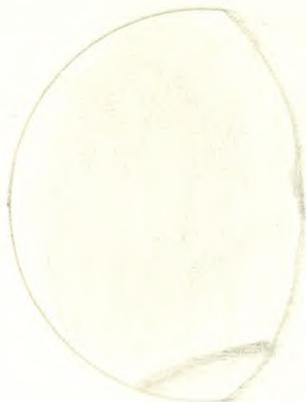


VENUS - 1960-61 Evening &
1961 Morning Apparitions
Observations by Members of the
Montreal Centre of the R.A.S.C.

1960 - 61 EVENING APPARITION

PLANETARY OBSERVATIONS



Planet VENUS.....

Date OCT. 10 1960.....

Observer WEDGE.....

Local Time 15:55 EDT.....

Universal Time 19:55.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Eyepiece 150X.....

Seeing 2.....

Transparency 2.....

Remarks :

Wandering to the north is doubtful

Phase
ALPO
Confirmatory

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet ..VENUS.....

Date ..OCTOBER 10, 1960.....

Observer ..G. GAHERTY, JR.....

Local Time ..16:00 - 16:05.....

Universal Time ..20:00 - 20:05.....

Central Meridian (1)

(2)

Telescope ..6" REFRACTOR.....

Eyepiece ..150X.....

Seeing ..1.....

Transparency ..3.....

Remarks : Daylight observation. Planet appeared green against blue sky background. Markings drawn, except for terminator shading, ~~was~~ were ~~rather~~ extremely indefinite and of doubtful reality.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET *Venus*.....

Date *Oct 10-11*, 1960.....

Local Time *06:25 - 06:35*.....

Universal Time *02:25 - 22:35*.....

Central Meridian (1)

(2)

Telescope *8" Reflector*.....

Eyepiece *165x-300x blue filter*.....

Seeing *3*.....

Transparency *3*.....

Remarks: *N. Polar Region very large and bright.
Dark marking relatively conspicuous, although outline indefinite
Dark shadings exaggerated greatly to show contrast between areas.*

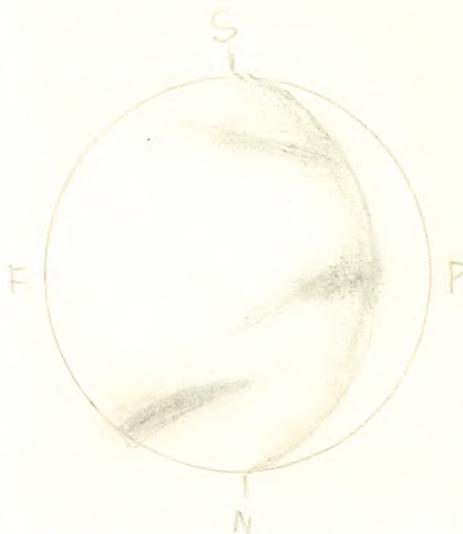
Observer *K.R. Brasch*.....

Address

Telephone No.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet VENUS.....

Date OCTOBER 12, 1960.....

Observer G. GAHERTY, JR.....

Local Time 15:25 - 15:35.....

Universal Time 19:25 - 19:35.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Eyepiece 150x.....

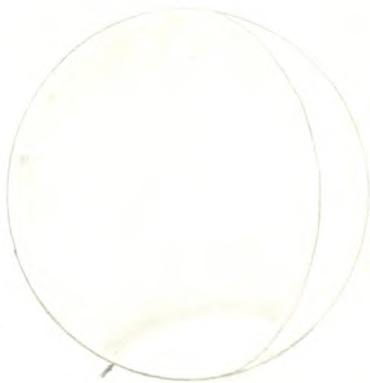
Seeing 1-2 (image fading).....

Transparency 4 (daylight observation).....

Remarks : Planet appears yellow-green against blue sky. Markings very indefinite.

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Montreal Centre

PLANETARY OBSERVATIONS



PLANET *Venus*

Date ... *Oct. 21-22 / 1960*

Local Time ... *17:15 - 17:25*

Universal Time ... *21:15 - 21:25*

Central Meridian (1)

(2)

Telescope ... *8" Refl.*

Eyepiece ... *16x blue filter*

Seeing ... *3-1*

Transparency ... *3-4*

Remarks: *Disk completely featureless except for brightness
in S. Polar Region*

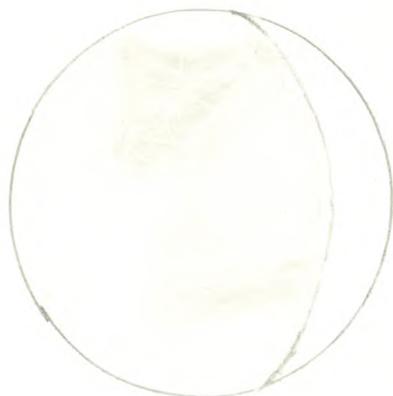
Observer ... *K. R. Brasch*

Address

Telephone No.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ... *Venus*

Date ... *Oct. 27-28 1960*

Local Time ... *17:50 - 18:45*

Universal Time ... *21:50 - 22:05*

Central Meridian (1)

(2)

Telescope ... *8" Refl.*

Eyepiece ... *165x Blue Jitter*

Seeing ... *3-0*

Transparency ... *4-5*

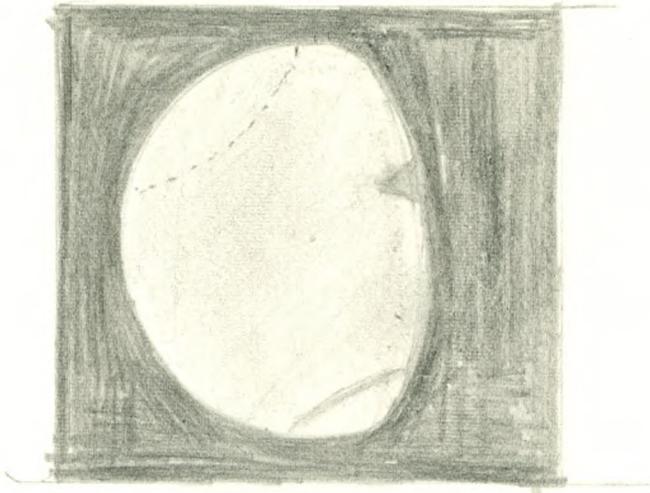
Remarks: *Outline of dark areas very indefinite*

Observer ... *K.R. Brasch*

Address

Telephone No.

PLANETARY OBSERVATIONS



Planet VENUS.....

Date OCT. 29. 1960

Observer WEDGE.....

Local Time 15:10 EDT.....

Universal Time 19:10.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Eyepiece 150x.....

Seeing 2-3.....

Transparency 1.....

Remarks : MARKINGS INDEFINITE.

PLANETARY OBSERVATIONS

Planet VENUS.....Date Nov 5, 1960.....Observer WEDGE.....Local Time 12:10.....Universal Time 17:10.....

Central Meridian (1)

(2)

Telescope 6" REFLECTOR.....Eyepiece 150X.....Seeing 2.....Transparency 1.....

Remarks : markings only glimpsed, northern cusp appeared to
be separated from the planet by dusky marking.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet VENUS.....

Date ..NOV. 19. 1960.....

Observer ..WEDGE G......

Local Time ..14:45 EST......

Universal Time ..19:45.....

Central Meridian (1)

(2)

Telescope ..6" REFR.....

Eyepiece ..150x.....

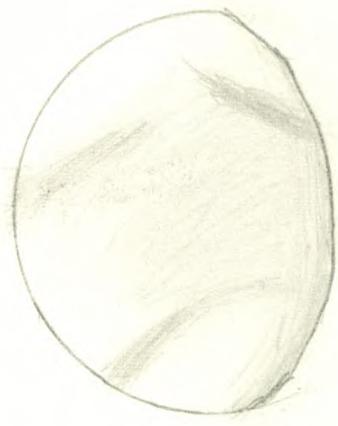
Seeing ..3-2.....

Transparency ..2.....

Remarks : Daylight observation, sky very hazy.

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Montreal Centre

PLANETARY OBSERVATIONS



Planet VENUS.....

Date NOVEMBER 19, 1960.....

Observer G. GAHERTY.....

Local Time 14:50 - 15:00.....

Universal Time 19:50 - 20:00.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

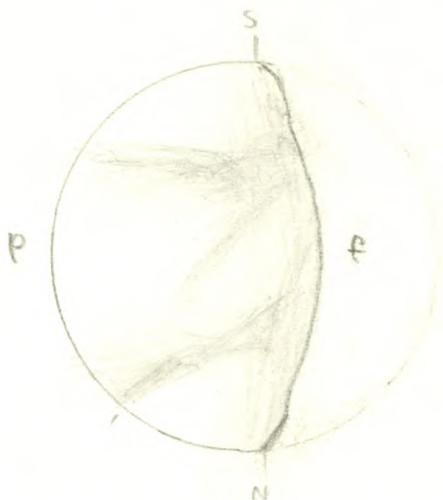
Eyepiece 150x.....

Seeing 1.....

Transparency 2.....

Remarks :

PLANETARY OBSERVATIONS



Planet VENUS.....

Date DECEMBER 3, 1960.....

Observer G. GAHERTY.....

Local Time 13:35-13:42.....

Universal Time 18:38-18:45.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Eyepiece 150X.....

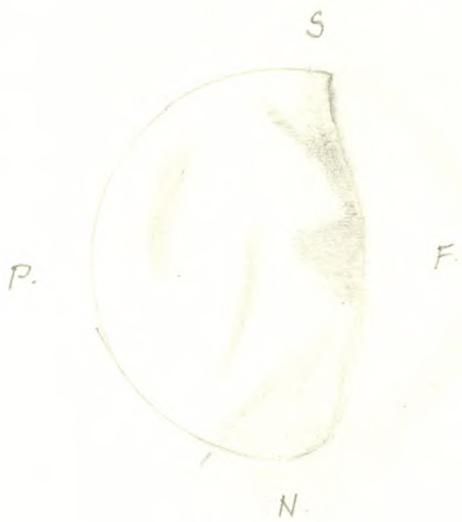
Seeing 3.....

Transparency 3 (daylight).....

Remarks : Markings very difficult. Fairly certain of cusp bands; diagonal streak less certain.

ALPO

PLANETARY OBSERVATIONS



Planet VENUS.....

Date DEC 3 1960.....

Observer WEDGE G.....

Local Time 13:55.....

Universal Time 18:55.....

Central Meridian (1)

(2)

Telescope 6" REF.....

Eyepiece 150X.....

Seeing 4-5.....

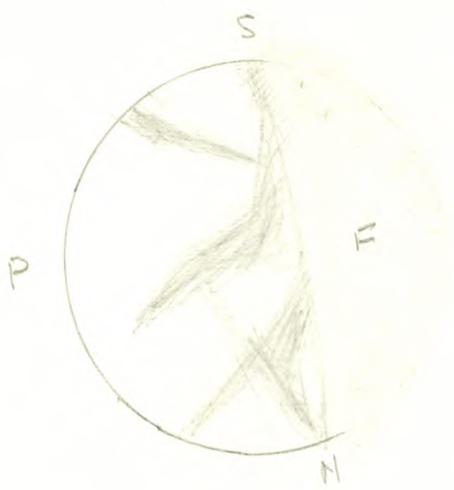
Transparency 2.....

Remarks :

ALPO

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Montreal Centre

PLANETARY OBSERVATIONS



Planet Venus

Date Dec 3/60

Observer Louis R. Duchow

Local Time 1405

Universal Time 1905

Central Meridian (1)

(2)

Telescope 6"

Eye piece 150x

Seeing 3

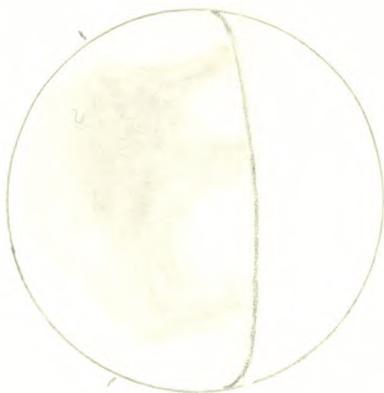
Transparency 2 (DAYLIGHT)

Remarks :

A.M.
ALPO

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet ... *Venus*

Date *Dec 3-4 1960*

Observer *K. R. Brasch*

Local Time *16:30 - 16:45 EST*

Universal Time *21:30 - 21:45*

Central Meridian (1)

(2)

Telescope *8" Refl.*

Eyepiece *165x - 300x*

Seeing *4*

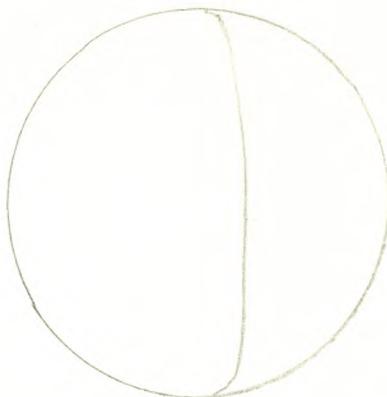
Transparency *3.4*

Remarks :

Best view of shape of markings so far experienced

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET *Venus*.....

