PROJECT 10073 RECORD CARD

1. DATE 25 Sep 63	2. LOCATION Herkimer, New York	12. CONCLUSIONS ☐ Was Balloon ☐ Probably Balloon ☐ Possibly Balloon ☐ Was Aircraft ☐ Probably Aircraft ☐ Possibly Aircraft ☒ Was Astronomical Aurora ☐ Probably Astronomical ☐ Possibly Astronomical ☐ Other_____ ☐ Insufficient Data for Evaluation ☐ Unknown
3. DATE-TIME GROUP Local _____ GMT 26/01307	4. TYPE OF OBSERVATION ☒ Ground-Visual ☐ Ground-Radar ☐ Air-Visual ☐ Air-Intercept Radar	
5. PHOTOS ☐ Yes ☒ No	6. SOURCE civilian	
7. LENGTH OF OBSERVATION 30 mins	8. NUMBER OF OBJECTS one	9. COURSE stationary

10. BRIEF SUMMARY OF SIGHTING

Round flashing lights observed on two occasions. Observed as colored lights. Sighted at about two degrees above the horizon to the North. Observed for 30 mins. Did not note manner of disappearance. Also observed through BX. Sighting at night. Subsidence inversion at 3,000. Aurora in area.

11. COMMENTS

Description indicates probable Aurora sighting.

ATIC FORM 329 (REV 26 SEP 52)

26 Sept

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
(UNCLASSIFIED MESSAGE)

INCOMING

01

AF IN : 14839 (27 Sep 63) G/at

ACTION: :NIN-9

INFO : SAF-OS-3, XOP-1, XOPX-4, DIA-25, DIA-CIIC-2 (45)

SMB B046

ZCHQC91SZCGFA812

RR RUEAHQ

DE RUEAGF 429A 26/2310Z

ZNR

R 261930Z

FM 2856ABWG GRIFFISS AFB NY

TO RUWGALE/ADC ENT AFB COLO

RUEAKN/26AIRDIV STEWART AFB NY

TO RUCDSQ/FTD WPAFB OHIO

RUEAHQ/CSAF

RUEAHQ/OSAF WASH DC

BT

UNCLAS ROBBS 50235

FOR AFCIN AND SAFOI. UFO A. DESCREIPTION OF OBJECT

(2 OCCASIONS)

(1) ROUND

(2) PEA

(3) RED-GREEN (FLASHING)

(4) ONE.

(5) N/A

(6) COLORED LIGHTS

(7) NONE

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(8) NONE

(9) NONE

B. DESCRIPTIONS OF COURSE OF OBJECT

(1) UNKNOWN

(2) 2" ABOVE HORIZON, NORTH OF HERKIMER, NEW YORK

(3) UNKNOWN

(4) UNKNOWN

(5) UNKNOWN

(6) 30 MINUTES

C. MANNER OF OBSERVATION

(1) GROUND

(2) BINOCULARS

(3) N/A

D. DATE AND TIME OF SIGHTING

(1) 0130Z

(2) NIGHT

E. LOCATION OF OBSERVER

(1) 4 MILES NORTH OF HERKIMER, N.Y.

(2) UNKOWN

(3) ONE MILE EAST OF WKTV TOWER, FAIRFIELD, N.Y.

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STAFF MESSAGE BRANCH
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INCOMING

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F. IDENTIFYING INFORMATION ON OBSERVER

(1) [redacted], AGE 46, [redacted]ITTLE FALLS, N.Y., CIVILIAN, FARMER, RELIABILITY UNKNOWN

