup{6}{}{\circ}\mathrm{ per second
4 Rapid, 120 per second
5 Very fast, 300 per second
6 Extremely fast, 900 per second
7 More than 900 per second
8
9 \text { Other}
```

CODE 55 APPEARANCE BEARING

CODE 56 DISAPPEARANGE BEARING


CODE 57-58 ELEVATION
WITH RESPECT TO GROUND, DEGREES

|  | Initial |
| :--- | :--- |
| X | Variable |
| I |  |
| 0 | $0-9$ |
| 1 | $10-19$ |
| 2 | $20-29$ |
| 3 | $30-39$ |
| 4 | $40-49$ |
| 5 | $50-59$ |
| 6 | $60-69$ |
| 7 | $70-79$ |
| 8 | $80-89$ |
| 9 |  |


|  | Final |
| :--- | :--- |
| $X$ | Varlable |
| $Y$ |  |
| 0 | $0-9$ |
| 1 | $10-19$ |
| 2 | $20-29$ |
| 3 | $30-39$ |
| 4 | $40-49$ |
| 5 | $50-59$ |
| 6 | $60-69$ |
| 7 | $70-79$ |
| 8 | $80-89$ |
| 9 |  |

CODE 62-63-64 CIVILIAN OCCUPATION
Dictionary of Occupational Titles,
Vol. II, 2nd Edition, pp. XIX-XXVI.
U.S. Department of Labor, Bureau of

Employment Security. U.S. Government
Printing Office, Washington, D. C., 1949.
See pp. XIX-XXVI.

CODE 65 SERVICE

X
Y
Army
1 Navy
Marine
Air Force
4 Coast Guard
5 Merchant
6 Commercial Air
7 CAA
8 Gov't. Contractor
9 Other

CODE 66 DUTY
X
Y
0 Pilot
1 Weather tech.
2 Radar tech.
3 Tower op.
4 Balloon obs.
5 Tech. spec.
6 Guards, lookouts
7 Ground or deck crews
8 Navig. or bombardier
9 Other

| X | Officer | X |  | X |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 7 |  | Y |  | $Y$ |  |
| 0 | Lt. 2nd | 0 | Private | 0 | Complete |
| 1 | Lt. lst | 1 | Private, lst Cls. | 1 | Quite |
| 2 | Capt. | 2 | Corp. | 2 | Fair |
| 3 | Maj. | 3 | Serg. | 3 | Doubtful |
| 4 | Lt. Col. | 4 | S. T. Serg. | 4 | Poor |
| 5 | Col. | 5 | M. Serg. | 5 | Not |
| 6 | Brig. Gen. | 6 | Warrant Off. | 6 |  |
| 7 | Maj. Gen. | 7 | Chief Warrant | 7 |  |
| 8 | Lt. Gen. | 8 |  | 8 |  |
| 9 | General | 9 |  | 9 | Can't be |

## CODE 77 EVALUATION OF REPORT RELIABILITY

CODE 78 PRELIMINARY IDENT IFICATION

| X |  |
| :--- | :--- |
| Y |  |
| 0 | Complete |
| 1 | Quite |
| 2 | Fair |
| 3 | Doubtful |
| 4 | Poor |
| 5 | Not |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 | Can't be judged |

```
Possibly
Y
O Balloon
Astronomical
Aircraft
Light phenomenon
Birds
Clouds, dust, etc.
Rocket or missile
Psychological manifestations
Electromagnetic phenomenon
Other
```

CODE 79-80 FINAL IDENT IFICATION

[^4]WORK SHEET


* Denotes separate code key is needed.

* Denotes separate code key is needed.


## EXHIBIT B6

## CODES FOR CARD BIBLE

## CODES

## CODE 1. GENERAL

a. These cards (and the corresponding WORK SHEETS) contain data from several sources. Columns referenced to the U. S. Air Force Technical Information Sheet (Form A) must have at least one entry. If no data are available for any column, the $Y$ (or 12 punch) should be used.
b. Columns $22,23,24,25,26,36,37,38,39,40,41,42,43,44,45$, $46,47,48,49,50$, and 51 are calculated from data appearing in the U. S. Air Force Technical Information Sheet (Form A). If the basic data for these calculations are not available, the appropriate columns are left blank.
c. If a number in any column is used to enter data, then $X$ (or 11 punch) qualifies the data as indicated in the Code for the specific column.