Date *Dec 4/5 1960*.....

Observer *K. R. Brasch*.....

Local Time *16:30*.....

Universal Time *21:30*.....

Central Meridian (1)

(2)

Telescope *8" Refl.*.....

Power *165x*.....

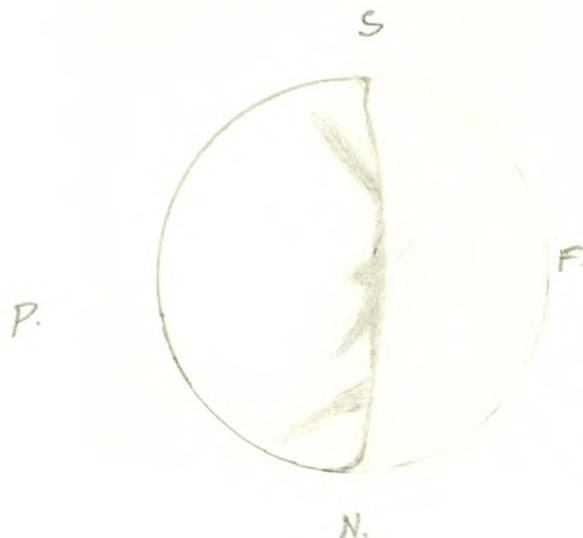
Seeing (0 worst-10 best) *4*.....

Transparency (0 worst-5 best) *4*.....

Remarks: *Disk completely featureless, hint of shading suspected, no cusps.*

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet VENUS.....

Date DEC 10 1960.....

Observer WEDGE G......

Local Time 13:50.....

Universal Time 18:50.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Eyepiece 150X.....

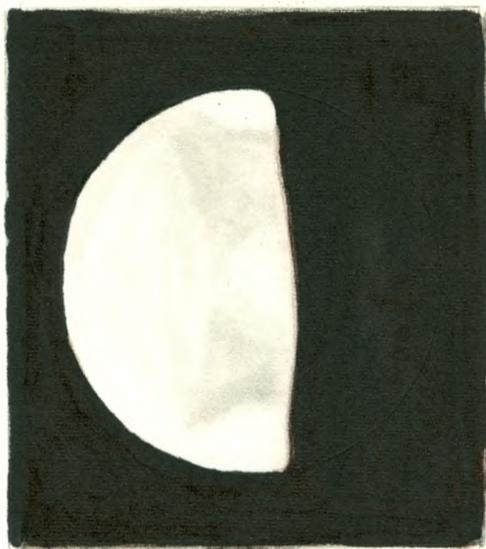
Seeing 1-2.....

Transparency 3.....

Remarks : DAYLIGHT OBSERVATION. MARKINGS VERY INDEFINITE, AND ONLY SUSPECTED. SOUTHERN CUSP APPEARED TO BE POINTED, AND NORTHERN CUSP MORE ROUNDED.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



Planet *Venus*.....

Date *Dec. 11/12 1960*.....

Observer *K. R. Brasch*.....

Local Time *16:30 - 16:45*.....

Universal Time *21:30 - 21:45*.....

Central Meridian (1)

(2)

Telescope *8" Refl.*.....

Eyepiece *16.5x*.....

Seeing *4-2*.....

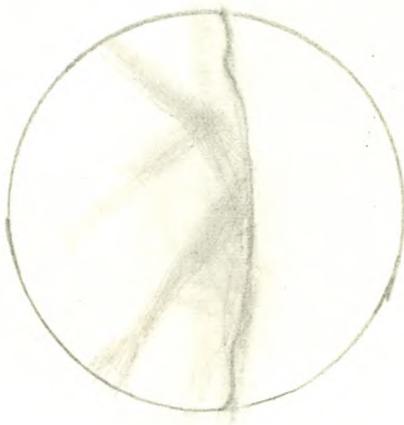
Transparency *4-5*.....

Remarks :

*Deep Violet filter used. WRATTEN 47B
Outline of markings indefinite except for cusps*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date DECEMBER 17, 1960

Observer G. GAHERTY

Local Time 14:00 E.S.T.

Universal Time 19:00

Central Meridian (1)

(2)

Telescope 6" REFRACTOR

Power 150x

Seeing (0 worst-10 best) 1-2

Transparency (0 worst-5 best) 3

Remarks:

ALPO

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS

South



North

PLANET Venus.....

Date Dec. 17, 1960.....

Observer Jim Low.....

Local Time 13:40 +10m E.S.T......

Universal Time 18h:40m.....

Central Meridian (1)

(2)

Telescope 6"- Refractor.....

Power 150x.....

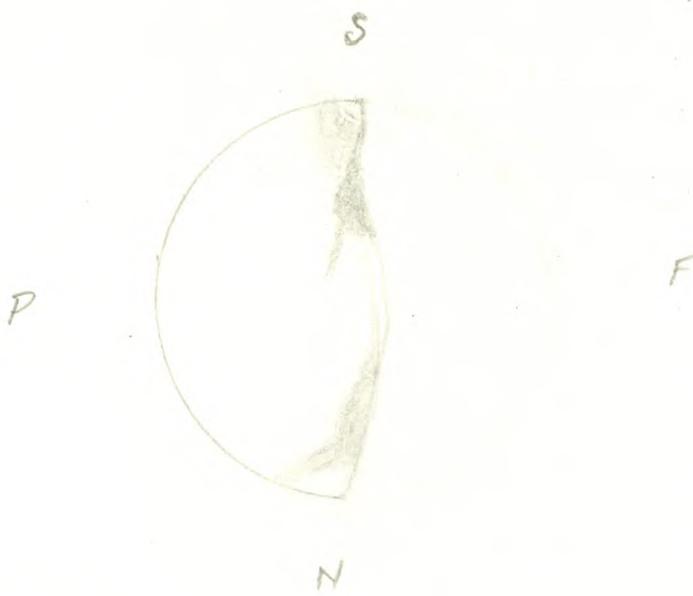
Seeing (0 worst-10 best) 3.....

Transparency (0 worst-5 best) 3.....

Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date DEC 17 1960.....

Observer WEDGE.....

Local Time 1:31:35.....

Universal Time 18:35.....

Central Meridian (1)

(2)

Telescope 6" REFR.....

Power 150x.....

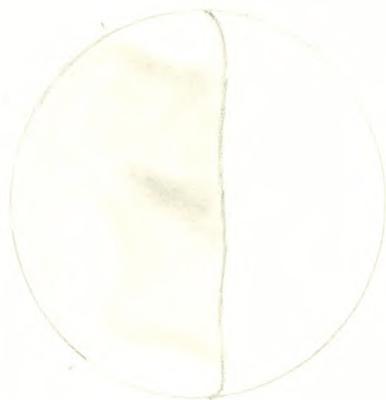
Seeing (0 worst-10 best) 2.....

Transparency (0 worst-5 best) 2.....

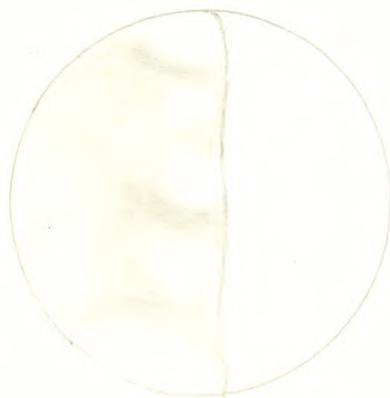
Remarks:

PLANETARY OBSERVATIONS

I



II



Dec 20/21 1960

K.R. BRASCH

L.T. 16:00 - 16:30

U.T. 21:00 - 21:30

Tele. 8" Refl.

Eyep. 165x

Sc. 3-5

TRQ. 4-5

Seeing very good (5) for short time

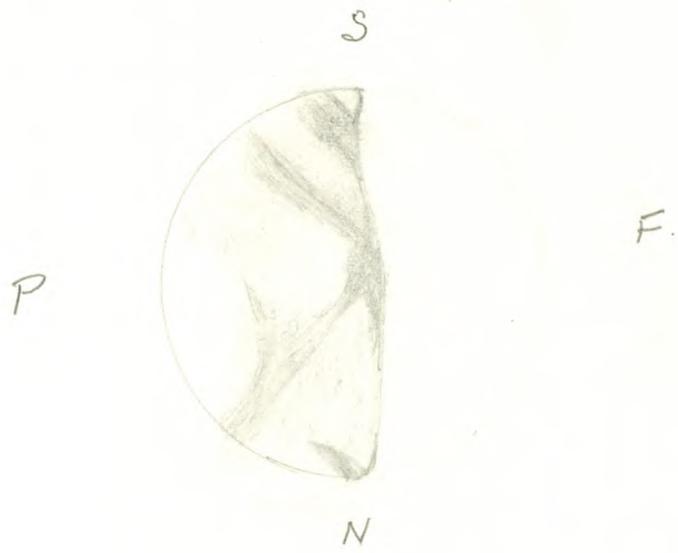
Drawing I - no filter

Drawing II - Wratten 47b - deep violet filter

Difference between two drawings quite definite

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date ..DEC...24.....1960....

Observer ..WEDGE, G.....

Local Time 1.2:25.....

Universal Time ..17:25.....

Central Meridian (1)

(2)

Telescope ..6" REFRACTOR.....

Power ..1.50X.....

Seeing (0 worst-10 best) .4.....

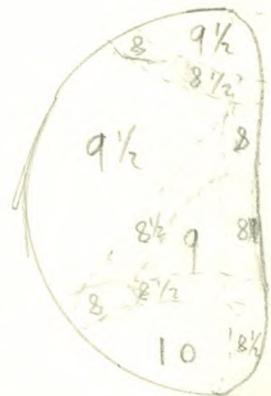
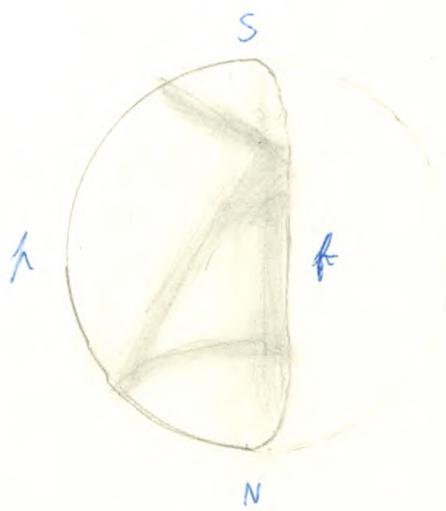
Transparency (0 worst-5 best) 2-3.....

Remarks: DAYLIGHT OBSERVATION.

ALPO A.M.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date DEC. 24, 1960

Observer G. GAHERIK

Local Time 12:48 - 12:57

Universal Time 17:52

Central Meridian (1)

(2)

Telescope 6" REFRACTOR

Power 150x

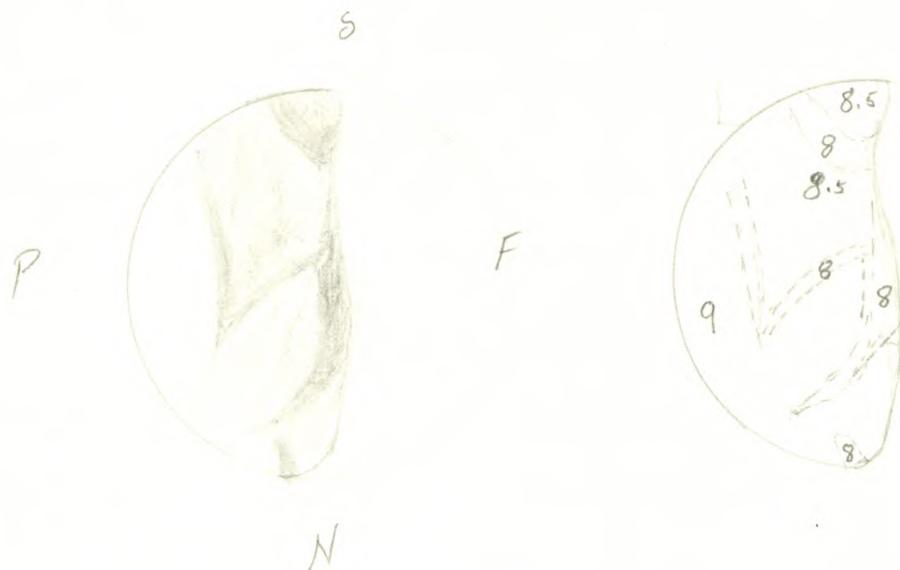
Seeing (0 worst-10 best) 3-1

Transparency (0 worst-5 best) 4 (daylight)

Remarks: First attempt at intensity estimates on Venus; of doubtful value.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date DEC 24 1960

Observer WEDGE - G.