(2) N/A

G. WEATHER AND WINDS

(1) CLEAR

(2) 6,000 V/5

10,000 300/10

16,000 330/15

20,000 300/20

50,000 340,20

80,000 NOT AVAILABLE

(3) CEILING, NONE

(4) VISIBILITY, 10 MILES

(5) AMOUNT OF CLOUD COVER, NONE

(6) THUNDERSTORM IN AREA, NEGATIVE

(7) TEMPERATURE GRANIENT, SUBSIDENCE INVERSION BASE 3000

H. POSSIBLE REASON, AURORA

I. NONE

J. NONE

DEPARTMENT OF THE AIR FORCE
STAFF MESSAGE BRANCH
UNCLASSIFIED MESSAGE
INCOMING

PAGE 4 RUEAGF 429A UNCLASWK. VERIFICATION CLEARANCE IDENTIFICATION BRANCH, ENFORCEMENT DIVISION. AN INQUIRY MADE TO RELAY AND SCATTER BRANCH ROME AIR DEVELOPMENT CENTER, GAFB, REVEALED THAT THE PROBABLE IDENTIFICATION OF UFO AS ECHO NBR 1 WHICH MADE VISIBLE PASSES IN THIS AREA DURING TIME AND DATE OBSERVED BY OBSERVER.

1. NONE.

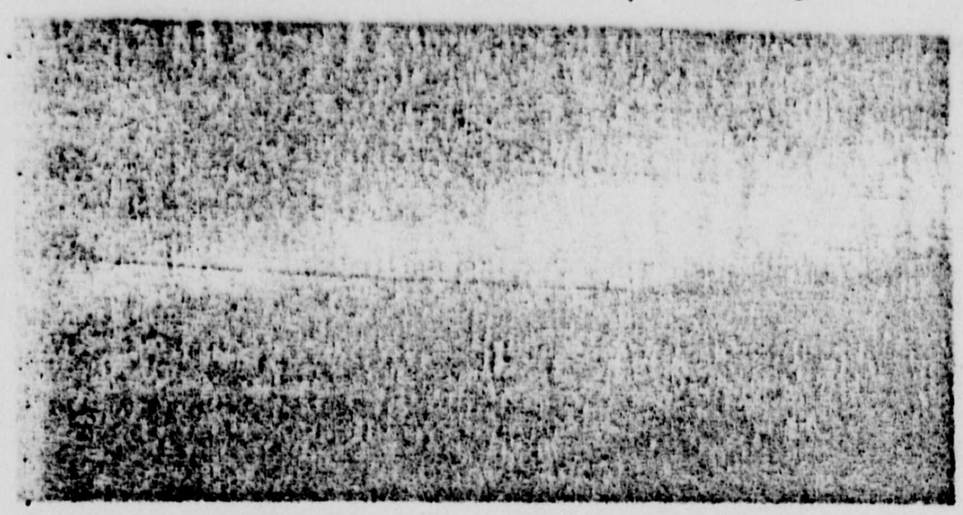
BT

NNNN

NO CASE (INFORMATION ONLY)
SOURCE: SKY and TELESCOPE, Nov 63

September, 1963
Auroras,
United States

Auroras in September



A homogeneous arc, recorded by Robert A. Yajko on September 21st at 9:55 p.m. EST. He used a Praktiflex camera and Plus-X film exposed two minutes.

FROM as far south as Virginia and as far west as California, numerous observers report a spectacular auroral display on the night of September 22-23. Lesser auroras were seen by several amateurs on the preceding and following nights.

As solar activity passes through the minimum of its current cycle, major auroral outbursts should be rare. During mid-September, however, a large and complex sunspot group (shown on the facing page) was visible, even to the unaided eye. Solar activity associated with this group probably caused the recent spectacle.

During the course of their development, the September northern lights presented a wide variety of structural forms: homogeneous and rayed arcs, draperies, bright patches, and coronas which formed at the magnetic zenith. The pictures on these pages represent several dates, September 21, 22, and 24.

On the first evening, Robert A. Yajko photographed the display from his home at Leechburg, Pennsylvania. The arc pictured above was predominantly white in color, although traces of green appeared occasionally. At 11:12 p.m. Eastern standard time, after about two hours of relative inactivity, rays began to stream from all parts of the arc. They were short, however, and none reached as high as Polaris. At 2 o'clock the next morning the display was still impressive.