CCDE 7 SIGHTING IDENTIFICATION
(This column may or may not contain multiple punches)

CODE 22 LOCAL SUN TIME
(Refers to date of G.C.T. observation)
All sightings
Same day
Previous day
Unit sightings, all observers
Unit sightings, single observers
Unit sightings, multiple observers

CODE 23-26 LOCAL SUN TINE
(Calculated from G.C.T., date, latitude, and-longitude)

| CODE 27 LATITUDE | CODE 31 LONGITUDE |
| :---: | :---: |
| $X$ South Latitude | X East Longitude |
| Y | $Y$ |
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |



* Denotes that separate code key is needed.

CODE 47 GROUP CLASSIFICATION
(Derived from the angle of elevation)

```
Y
-79.99
+80.00 to +89.9\mp@subsup{9}{}{\circ}
+90.00 年 + +100.00 
+100:01 }\mp@subsup{}{}{\circ}\mathrm{ to }130.0\mp@subsup{0}{}{\circ
+130.01 }\mp@subsup{}{}{\circ}\mathrm{ to +180.00 and -180.00 的 -100.01 
-100.00 to -90.01 
-90.00 to -80.00 
```

| CODE $48-51$ SUN BEARING ANGLE |
| :---: |
| (Calculated) |
| CODE 51 SUN BEARING ANGLE |

East of the Meridian
1
2

## CODE 55 DURATION GROUP CLASSIFICATION



## CODE 56 OBSERVETION METHOD

X Variable
Y
0 Naked eye
1 Eye glasses
window
3 Windshield
4 Binocular
5 Telescope
6 Theodolite
7 Radar
8 Photographic
9 Other

## CODE 57 SOUND

## CODE 58 OBJECT COLOR

```
Variable
Motors
Jets or rockets
Explosion
Unlike aircraft
Hiss, swishing, whining
Rumbling
Humming or buzzing
None
Other
```

[^5]| $X$ | Variable |
| :--- | :--- |
| $Y$ |  |
| 0 | White |
| 1 | Black |
| 2 | Grey |
| 3 | Red |
| 4 | Orange |
| 5 | Yellow |
| 6 | Green |
| 7 | Blue |
| 8 | Violet |
| 9 | Other |

## CODE 62 SPEED

## CODE 63 SHAPE

| Variable | $\begin{aligned} & X \\ & Y \end{aligned}$ | Variable |
| :---: | :---: | :---: |
| Hovering, stationary | 0 | Ellipse |
| Less than 100 mph | 1 | Rocket |
| 100-400 mph | 2 | Conventional aircraft |
| More than 400 mph | 3 | Unconventional aircraf |
| Meteor-like | 4 | Nieteor, comet |
| Not stated | 5 | Lenticular |
|  | 6 | Conical |
|  | 7 | Teardrop |
|  | 8. | Flame, tails, fire |
|  | 9 | Fire |

## CODE 65 LIGHT BRIGHYNESS (Intensity)

## Decreased

Y
0 Sunlight on mirror
1 Sunlight on aluminum
2 Sunlight on plaster
3 Sunlight on stone
4 Sunlight on soil
5 Brighter than moon
6 Like moon
7 Duller than moon
8 Barely visible
9 Other

| $\mathbf{X}$ | Light glow | $X$ |
| :--- | :--- | :--- |
| $\mathbf{Y}$ | $\mathbf{Y}$ |  |
| 0 | White | 0 |
| 1 | 1 |  |
| 1 | Netallic | 1 |
| 2 | 2 |  |
| 2 Red | 3 | 4 |
| 3 Orange | 4 | 5 |
| 4 | Yellow | 5 |
| 5 | 6 |  |
| 6 | Green | 7 |
| 7 | $7-10$ |  |
| 7 | Violet | 8 |
| 8 | $11-20$ |  |
| 9 | Black | 9 |

CODE 67 ANGULAR ACCELERATION
(Change in angular velocity)
CODE 68 APPEARHUCE BEARING
Variable
Zero, $V$ n constant
Increasing slowly
Decreasing slowly
Increasing fast
Decreasing fast
Increasing very fast
Decreasing very fast

CODE 69 DISAPPEARANCE BEARING

| X | Disappeared suddenly |
| :--- | :--- |
| Y |  |
| 0 | N |
| 1 | Ne |
| 2 | E |
| 3 | Se |
| 4 | S |
| 5 | SW |
| 6 | W |
| 7 | NW |
| 8 |  |
| 9 |  |