Local Time ... 14:00 - 14:10

Universal Time 19:00 - 19:10

Central Meridian (1)

(2)

Telescope 6" REFLECTOR

Power ... 220X

Seeing (0 worst-10 best) ... 4

Transparency (0 worst-5 best) 3

Remarks: DAYLIGHT OBSERVATION. INTENSITY ESTIMATES VERY UNRELIABLE.
FIRST ATTEMPT AT SUCH.

Made after seeing other drawings

*A.M.
ALPO*



PLANET: Venus.

Date: Dec. 24/25, 1960.

Observer: Jim Low

Local Time: 16h.50m. +10m. E.S.T.

Universal Time: 21h.50m.

Telescope: 4"- Reflector.

Eyepiece: 167x.

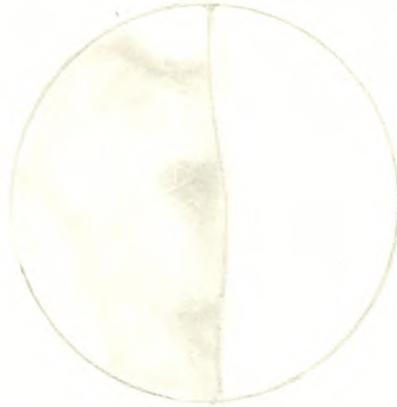
Seeing: 3

Transparency: 3.

ALPO

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ... *Venus*

Date ... *Dec 27 1960*

Observer ... *K.R. Brasch*

Local Time ... *14:05 - 14:09*

Universal Time ... *19:05 19:09*

Central Meridian (1)

(2)

Telescope ... *6" Refr.*

Power ... *150*

Seeing (0 worst-10 best) ... *2-3*

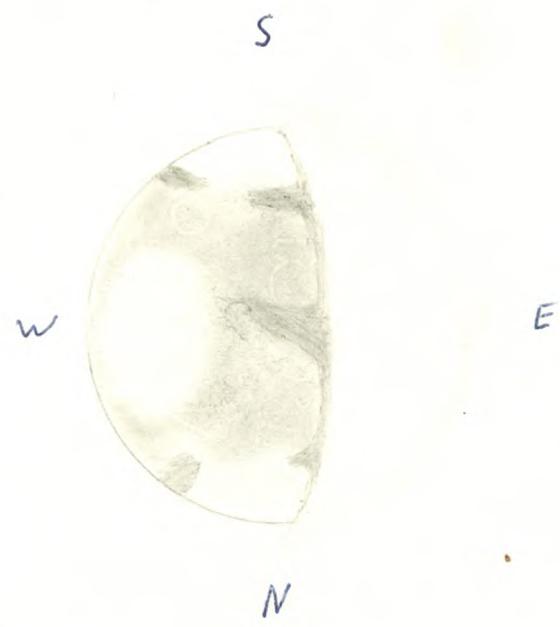
Transparency (0 worst-5 best) ... *3*

Remarks:

A.M.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date Dec 27 1960.....

Observer Constantine Papacostas.....

Local Time 14:03 EST.....

Universal Time 19:03.....

Central Meridian (1)

(2)

Telescope 6 inch Refractor.....

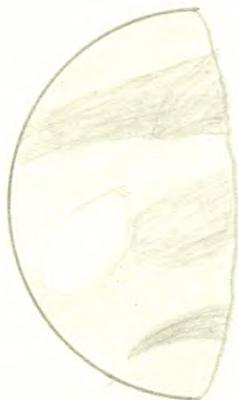
Power 150x.....

Seeing (0 worst-10 best) 2-3.....

Transparency (0 worst-5 best) 3.....

Remarks:

South



North

PLANET: Venus

Date: Dec. 27, 1960.

Observer: Jim Low

Local Time: 15h. 47m. +10m. E.S.T.

Universal Time: 20h. 47m.

Telescope: 4"-Reflector.

Eyepiece: 167x.

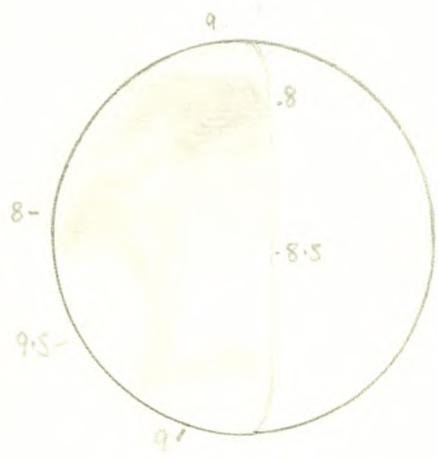
Seeing: 3.

Transparency: 4.

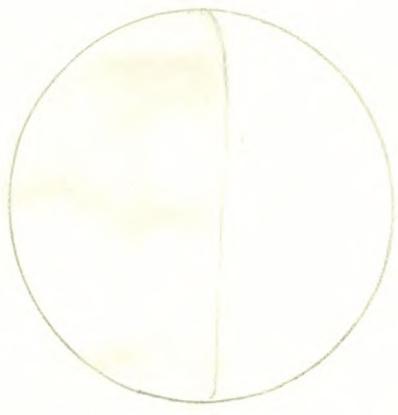
Remarks: The sun was a few degrees above the horizon during the observation.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



NO FILTER



47-B U. Filter

Planet Venus

Date Jan. 2/3 1961

Observer K. B. Biraich

Local Time 16:50 - 18:20

Universal Time 21:50 - 22:20

Central Meridian (1)

(2)

Telescope 8" Refl.

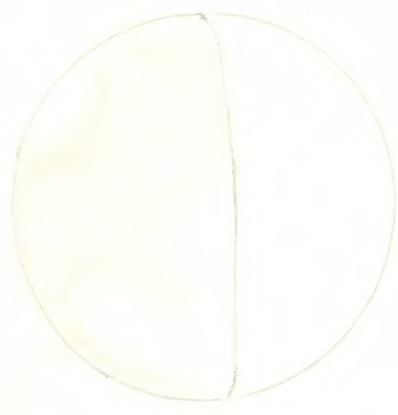
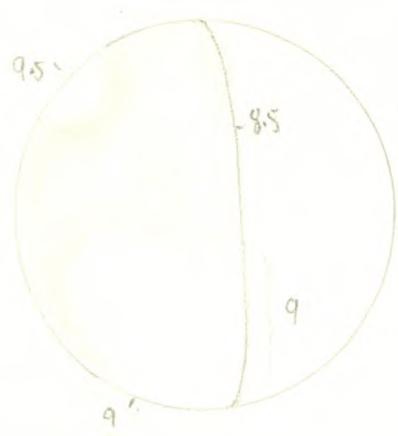
Eye-piece 165x - 300x

Seeing 4-6

Transparency 4-2

Remarks : Occasional hazy clouds moved over planet causing very good seeing & a beautiful view. Detail very indefinite even with U. filter & good seeing. Neither cusp region prominent as whole disk appeared uniformly dusky.
Terminator very close to centre

PLANETARY OBSERVATIONS



Blue filter

Planet Venus

Date ... Jan 3/4 1961

Observer K.R. Brasch

Local Time ... 16:30 - 17:05

Universal Time ... 21:30 - 22:05

Central Meridian (1)

(2)

Telescope ... 8" Refl.

Eye-piece ... 16.5x - 300x

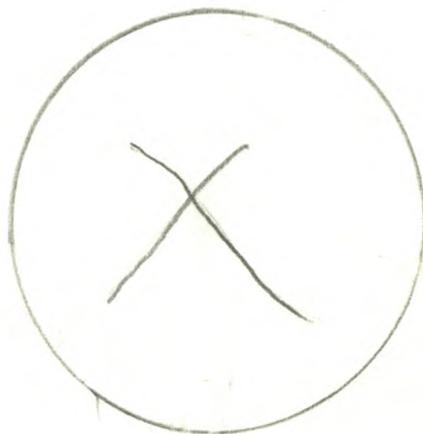
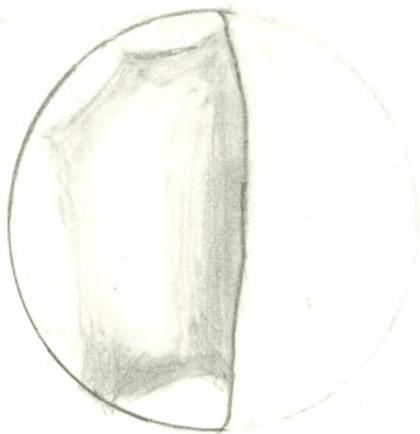
Seeing ... 4-6

Transparency ... 3

Remarks : Dusky shadings extremely indefinite & washed out
only ~~one~~ definite area was white patch in S.W, brightest
area on disk 9.5

Despite good seeing & filter markings were more difficult
to see than on other occasions

PLANETARY OBSERVATIONS



PLANET VENUS

Date JANUARY 5/6, 1961

Local Time 16:55 - 17:05

Universal Time 22:00

Central Meridian (1)

(2)

Telescope 8" CAVE REFLECTOR

Eyepiece 130X

Seeing 3

Transparency 2-1

Remarks: Transparency deteriorated at end of drawing making intensity estimates impossible.

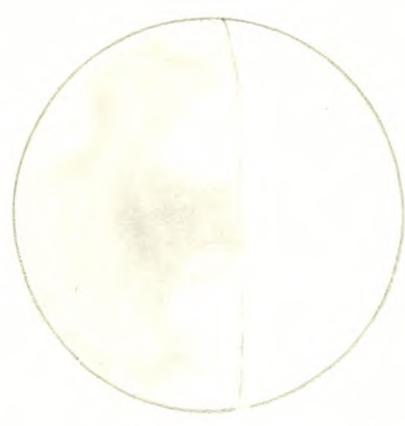
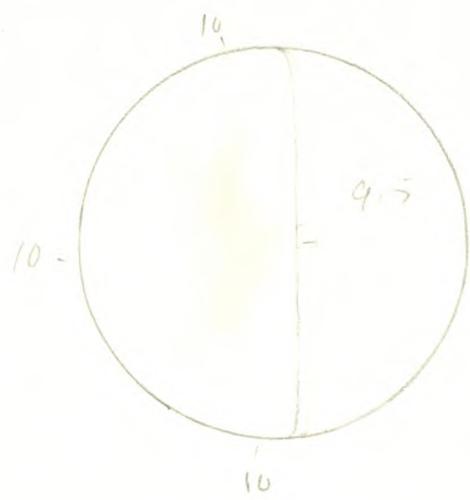
Observer GEOFFREY GAHERTY, JR.

Address

Telephone No.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



VIOLET FILTER
4713 - WRATTEN

PLANET Venus

Date Jan 9/10 1966

Observer K.R. Brasch

Local Time 16:25 - 16:45

Universal Time 21:25 - 21:45

Central Meridian (1)

(2)

Telescope 8" Refl.

Power 165x

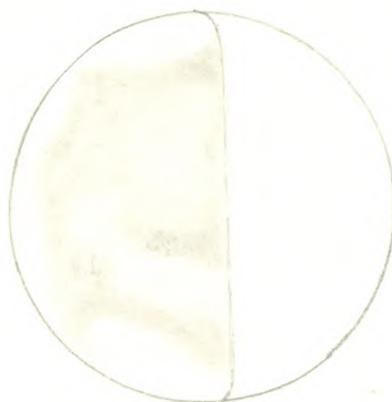
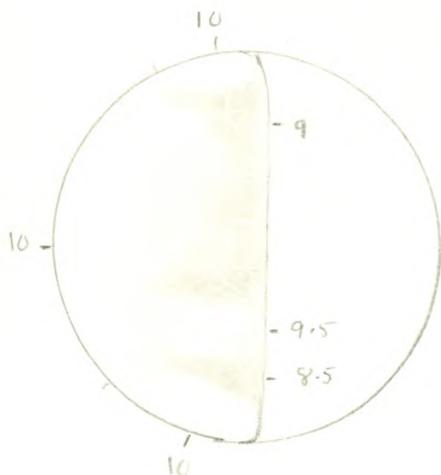
Seeing (0 worst-10 best) 0-3

Transparency (0 worst-5 best) 5

Remarks: Disk of planet unusually bright with only slightly less intense area marked 9.5, otherwise featureless without filter

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Blue filter

PLANET Venus

Date ... Jan 11/12 1961 ...

Observer K. R. Brasch ..

Local Time 16:10 - 16:50 ...

Universal Time 21:10 - 21:40 ...

Central Meridian (1)

(2)

Telescope 8" Refl.

Power 145x

Seeing (0 worst-10 best) ... 4-5 ...

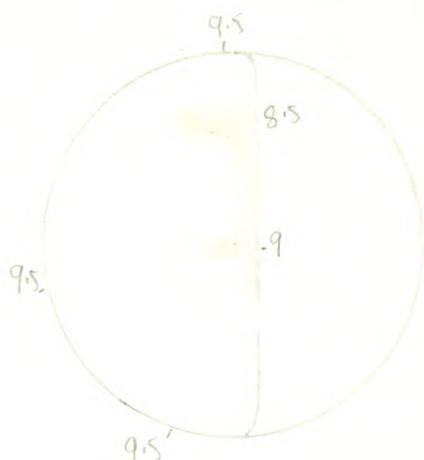
Transparency (0 worst-5 best) ... 0-3 ...