Although the sky was partially cloudy over New Bedford, Massachusetts, on Sunday evening, the 22nd, Rev. Kenneth J. Delano reports:

"The aurora was first seen at 8:35 p.m. EST as a bright rayed glow in the east. I then noted a homogeneous arc which reached from east to west and attained a height of 60 degrees above the northern horizon.

"At 8:45 the aurora was at its brightest, its form changing into a pink rayed arc whose base was 55 degrees above the northern horizon. Bundles of rays rose from the arc and extended 10 degrees past the zenith, looking like a picket fence in the sky. These bundles, each a degree or two wide, shimmered as their color and brightness varied.

"Although the display seemed brightest as the greatest activity took place [illegible] some 72 degrees above the southern horizon. Its greenish-white rays were bright and covered all of the sky that was free of clouds. Soon the aurora was flaming, and waves of light moved from horizon to corona. Shortly thereafter, activity began to subside."

A similar sequence is described by Jack H. Green, who found the constellations obliterated during the brightest stages. This Waukesha, Wisconsin, amateur reports that at about 9:45 p.m. Central standard time the aurora reached its peak intensity, covering the northern sky and extending past the zenith into Aquarius. Greenish-white streaks arched upward, converging at a knot a few degrees south of the zenith. Brilliant waves of light, sometimes several a second, sped upward from the north into the knot; a few of the waves continued even farther south.

Contrast these events with the relatively quiet northern lights seen at 7:59 p.m. Pacific standard time from the University of California's radio astronomy observatory at Hat Creek, in the northern part of the state. There, W. Scharlach noted that the general coloration was a delicate blue-white, but milky white predominated toward the northeast, and a pink patch was seen north of this area. Dim outlines of auroral draperies were visible, but the display appeared generally structureless. Two shafts of light rose from the horizon somewhat west of north.

David D. Meisel reports that the September 22nd aurora had a distinctly

"When I began this one-minute exposure at 8:22 p.m. EST, September 24th," comments Thomas A. Maynes of Littleton, New Hampshire, "the bright column at the right was below the northeastern horizon. Its wavelike motion, however, quickly carried it into the picture."

[illegible] Charlottesville, Virginia [illegible] 8:20 p.m. EST [illegible] apply at 8:15. Mr. Meisel writes: "Rays [illegible] began to develop at 7:57, at de[illegible] homogeneous arc stretched from east [illegible] 10 to 25 degrees above the northern [illegible]. Large variable patches were also [illegible] at an altitude of about 30 degrees [illegible] the south."