CODE 70-71 ELEVATION
WITH RESPECT TO GROUND, DEGREES

| Initial |  |  | Final |  |
| :--- | :--- | :--- | :--- | :---: |
| $\mathbf{X}$ | Variable | $\mathbf{X}$ | Variable |  |
| $\mathbf{Y}$ | Y | $\mathbf{Y}$ |  |  |
| 0 | $0-9$ | 0 | $0-9$ |  |
| 1 | $10-19$ | 1 | $10-19$ |  |
| 2 | $20-29$ | 2 | $20-29$ |  |
| 3 | $30-39$ | 3 | $30-39$ |  |
| 4 | $40-49$ | 4 | $40-49$ |  |
| 5 | $50-59$ | 5 | $50-59$ |  |
| 6 | $60-69$ | 6 | $60-69$ |  |
| 7 | $70-79$ | 7 | $70-79$ |  |
| 8 | $80-89$ | 8 | $80-89$ |  |
| 9 |  | 9 |  |  |

CODE 72 OBJECT ORIENTATION
Apparent inclination of principal
axis of object from horizontal $\qquad$ CODE 74 OBSERVER OCCUPATION


| $X$ |  |
| :--- | :--- |
| $Y$ |  |
| 0 | Complete |
| 1 | Quite |
| 2 | Fair |
| 3 | Doubtful |
| 4 | Poor |
| 5 | Not |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 | Cannot be judged |

CODE 77 RELIABILITY GROUP CLASSIFICATION (Based on observer and report ratings)

Excellent (Observer 0 or 1 and Report 0 or 1) Good (Observer 0 or 1, Report 2, 3, or 4; Observer 2, 3, or 4, Report 0 or 1; Observer 2, Report 2)
Doubtful (Observer 0 or 1, Report 5 or 9; Observer 2, Report 3, 4, 5, or 9; Observer 3 or 4, Report 2, 3, 4, 5, or 9; Observer 5
or 9 , Report 0, 1, 2, 3, or 4)
Poor (Observer 5, 9, or Y, Report 5, 9, or Y)

| $X$ |  |
| :--- | :--- |
| $Y$ |  |
| 0 | Complete |
| 1 | Quite |
| 2 | Fair |
| 3 | Doubtful |
| 4 | Poor |
| 5 | Not |
| 6 |  |
| 7 |  |
| 8 |  |
| 9 | Cannot be judged |

CODE 78 FINAL IDENTIFICATION
X Probably
$Y$
0 Balloon
Astronomical
Aircraft
Light phenomenon
Birds
5 Clouds, dust, etc.
6 Insufficient information
7 Psychological manifestations
8 Unknown
Other

CARD BIBLE


* Denotes that separate code key is needed.

Card Deck No. $\qquad$ is identified by an X (or 11 Punch) in Column $\qquad$ -
U. S. Air Force Technical Information Sheet Question

Punched
Card Column


* Denotes that separate code key is needed.


## EXHIBIT B8

## EXAMPLE OF AN IBM CARD

313 and 314

## EXHIBIT B8

EXAMPLE OF AN IBM CARD



[^0]:    T53-11156

[^1]:    (1) Hynek, J. A., "Unusual Aerial Phenomena", Journal of the Optical Society of America, 43 (4), pp 311-314, April, 1953.

[^2]:    (1) A modified Air Force Form 112 lists pertinent questions to be answered in regard to an unidentified-object sighting.
    (2) Air Force Letter 200-5 places responsibility with the Air Force for the investigation, reporing, and analysis of unidentified aerial objects. This letter is dated 29 April 1952.

[^3]:    * TOTALS DO NOT AGREE WITH PREVIOUS TOTALS BACAUSE TWO SIGHTINGS OCEURRED AT UNTNOWN LOCATIONS.

[^4]:    X Probably
    Y
    Balloon
    1 Astronomical
    2 Aircraft
    3 Light Phenomenon
    4 Birds
    5 Clouds, dust, etc.
    6 Reeket-er-mite日zte Insufficient information
    7 Psychological manifestations
    8 (neetremegnetue-phenemenen Unknown
    Other

[^5]:    X Variable
    Metallic
    1 Light, glow, luminous
    Red
    3 Orange
    4 Yellow
    5 Green
    6 Blue
    7 Violet
    8 Black
    9 White