Remarks: Intermittent clouds, haze & wind hampered observation.

Markings fairly definite but outline very indefinite
Not much difference caused by filter except for
increase in contrast.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



V. Filter 47B
written

PLANET Venus

Date .. Jan 12/13 .. 1961

Observer ... K.R. Brasch

Local Time .. 16:30 .. 16:50

Universal Time 21:30 .. 21:50

Central Meridian (1)

(2)

Telescope .. 8" Refl.

Power .. 165x .. 300x

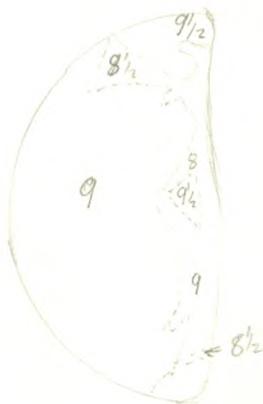
Seeing (0 worst-10 best) .. 3-5

Transparency (0 worst-5 best) .. 3-4

Remarks: Almost nothing seen without filter, only fairly definite area 8.5
Glare of planet seems to blot out detail which becomes visible only with filter.
Terminator not quite central

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date JAN 14 1960.....

Observer S. WEDGE.....

Local Time 14:25-14:35.....

Universal Time 19:25-19:35.....

Central Meridian (1)

(2)

Telescope 6" REFR.....

Power 150X.....

Seeing (0 worst-10 best) 4-3.....

Transparency (0 worst-5 best) 4.....

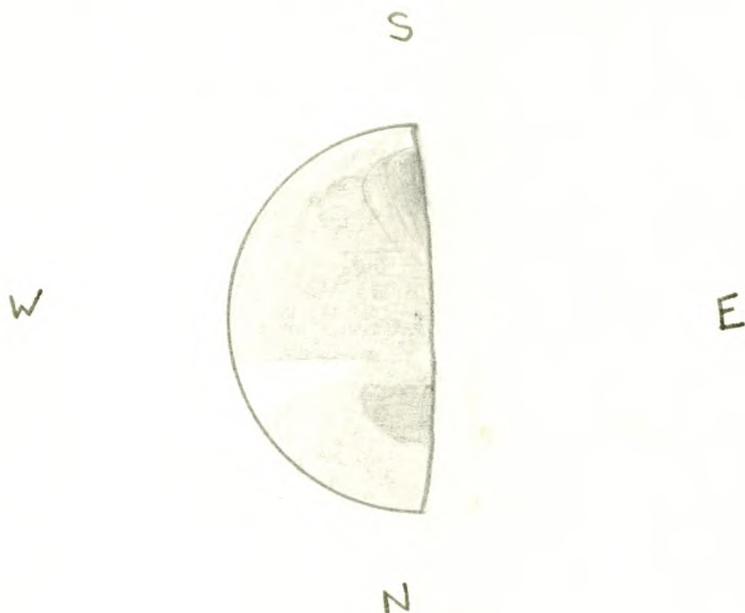
Remarks: Daylight observation

A.M.

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ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET Venus.....

Date January 14/15, 1961.....

Observer Jim Low.....

Local Time 15h.07m. +17m. E.S.T......

Universal Time 20h.07m......

Central Meridian (1) -.....

(2) -.....

Telescope 4" Reflector.....

Power 167x.....

Seeing (0 worst-10 best) 5.....

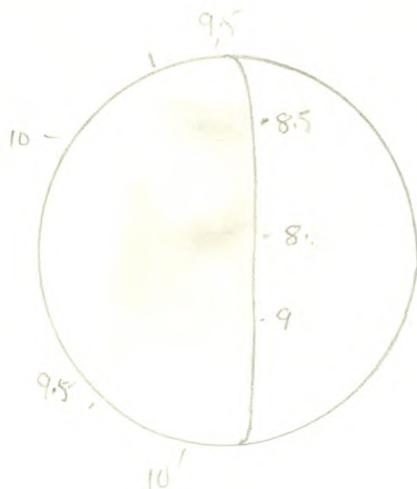
Transparency (0 worst-5 best) 4+.....

Remarks: This is a daylight observation, Venus being visible with the naked eye. Although seeing was good, the markings on Venus were difficult, and there was very little contrast.

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ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Wratten 47-B filter

PLANET *Venus*.....

Date *Jan. 14/15 1961*.....

Observer *K. B. Brasch*.....

Local Time *16:30 - 17:00*.....

Universal Time *21:30 - 22:00*.....

Central Meridian (1)

(2)

Telescope *8" Refl.*.....

Power *300x*.....

Seeing (0 worst-10 best) *3-5*.....

Transparency (0 worst-5 best) *4*.....

Remarks:

Most definite view of outline of markings exp so far experienced especially with violet filter, blue & green. Parallel band-like markings were very definite. Contrast exaggerated in both drawings.

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Montreal Centre

PLANETARY OBSERVATIONS

South



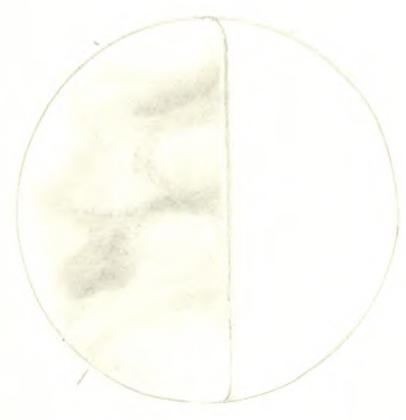
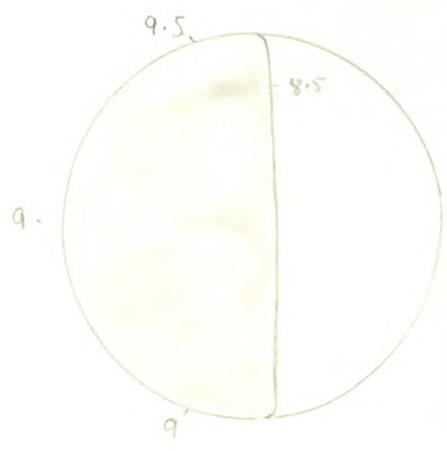
North

PLANET Venus.....

Date Jan. 16/17, 1961..... Observer JIM LOW.....
 Local Time 16h.40m. + 11m. E.S.T...... Universal Time 21h.40m......
 Central Meridian (1) -..... (2) -.....
 Telescope 4" - Reflector..... Power 167x.....
 Seeing (0 worst-10 best) 4..... Transparency (0 worst-5 best) 4.....
 Remarks: Phase only a little over half full

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



W. 47-13 filter

PLANET Venus.....

Date Jan 16..... 1961.....

Observer K.R. Brasch.....

Local Time 15:30..... - 16:10.....

Universal Time 20:30..... - 21:10.....

Central Meridian (1)

(2)

Telescope 8" Refl......

Power 300x..... - 375x.....

Seeing (0 worst-10 best) 2-5.....

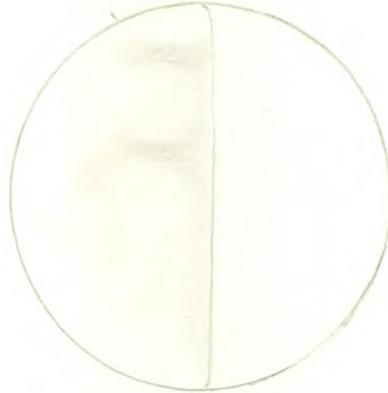
Transparency (0 worst-5 best) 4.....

Remarks: During best moments considerable definite detail seen especially with filter

ALPO ?

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Wr. 47-B Filter

PLANET *Venus*

Date *Jan. 19/1961*

Observer *K. R. Brasch*

Local Time *15:00 15:30*

Universal Time *20:00 - 20:30*

Central Meridian (1)

(2)

Telescope *8" Refl.*

Power *300x*

Seeing (0 worst-10 best) *3-1*

Transparency (0 worst-5 best) *4*

Remarks: *Markings fairly definite despite poor seeing*

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date JAN 21, 1961.....

Observer G. WEDGE.....

Local Time 12:50.....

Universal Time 17:50.....

Central Meridian (1)

(2)

Telescope 6" REFR......

Power 150x.....

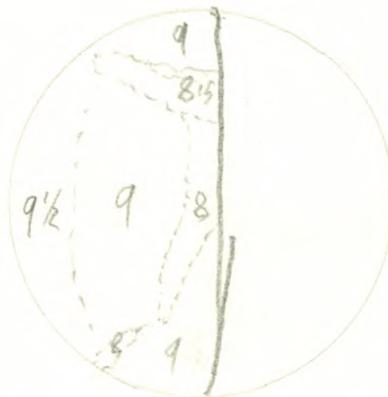
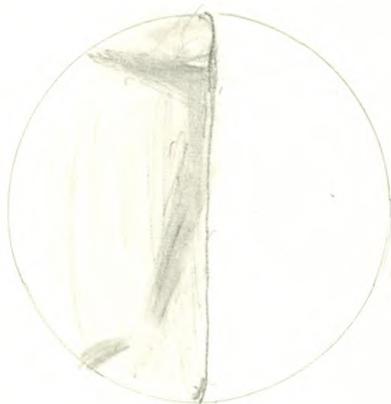
Seeing (0 worst-10 best) 2.3.....

Transparency (0 worst-5 best) 2.3.....

Remarks: The planet appears to be just past dichotomy.

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PLANETARY OBSERVATIONS



PLANET VENUS

Date ... JAN 21, 1961

Observer ... G. GAHEATY

Local Time ... 13:10 - 13:20

Universal Time ... 18:15

Central Meridian (1)

(2)

Telescope ... 6" AEFR

Power ... 150x

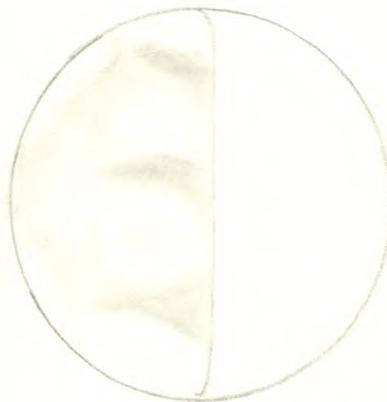
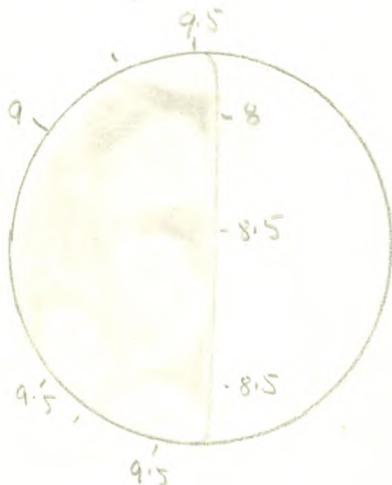
Seeing (0 worst-10 best) ... 1

Transparency (0 worst-5 best) ... 3

Remarks: *almost at dichotomy*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



wratten 47B filter

PLANET Venus

Date Jan 22/23 1961

Observer K.R. Brasch

Local Time 16:45 - 17:15

Universal Time 21:45 - 22:15

Central Meridian (1)

(2)

Telescope 8" Refl

Power 300X

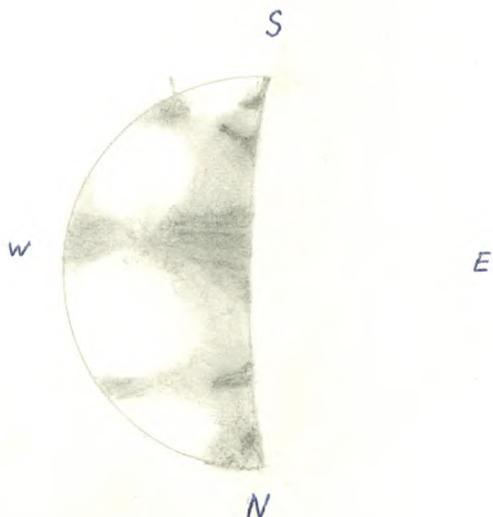
Seeing (0 worst-10 best) 5-7

Transparency (0 worst-5 best) 1-3

Remarks: Dichotomy reached

Superb seeing afforded best view of planet so far experienced. Detail definite with & without filter

PLANETARY OBSERVATIONS



PLANET *VENUS*

Date *Jan. 30, 1961*

Observer *Constantine Papacostas*

Local Time *16:25 EST*

Universal Time *21:25*

Central Meridian (1)

(2)

Telescope *6-inch Refractor*

Power *300X*

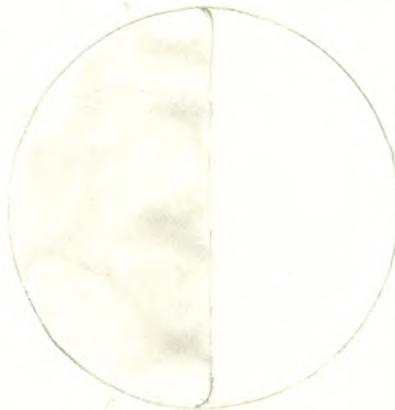
Seeing (0 worst-10 best) *4-5*

Transparency (0 worst-5 best) *3*

Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET *Venus*.....