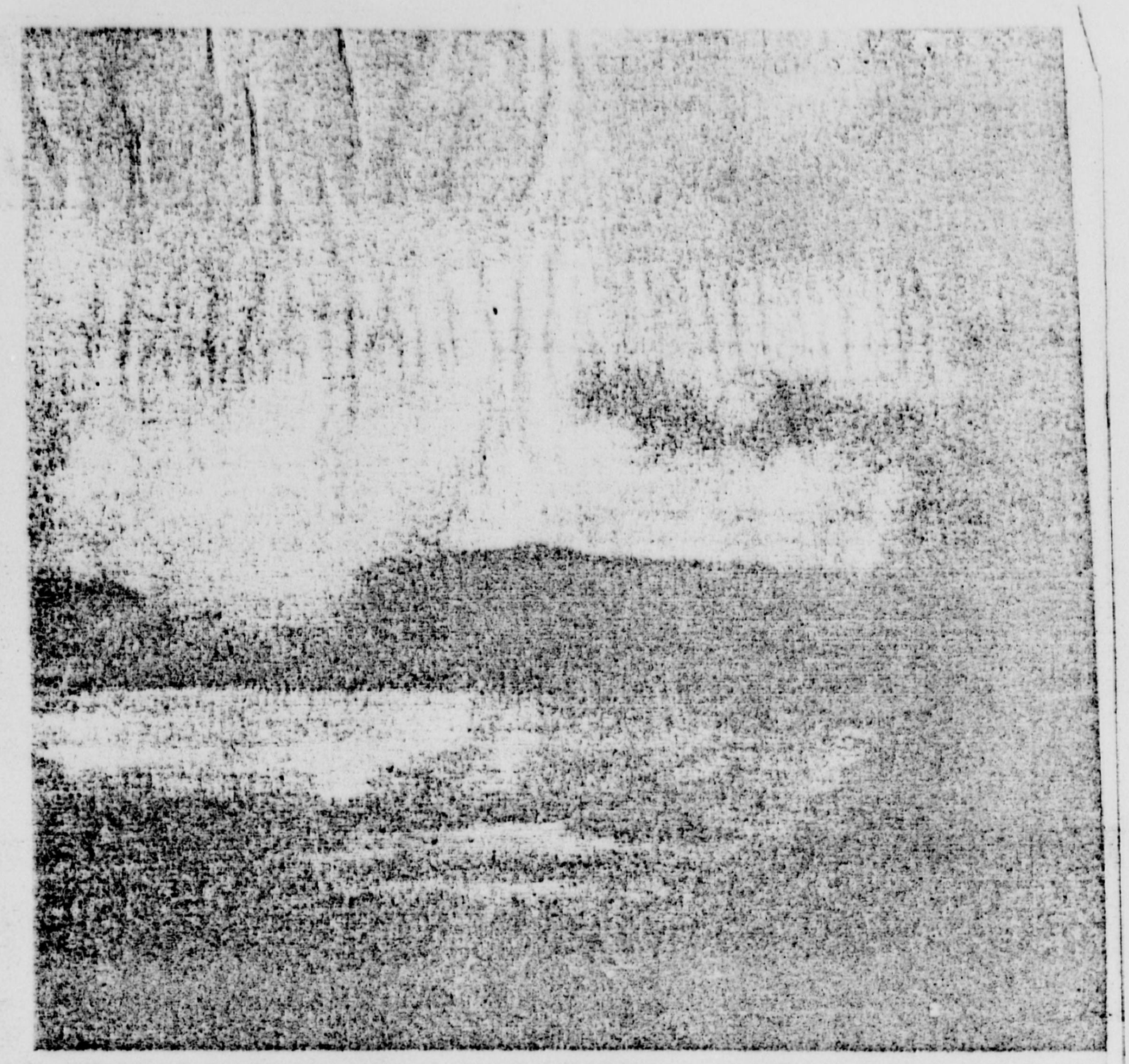
Observing from Pittsburgh, Pennsylvania, Walter A. Feibelman thought the [illegible] looked unusual. He reports that [illegible] edges or loops extended out from the [illegible] toward the south and southwest. [illegible] were cloudlike, motionless features [illegible] persisted for a long time. Occasional[illegible] several arcs were seen, as many as [illegible] at once. At 8:50 p.m. EST the main [illegible] broke up, and intense green rays ap[illegible]ed. Most of them moved westward, [illegible] some had an eastward direction. The [illegible] began to die down at about 8:55 [illegible] after a corona formed overhead. [illegible] a new arc developed in the north, [illegible] at 10:30 it too became intensely [illegible], much like the one seen earlier that [illegible]ing.

Several observers describe another [illegible] less spectacular display of northern [illegible] on September 13-14. Reverend [illegible]ano states that the aurora gradually [illegible]tened until 8:00 p.m. Its base was [illegible] and portions higher in the sky [illegible]ched into a "Y." During the next [illegible] the intensity declined, with the last [illegible]s of northern lights seen at 9 o'clock [illegible] gathering haze.

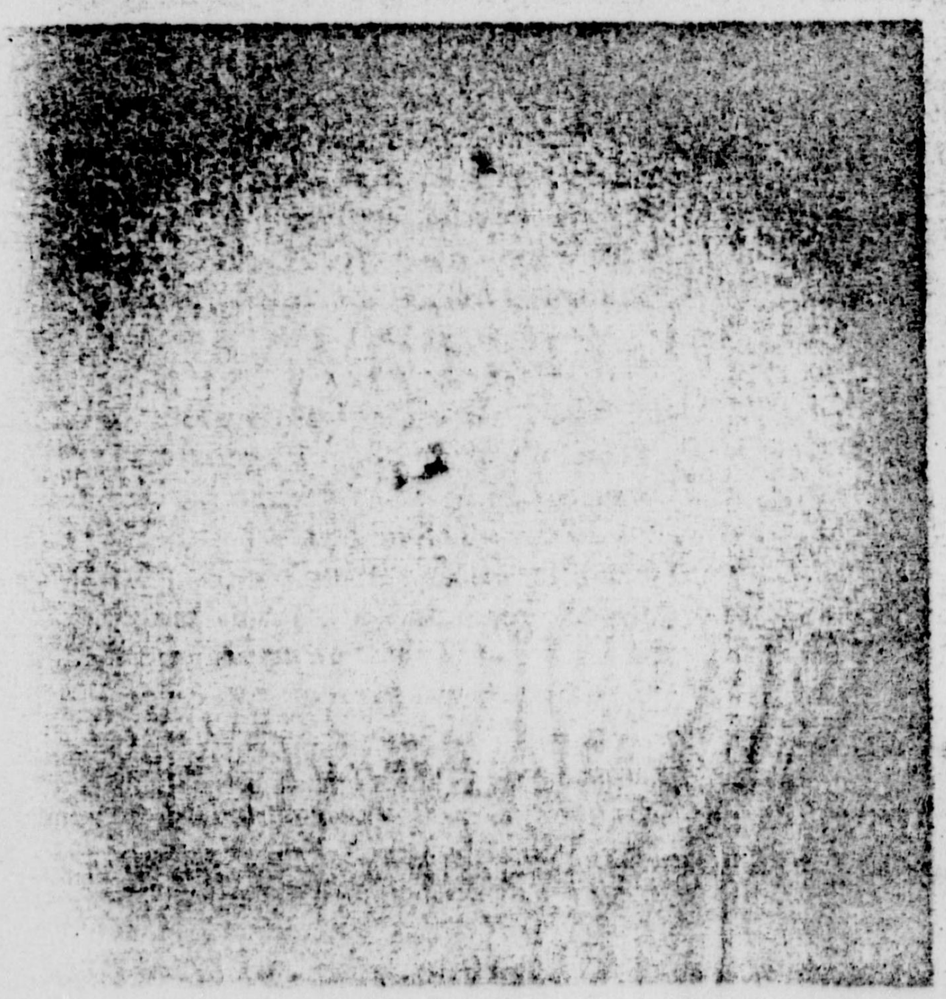
[illegible]elpful in preparing this summary [illegible] reports of the aurora or the large [illegible]pot from the following observers. An [illegible]sk indicates that pictures were sub[illegible]ed:

[illegible] F. Coon,* Albany, N. Y.; D. Dibble, [illegible]ey, N. Y.; R. Dudley, Alexandria, [illegible]; W. Dunkle, Cambridge, Mass.; [illegible] Evans, Hampton, Va.; H. Haig, Secaucus, N. J.; R. G. Gore, Culpeper, Va.; W. G. Ingraham,* Levittown, Pa.; K. L. Koehler, Bordentown, N. J.; R. Lozar,* LaGrange Park, Ill.; E. Lusby and J. Lindstrom, Charlottesville, Va.; M. A. Nelson, Oxford, Ohio; T. R. Sprecher, Ephrata, Pa.

L. J. R.



Silhouetted clouds create a dramatic effect in this September 22nd picture by Thomas P. Pope of Milwaukee, Wisconsin. He set the lens of his Rolleicord camera at f/3.5 for a 20-second exposure on Royal-X Pan film.



At El Paso, Texas, R. B. Minton, Jr., obtained this picture of a large sunspot group. He took the 1/200-second exposure at 10 a.m. Mountain standard time, September 20th. A 4½-inch reflector was used with a neutral-density filter, transmitting only two percent of the sun's light. The film was Kodak contact-process.

MARTIAN ATMOSPHERE

A controversy of several years duration concerning the Martian atmosphere now appears to have been settled by Hyron Spinrad, an astrophysicist on the staff of Jet Propulsion Laboratory.