Date *Jan. 30 1961*.....

Observer *K.R. Brasch*.....

Local Time *16:35*.....

Universal Time *21:35*.....

Central Meridian (1)

(2)

Telescope *6" Refr.*.....

Power *300x*.....

Seeing (0 worst-10 best) *4-5*.....

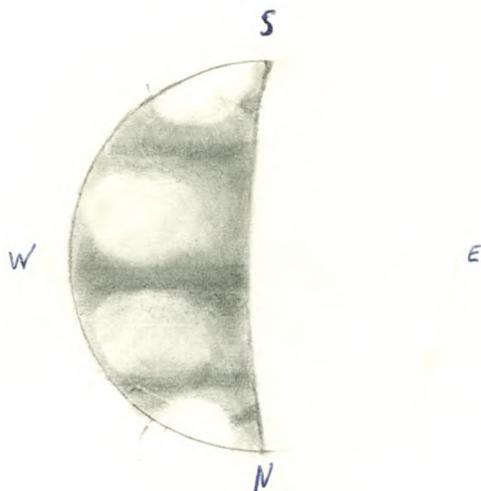
Transparency (0 worst-5 best) *3*.....

Remarks:

A.M.

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PLANETARY OBSERVATIONS



PLANET VENUS

Date Jan. 31, 1961

Observer Constantine Papacosmas

Local Time 15:50 EST

Universal Time 20:50

Central Meridian (1)

(2)

Telescope 6-inch Refractor

Power 220X

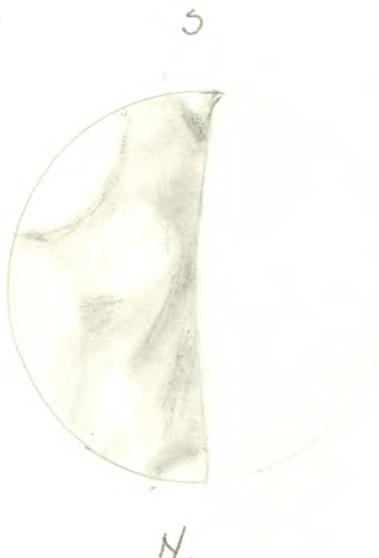
Seeing (0 worst-10 best) 4-5

Transparency (0 worst-5 best) 3

Remarks: The three parallel belts were seen momentarily, as unbroken, sharply defined, grayish bands, and were the most conspicuous details at that moment.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date ..FEB.....5.....1964.....

Observer ..G. WEDGE.....

Local Time ..16:25-16:35.....

Universal Time ..21:25-21:35.....

Central Meridian (1)

(2)

Telescope ..6" REFR.....

Power ..150x.....

Seeing (0 worst-10 best) ..5.....

Transparency (0 worst-5 best) ..3.....

Remarks: Daylight observation.

A.M.

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ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Waatten 42-13
filter

PLANET *Venus*.....

Date *Feb. 5/6 1961*.....

Observer *K. B. Brasch*.....

Local Time *16:30 - 17:00*.....

Universal Time *21:30 - 22:00*.....

Central Meridian (1)

(2)

Telescope *8" Refl.*.....

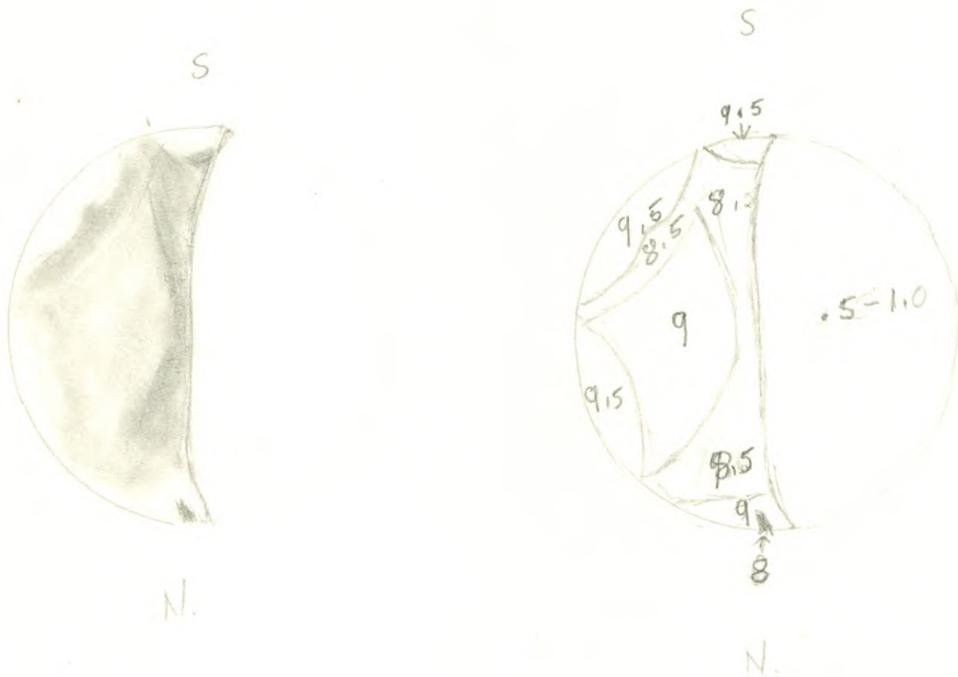
Power *375x*.....

Seeing (0 worst-10 best) *5-7*.....

Transparency (0 worst-5 best) *4*.....

Remarks:

PLANETARY OBSERVATIONS



PLANET VENUS

Date FEB 5/6 1960

Observer S. WEDGE

Local Time 17:25-17:35

Universal Time 22:25-22:35

Central Meridian (1)

(2)

Telescope 6" REF.

Power 150x Green FILTER

Seeing (0 worst-10 best) 4

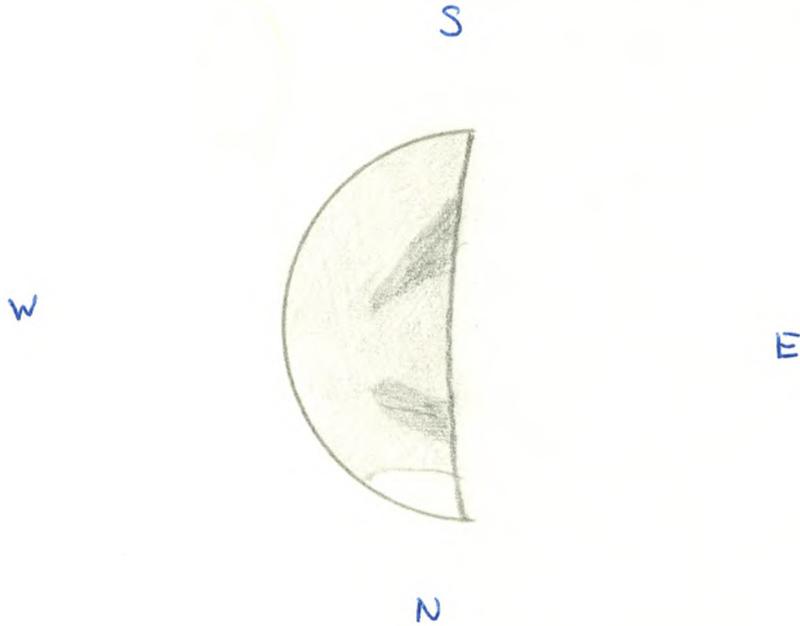
Transparency (0 worst-5 best) 4

Remarks: Arken light strongly suspected, without filter.

Intensity estimates made with filter, except arken light.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET Venus

Date Feb. 5/6, 1961

Observer Jim Low

Local Time 18h.10m. + 10m. E.S.T.

Universal Time 23h.10m.

Central Meridian (1) -

(2) -

Telescope 4"- Reflector

Power 167x

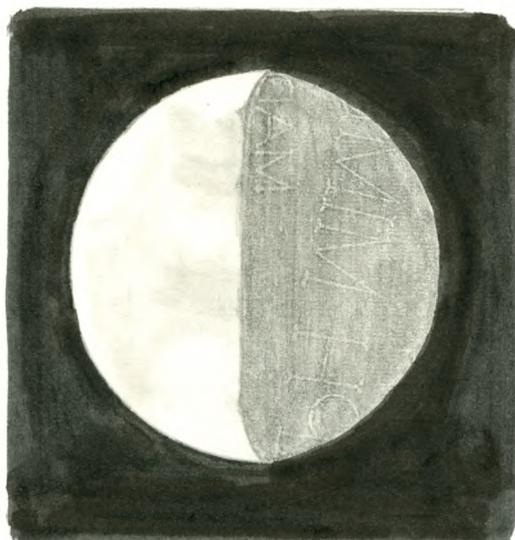
Seeing (0 worst-10 best) 4

Transparency (0 worst-5 best) 4

Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ... *Venus*

Date ... *Feb 8 1961*

Observer ... *K.R. Brasch*

Local Time ... *17:15 - 17:30*

Universal Time ... *22:15 - 22:30*

Central Meridian (1)

(2)

Telescope ... *6" Refr.*

Power ... *220x - 450x*

Seeing (0 worst-10 best) ... *5*

Transparency (0 worst-5 best) ... *4-5*

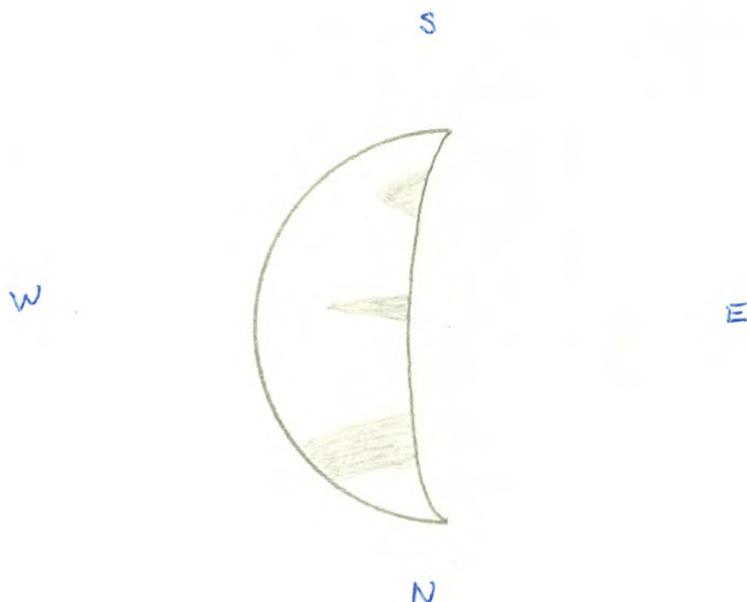
Remarks: *Dark side clearly seen for first time.
It seemed not quite to fill the other half
Intensity 1 to 1.5*

AM

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Montreal Centre

PLANETARY OBSERVATIONS



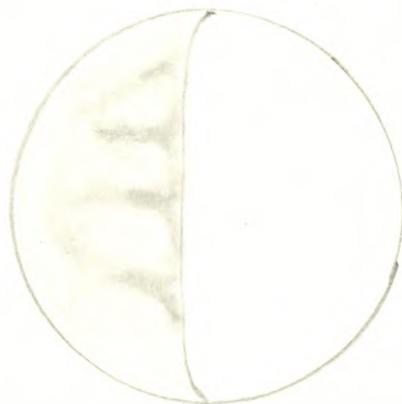
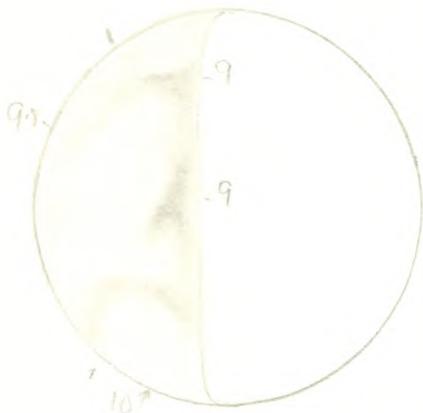
PLANET Venus.....

Date February 11/12, 1961 Observer Jim Low
 Local Time 16h.30m. + 10m. E.S.T. Universal Time 21h.30m.
 Central Meridian (1) - (2) -
 Telescope 4" - Reflector Power 167x
 Seeing (0 worst-10 best) 4 Transparency (0 worst-5 best) 4

Remarks: Venus was found with the naked eye while the sun was about 8° above the horizon — and is an easy naked eye object by day.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



W.Ratten 41-B

PLANET *Venus*

Date *Feb. 11 1961*

Observer *K.R. Brasch*

Local Time *17:00 - 17:30*

Universal Time *22:00 - 22:30*

Central Meridian (1)

(2)

Telescope *8" Refl.*

Power *375x*

Seeing (0 worst-10 best) *5*

Transparency (0 worst-5 best) *4*

Remarks: *Band structure unusually prominent with filler*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date ... FEB 12/13 1961

Observer ... G. WEDGE

Local Time ... 18:30-18:40

Universal Time ... 23:30-23:40

Central Meridian (1)

(2)

Telescope 6" REF.