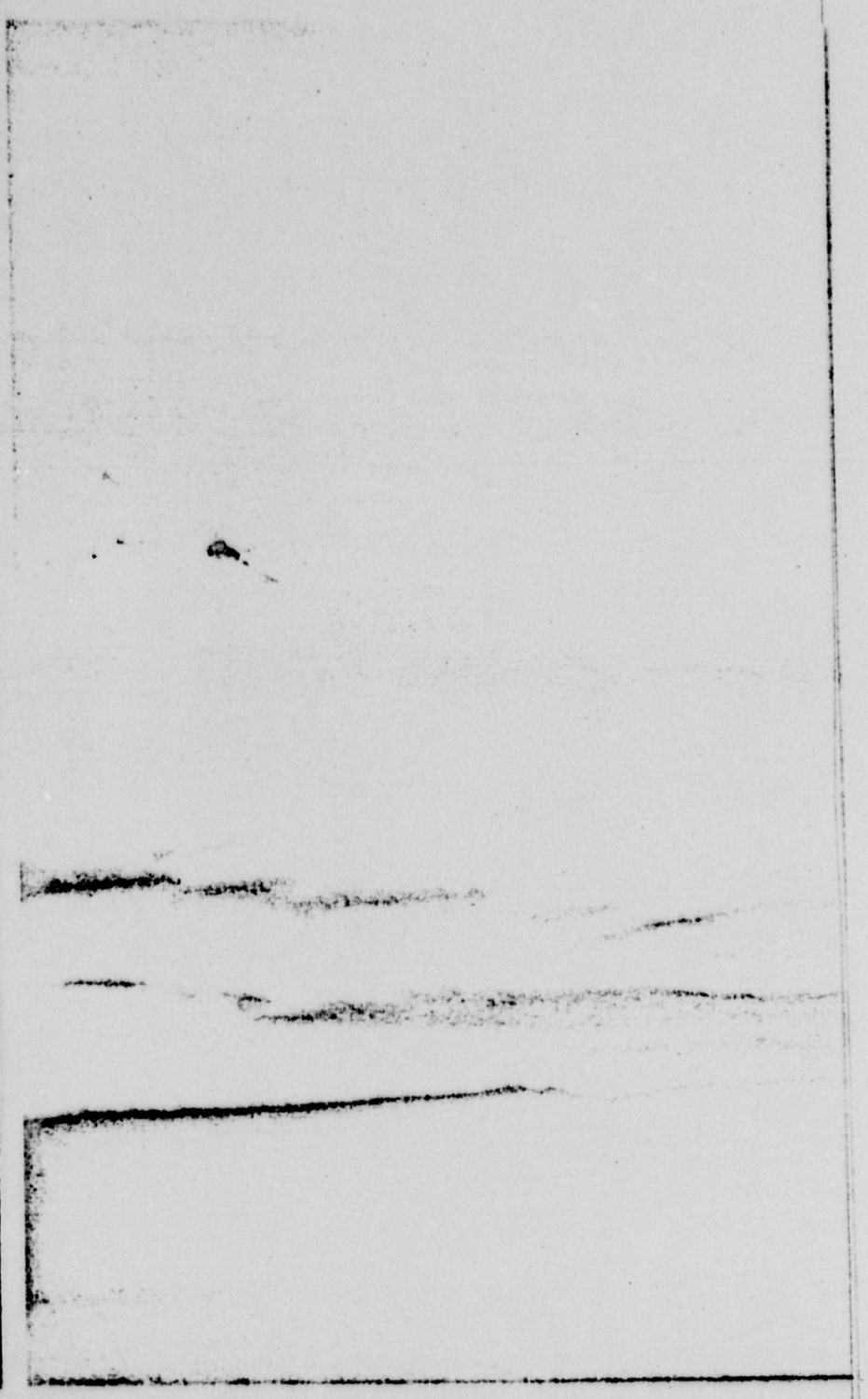
In 1960, C. A. Kiess and his co-workers at Georgetown College Observatory proposed that many phenomena of Mars, such as haze, colored clouds, and polar caps, could be explained in terms of oxides of nitrogen. Nitrogen dioxide (NO_2) is a gas that at low temperatures is transformed into nitrogen tetroxide (N_2O_4), a white solid. Dr. Kiess' group presented spectroscopic evidence for the occurrence of NO_2 on Mars.

Recently, in the *Publications* of the Astronomical Society of the Pacific, Dr. Spinrad points out that the Georgetown workers used "marginally small equipment." He has collected high-dispersion spectrograms of Mars taken with large telescopes at Dominion Astrophysical, Mount Wilson, and Kitt Peak observatories.

When these spectra were compared with Dr. Kiess' high-resolution laboratory spectrograms, they showed no evidence of nitrogen dioxide bands. Dr. Spinrad concludes that Martian NO_2, if any, would form less than a millimeter layer at one atmosphere pressure.

INFORMATION ONLY (NO CASE)
SOURCE: Sky and Telescope, Dec 63

September Aurora Sequel (1963)



F. W. Scanlon of Rochester, New York, photographed the brilliant auroral corona at the left. Deneb is the star 1¼ inches from the left and ¼ inch from the top. A compact grouping of stars near bottom center is the constellation Delphinus. The second picture is from an original color transparency by Ian C. McLennan, director of the Queen Elizabeth Planetarium at Edmonton, Alberta.

September Aurora Sequel

SPECTACULAR is the word for these unusual photographs of the northern lights. Both were taken in Canada on September 22, 1963, near maximum activity of the several-day display described on page 256 in last month's issue.

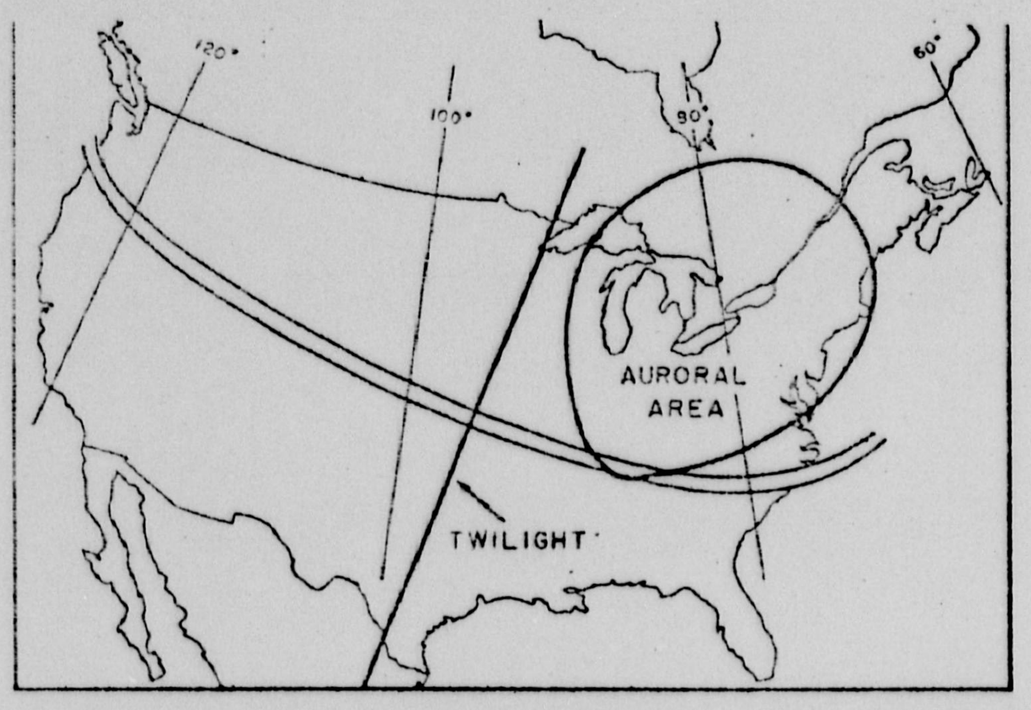
F. W. Scanlon was near Thorold, Ontario, when he filmed the corona (shown at left) about 9:20 p.m. Eastern standard time. He wrote:

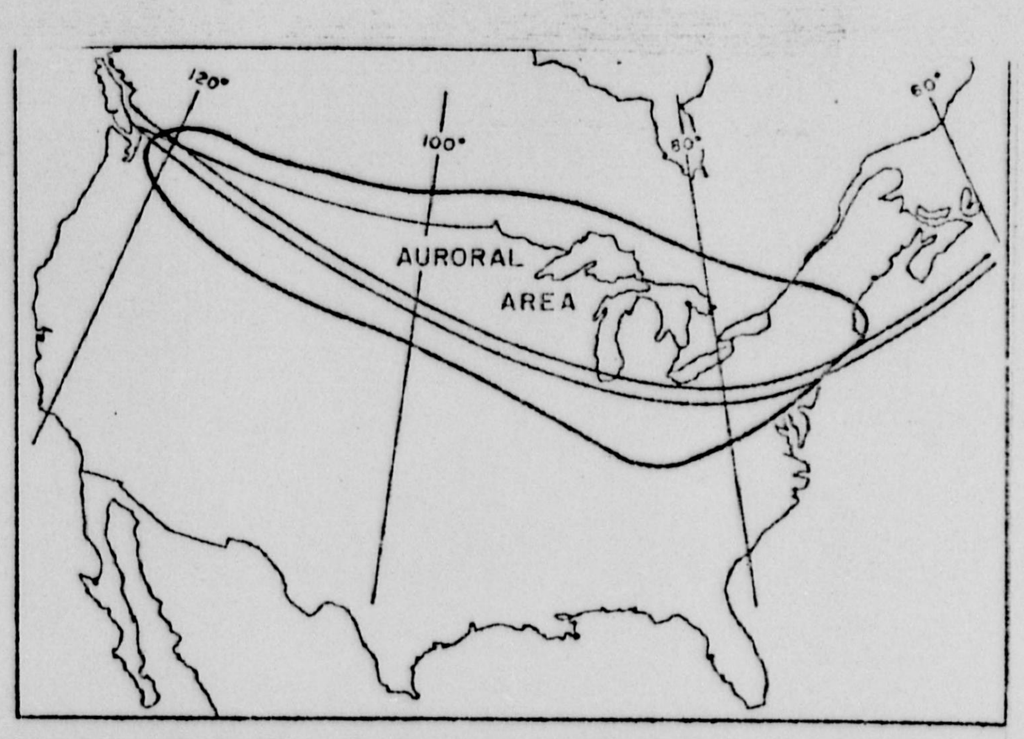
"The sky was divided in two by the dark area in the picture. Bands of whitish light moved from horizon to corona in about 1/25 second. When they met at the zenith, an explosion of red, green, and blue colors occurred. The colors were noticed for about two minutes. The corona remained nearly the same shape, but its brightness pulsated and increased with the passage of each light wave."

Ian C. McLennan was approaching Regina, Saskatchewan, from the north when he noticed "a hazy cloudlike form high in the southeastern sky. The sun had just set, and within moments the yellow-

green cloud blossomed into a shaft of streamers which later formed into a wide arch. The spectacle reached its peak when a pearly-white ray moved toward the sunset glow. It fused with the twilight colors — a remarkable indication of the intrinsic brilliance of the display."

The two maps on the facing page were drawn by Carl W. Gartlein of Cornell University, Ithaca, New York, from visual observations of the aurora collected by his IGY data center.





The zone of observed auroral activity on September 22nd is plotted for 7 to 10 p.m. Eastern standard time on the left map, and for 10 p.m. to 1 a.m. on the other. The area spread westward as darkness came over the United States. Carl A. Gartlein comments that geomagnetic disturbances lessened during this six-hour interval. Parallel curves indicate the expected auroral southern limit, as forecast by Dr. Gartlein from observations during past disturbances of similar intensity. These maps are adapted from "Newsletter 74" of the IGY center for visual auroral data at Cornell University.