Power ... 220X

Seeing (0 worst-10 best) 2-0

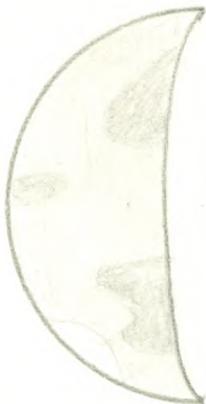
Transparency (0 worst-5 best) ... 4

Remarks:

Urban light suspected in area bounded by dotted line. Note indentions in southern curv.

Royal Astronomical Society of Canada
 Montreal Centre
~~LUNAR OBSERVATIONS~~

S



N

PLANET: Venus.

Date .. February 12/13, 1961 ..

Observer .. Jim Low ..

Local Time .. 17h07m + 10m EST ..

Universal Time .. 22h07m ..

Telescope .. 4" - Reflector ..

Eyepiece .. 167x ..

Seeing .. 5 ..

Transparency .. 4 ..

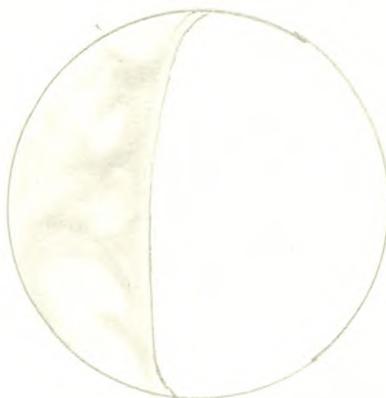
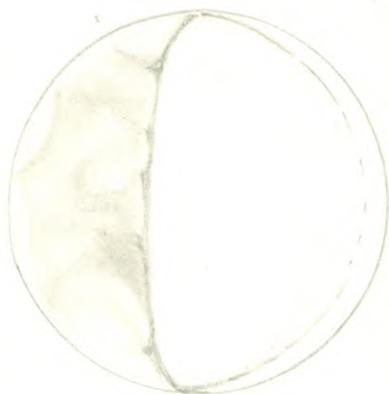
~~Lunar Feature~~ ..

~~Co-ordinates~~ ..

~~Longitude~~ ..

Remarks :

PLANETARY OBSERVATIONS



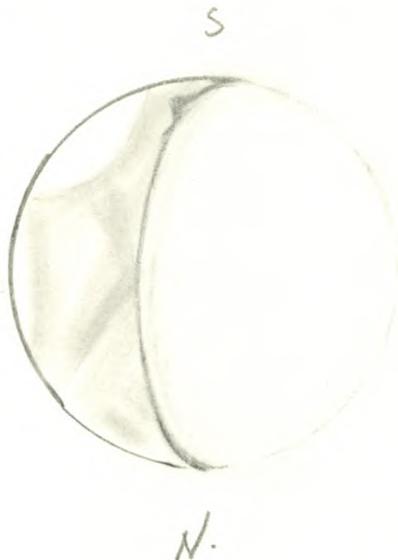
WRATTEN - 47-B

PLANET *Venus*.....Date ... *Feb. 16. / 1961*Observer ... *K. P. Brasch*Local Time ... *17:20 - 17:40*Universal Time *22:20 - 22:40*Central Meridian (1) ... *-*(2) ... *-*Telescope ... *8" Refl.*Power ... *375*Seeing (0 worst-10 best) ... *5*Transparency (0 worst-5 best) ... *4*

Remarks: { *Detail very indefinite. Ashen light seen dimly
in outline but definitely seen
Detail easier without filter*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date ..MARCH 4, 1961.....

Observer ..G. WEDGE.....

Local Time ..14:45 - 14:50.....

Universal Time ..19:45 - 19:50.....

Central Meridian (1)

(2)

Telescope ..6" REFR......

Power ..150x.....

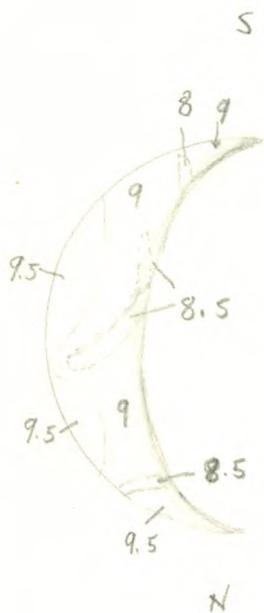
Seeing (0 worst-10 best) ..2-3.....

Transparency (0 worst-5 best) ..3.....

Remarks: Daylight observation.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET *VENUS*.....

Date *MARCH 11 1961*.....

Observer *S. WEDGE*.....

Local Time *12:25 - 12:35*.....

Universal Time *17:25 - 17:35*.....

Central Meridian (1)

(2)

Telescope *6" REFRACTOR*.....

Power *150*.....

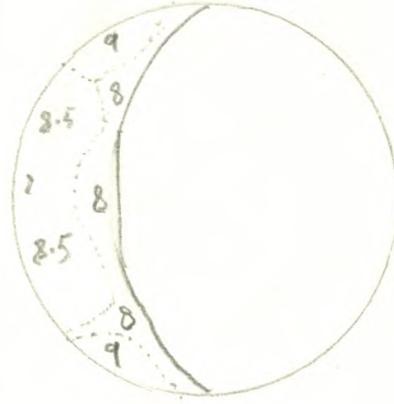
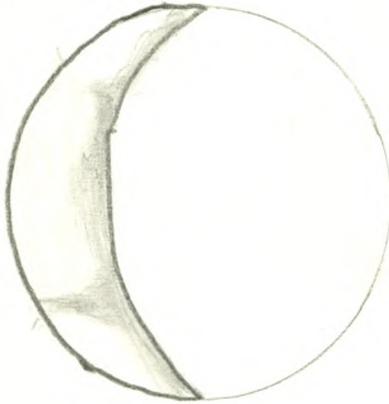
Seeing (0 worst-10 best) *3-4*.....

Transparency (0 worst-5 best) *3*.....

Remarks: *No irregularities noted in terminator. S cusp noticeably darker*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date MARCH 11, 1961

Observer G. GAHERTY

Local Time 12:40 - 12:50

Universal Time 17:45

Central Meridian (1)

(2)

Telescope 6" REFRACTOR

Power 150x

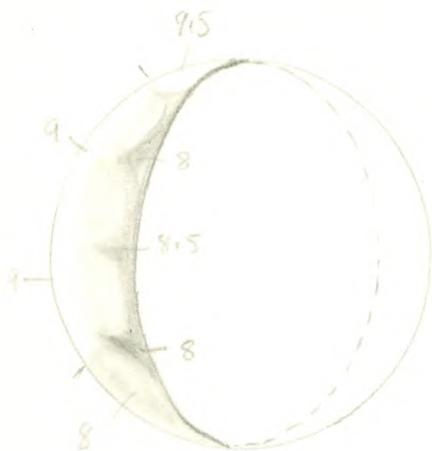
Seeing (0 worst-10 best) 2-3

Transparency (0 worst-5 best) 4-5

Remarks: Ashen light suspected

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Wralten 47B

PLANET ... *Venus*

Date ... *March 12* ... *1961*

Observer ... *R. R. Brasch*

Local Time ... *17:15* ... - *17:45*

Universal Time ... *22:15* ... - *22:45*

Central Meridian (1)

(2)

Telescope ... *8" Refl.*

Power ... *165x* ... - *300x*

Seeing (0 worst-10 best) ... *4-5*

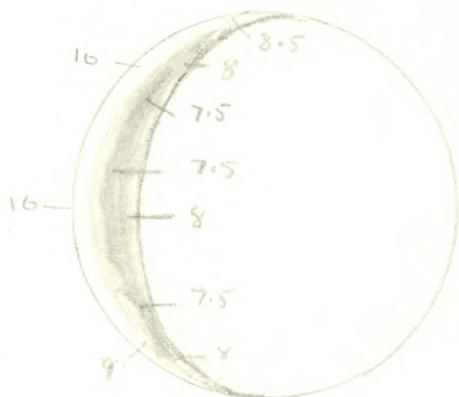
Transparency (0 worst-5 best) ... *3* ... (*Daylight*)

Remarks:

Detail relatively conspicuous, North P. region quite dark, Ashen Light Suspected along dotted region Band structure quite definite with filter

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



written 47-D

PLANET *Venus*

Date *March 19* *1961*

Observer *K. B. Brasch*

Local Time *17:15* *17:25*

Universal Time *22:15* *22:25*

Central Meridian (1)

(2)

Telescope *8" Refl.*

Power *165x* *375x*

Seeing (0 worst-10 best) *4-5*

Transparency (0 worst-5 best) *3-4*

Remarks: *Detail very definite - Area along limb brilliant
Central area (7.5) darkest & terminator uniformly dark*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date MARCH 25 1961

Observer G. WEDGE

Local Time 13:35 EST

Universal Time 18:35

Central Meridian (1) :

(2)

Telescope 6" REFR.

Power 150X

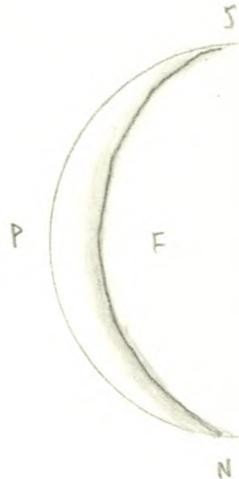
Seeing (0 worst-10 best) 4

Transparency (0 worst-5 best) 2

Remarks: *Daylight observations. faint suggestion of arcus light within dotted line. detail slightly exaggerated.*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ♀

Date .. MARCH 25, 1961

Observer .. G. GAHERTY

Local Time .. @ 13:50 - 13:55

Universal Time .. 18:55

Central Meridian (1)

(2)

Telescope .. 6" REFR.

Power .. 150X

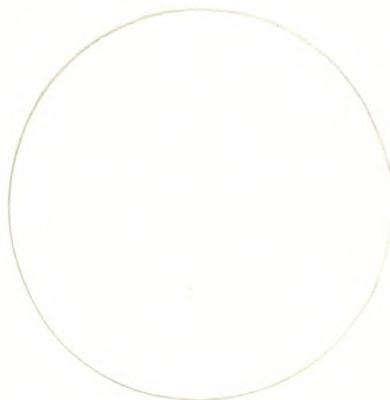
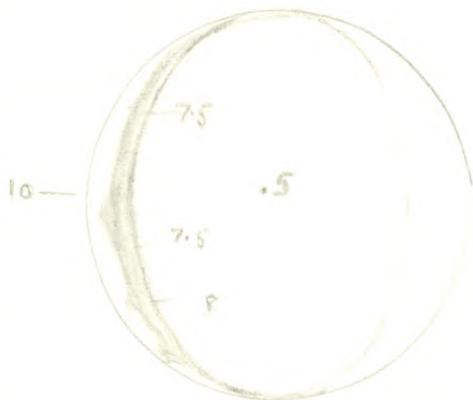
Seeing (0 worst-10 best) .. 1-2

Transparency (0 worst-5 best) .. 3-4. Daylight

Remarks: *No detail other than terminator shading; when light vaguely suspected*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ... *Venus*

Date ... *March 25 1961*

Observer ... *K.R. Brasch*

Local Time ... *17:30 - 18:00*

Universal Time ... *22:30 - 23:00*

Central Meridian (1)

(2)

Telescope ... *8" Refl.*

Power ... *165 x - 300 x*

Seeing (0 worst-10 best) ... *3-4*

Transparency (0 worst-5 best) ... *4*

Remarks: *Very dim trace of Ashen Light*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ♀

Date MARCH 31 1961

Observer G. WEDGE

Local Time 12:30 - 12:40 EST

Universal Time 17:30 - 17:40

Central Meridian (1)

(2)

Telescope 6" REFLEX

Power 150x

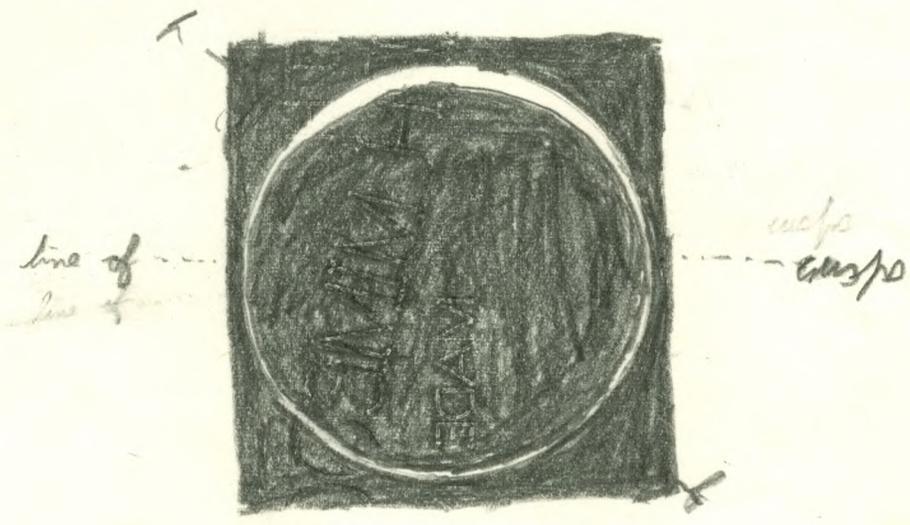
Seeing (0 worst-10 best) 3-4

Transparency (0 worst-5 best) 3

Remarks: Dusky patch suspected near northern cusp, slight terminator darkening, otherwise no other detail visible, suspicion of ashen light in area indicated by dashed line

ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date APRIL 9, 1961

Local Time 11:00 - 11:10

Universal Time 16:05 (9)

Central Meridian (1)

(2)

Telescope 8" REFL.

Eyepiece 90x

Seeing 2

Transparency 4-5

Remarks: Illuminated atmosphere visible as hair-line all around disk. $K \approx 1.5$ (32 hours from inf. conj)

PHOTO AT 10:55²⁷ POLAROID 3000 FILM

P-STOP 21

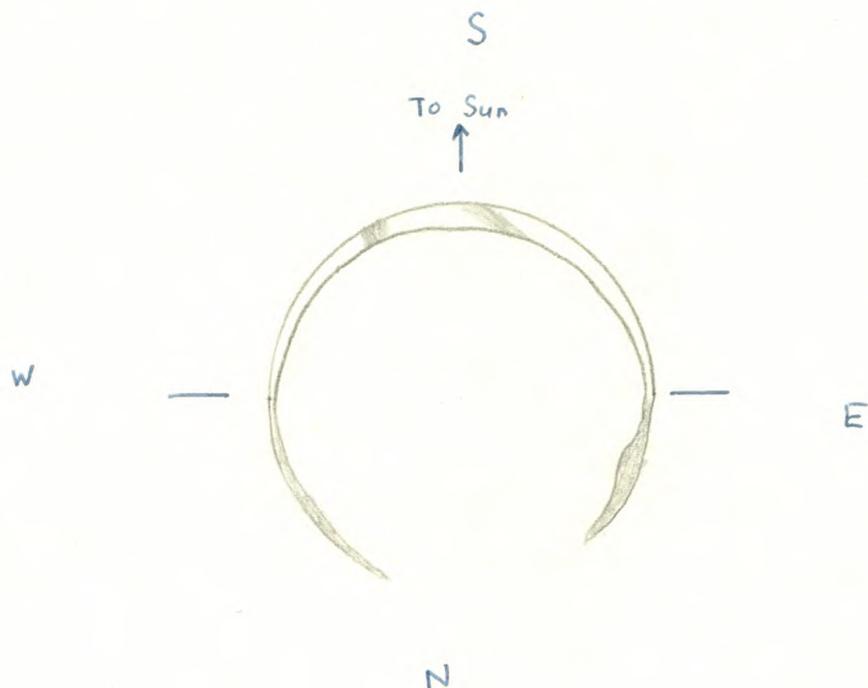
DEV. 3 min (1 min normal)

50x eyepiece

Observer G. G. SMERTY

Address

Telephone No.



PLANET: Venus

Date: April 9, 1961.

Observer: Jim Low

Local Time: 12h.40m. + 15m. E.S.T.

Universal Time: 17h.40m.

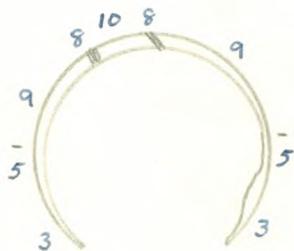
Telescope: 4" - Reflector

Power: 130X.

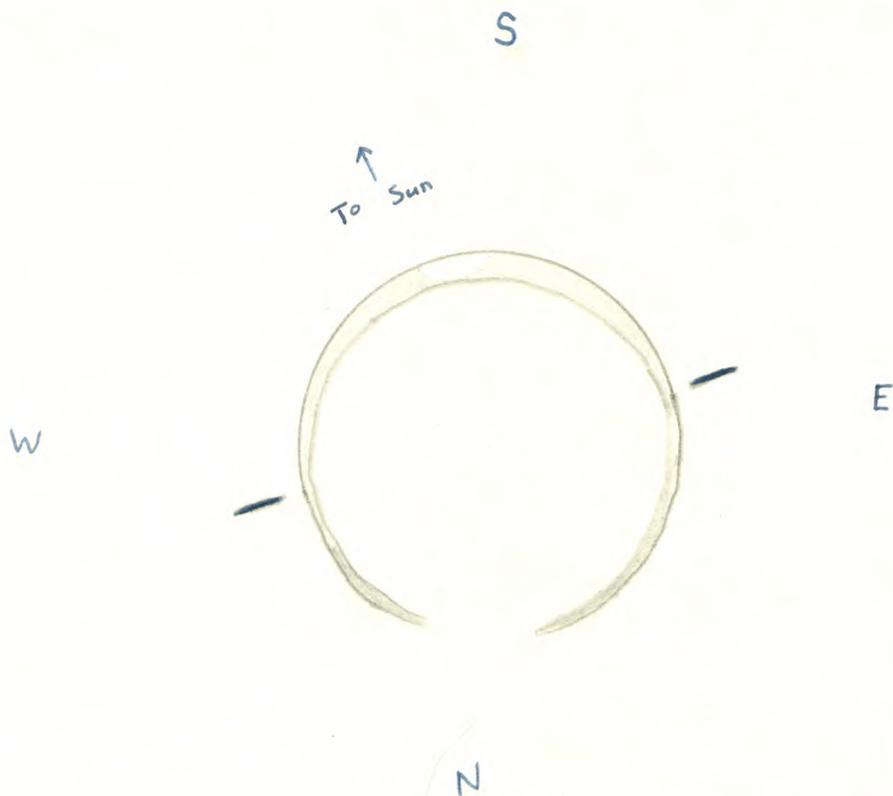
Seeing: 3-4

Transparency: 0-5 (some clouds).

Remarks: This observation was made about 30 hours before inferior conjunction. (Daytime observation).



1 = darkest
10 = brightest



PLANET: Venus

Date: April 9, 1961.

Observer: Jim Low

Local Time: 05h.05m. +11m. E.S.T.

Universal Time: 10h.05m.

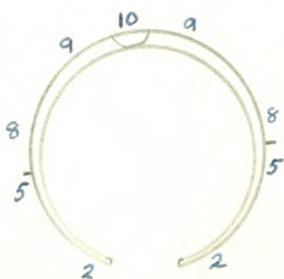
Telescope: 4" - Reflector

Eye-piece: 130X.

Seeing: 2

Transparency: 3.

Remarks: This was an unusual observation. Venus was still east of the sun (an "evening star"), but was visible in the morning before sunrise. This was because it was well north of the sun in declination. Venus was only 9° from the sun. This observation was made 38 hours before inferior conjunction.

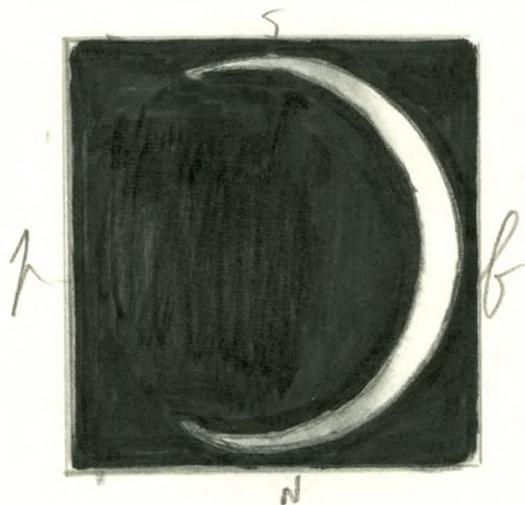


1 = black
10 = bright.

1961 MORNING APPARITION

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ♀

Date . APRIL 21, 1961

Observer . G. CAHERTY, JR.

Local Time . 12:00 - 12:10

Universal Time . 17:05

Central Meridian (1)

(2)

Telescope . 6" REFR

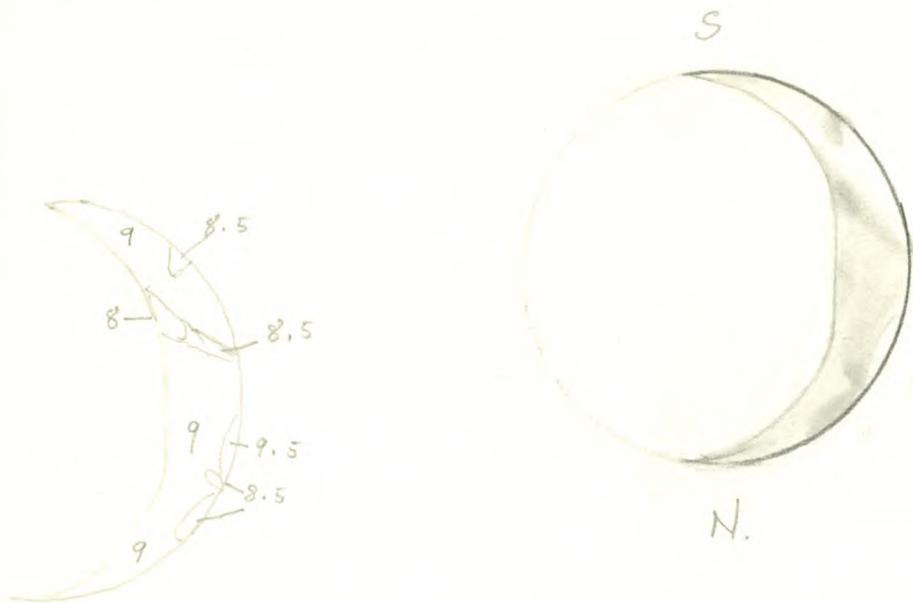
Power . 150x

Seeing (0 worst-10 best) . 1-2

Transparency (0 worst-5 best) . 3-4 (daylight)

Remarks: Cusps definitely extended more than 180°, shadings probably contrast effects. Ashen light suspected. Phase 4% K.B.

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date MAY 6 1961.....

Observer S. WEDGE.....

Local Time 13:25-13:35.....

Universal Time 17:25-17:35.....

Central Meridian (1)

(2)

Telescope 6" REFRACTOR.....

Power 150.....

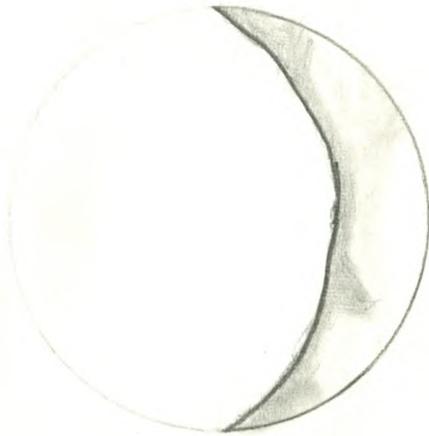
Seeing (0 worst-10 best) 3-4.....

Transparency (0 worst-5 best) 2.....

Remarks:

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date MAY 10, 1961

Local Time 12:45-13:00 E.D.T.

Universal Time 16:50

Central Meridian (1)

(2)

Telescope 8" REFL.

Eyepiece 180x

Seeing 0-1

Transparency 4

Remarks: Daylight observation.

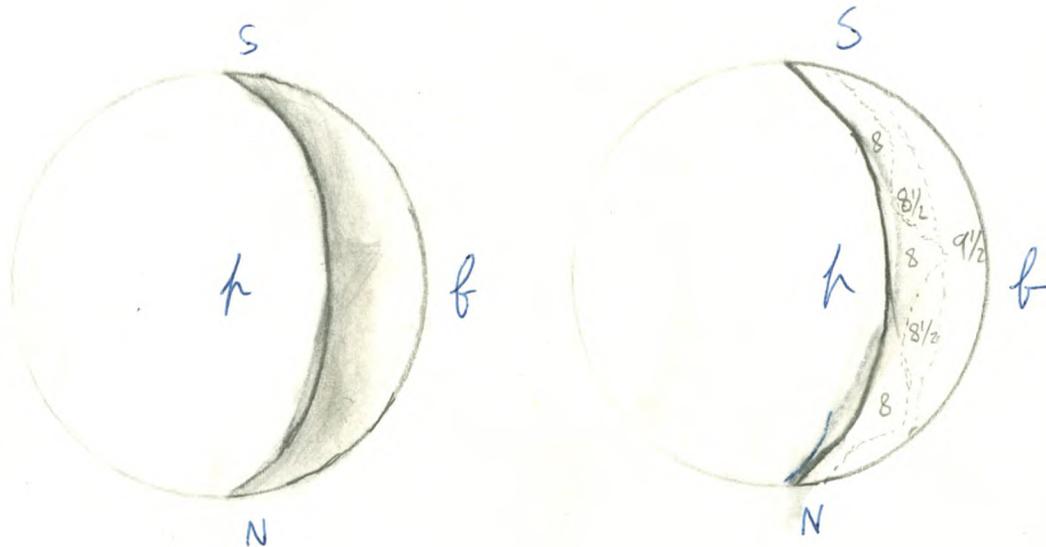
Observer GEOFFREY GAHERTY, JR

Address

Telephone No.

Royal Astronomical Society of Canada
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date MAY 11, 1961

Local Time 11:15 - 11:25 E.D.T.

Universal Time 15:20

Central Meridian (1)

(2)

Telescope 8" REFL

Eye-piece 180x

Seeing 1-2

Transparency 4

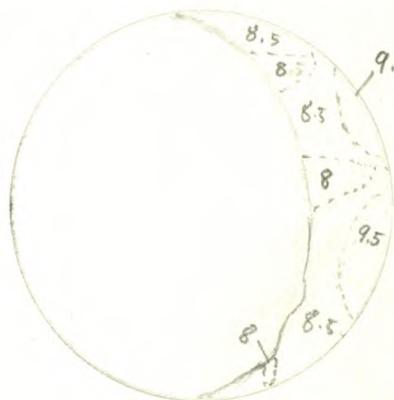
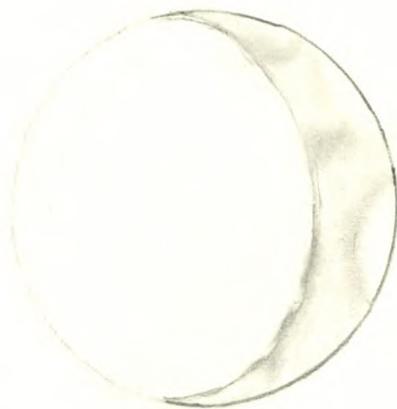
Remarks: Daylight observation. Ashen light suspected. Terminator looks reddish brown, rest of planet white.

Observer GEOFFREY GAHERTY, JR

Address

Telephone No.

PLANETARY OBSERVATIONS



PLANET VENUS

Date *MAY 14 '61*Observer *G. WEDGE*Local Time *14:05-14:15*Universal Time *18:05-18:15*

Central Meridian (1)

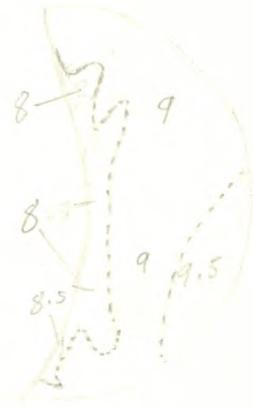
(2)

Telescope *6" REFR.*Power *150x*Seeing (0 worst-10 best) *2-1*Transparency (0 worst-5 best) *1*

Remarks: *Two notches near northern cusp very indefinite. other markings except dusky mark just south of centre very indefinite.*

Intensity estimated from drawing and from memory.

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date JUNE 3 1961.....

Observer G. WEDGE.....

Local Time 13:25 - 13:35.....

Universal Time 17:25 - 17:35.....

Central Meridian (1)

(2)

Telescope 6" REFR.....

Power 150X.....

Seeing (0 worst-10 best) 5.....

Transparency (0 worst-5 best) 3.....

Remarks:

PLANETARY OBSERVATIONS



PLANET *Venus*

Date *June 3 1961*

Observer *Klaus R Brasch*

Local Time *13:40 - 13:45*

Universal Time *17:50 - 17:55*

Central Meridian (1)

(2)

Telescope *6" Refr.*

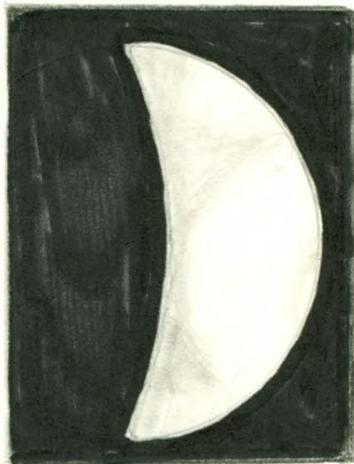
Power *150x*

Seeing (0 worst-10 best) *4-2*

Transparency (0 worst-5 best) *3*

Remarks:

PLANETARY OBSERVATIONS

PLANET VENUS.....

Date JUNE 3, 1961..... Observer G. GAHERTY.....
 Local Time 13:50-13:55..... Universal Time 17:55.....
 Central Meridian (1) (2)
 Telescope 6" REFR...... Power 150X.....
 Seeing (0 worst-10 best) 1-2..... Transparency (0 worst-5 best) 4-5.....

Remarks: *Phase estimated as about 42%. Seeing too poor to permit intensity estimates.*

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date June 3 - 1961.....

Observer T. F. MORRIS.....

Local Time (14:00 - 14:10).....

Universal Time 18:00 - 18:10.....

Central Meridian (1)

(2)

Telescope 6".....

Power 150.....

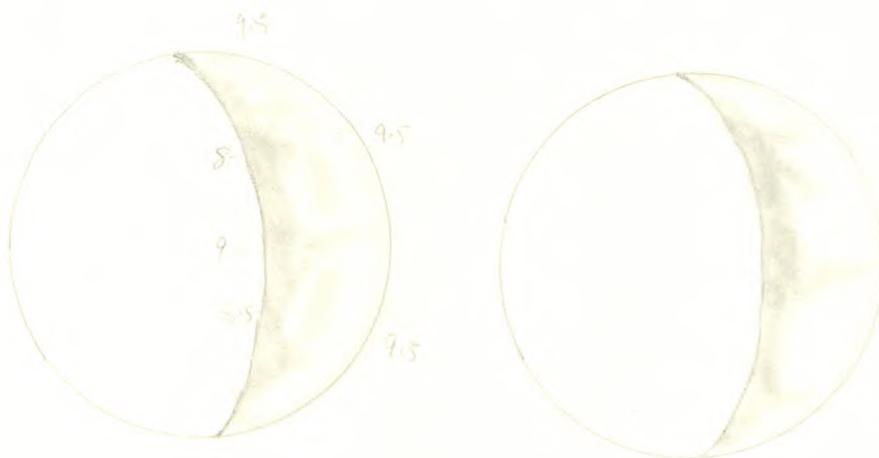
Seeing (0 worst-10 best) 3.....

Transparency (0 worst-5 best) 4.....

Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Blue filter

PLANET Venus.....

Date June 4 1961.....

Observer K.R. Brasch.....

Local Time 14:05 - 14:15.....

Universal Time 18:05 - 18:15.....

Central Meridian (1)

(2)

Telescope 8" Refl......

Power 165x.....

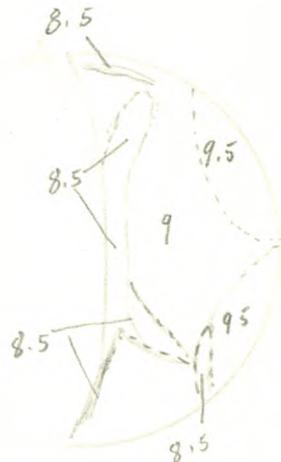
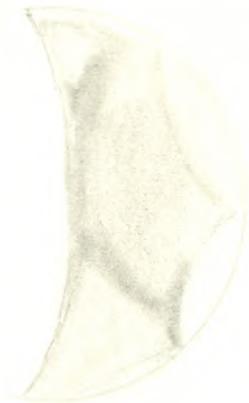
Seeing (0 worst-10 best) 2-4.....

Transparency (0 worst-5 best) 4-5.....

Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS

Date JUNE 10 1961

Observer G. WEDGE

Local Time 05:15 - 05:25

Universal Time 09:15 - 09:25

Central Meridian (1)

(2)

Telescope 6" REFRACTOR

Power 220x

Seeing (0 worst-10 best) 4

Transparency (0 worst-5 best) 4

Remarks: ASHEN LIGHT NOTED AT BEGINING OF OBSERVATION

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET ... *Venus*

Date ... *June 25* ... *1961*

Observer ... *K. R. Brasch*

Local Time ... *4:30* ... *EDT*

Universal Time ... *8:30*

Central Meridian (1)

(2)

Telescope ... *8" Refl.*

Power ... *165 - 300*

Seeing (0 worst-10 best) ... *4*

Transparency (0 worst-5 best) ... *5*

Remarks:

*Planet presented a remarkable view
All detail quite conspicuous both with and without
blue filter, resulting in fairly accurate plotting
of features.
Phase appeared just at or just shy of dichotomy*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

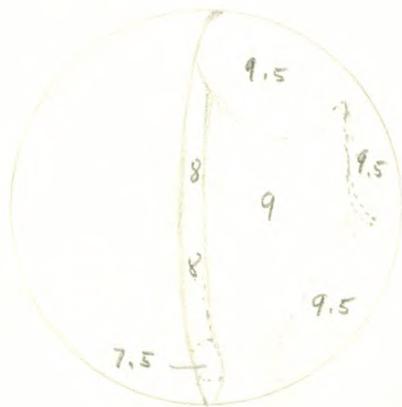
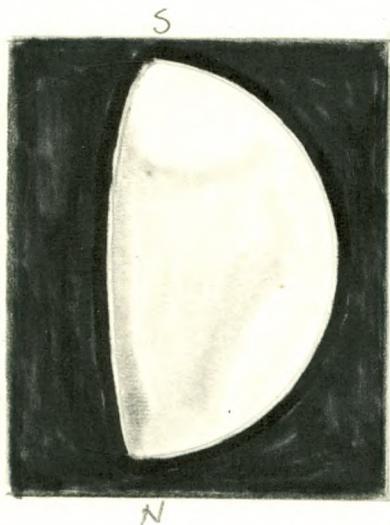
PLANETARY OBSERVATIONS



Planet *Venus* Observer *Klaus Brasch*
Local: Date *July 22* 19. *61* Time *04:10* Zone *EDT*
U. T.: Date *July 22* 19. *61* Time *08:10*
Telescope: Aperture *8" R* Type *Refl* Power *165*
Seeing (0 worst-10 best) *4-3* Transparency (0 worst-5 best) *4*
Central Meridian: (1) (2)
Remarks:

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date .JULY...23.....1961..

Observer G. WEDGE.....

Local Time .05:45-05:55.

Universal Time .09:45-05:55'

Central Meridian (1)

(2)

Telescope 6" REFRACTOR..

Power ..220X:.....

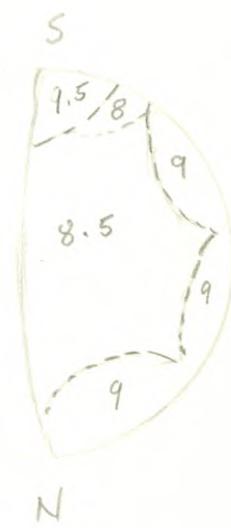
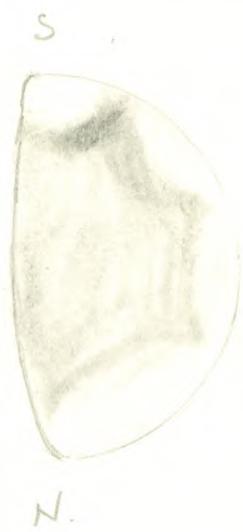
Seeing (0 worst-10 best) ..2.....

Transparency (0 worst-5 best) ..2.....

Remarks: USUAL TERMINATOR DARKENING. DARK SPOT IN NORTH
QUITE DEFINATE. OTHER MARKINGS QUITE FAINT

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS

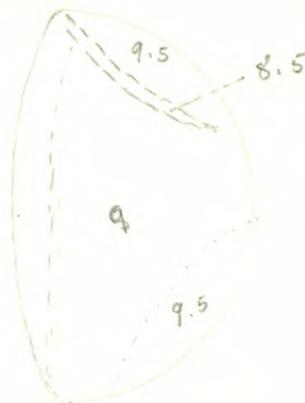


Planet VENUS.....
 Local: Date AUG 5..... 1961.
 U. T.: Date AUG 5..... 1961.
 Telescope: Aperture 6 INCHES.....
 Seeing (0 worst-10 best) 4.....
 Central Meridian: (1)

Observer G. WEDGE.....
 Time 05:05-05:15.. Zone EDT..
 Time 09:05-09:15..
 Type REFRACTOR..... Power 150X..
 Transparency (0 worst-5 best) 4.....
 (2)

Remarks:

PLANETARY OBSERVATIONS



PLANET VENUS.....

Date SEPT 16 1961.....

Observer S. WEDGE.....

Local Time 13:45-13:50 EDT.....

Universal Time 17:45-17:55.....

Central Meridian (1)

(2)

Telescope 6" REFR.....

Power 150X.....

Seeing (0 worst-10 best) 1.....

Transparency (0 worst-5 best) 2.....

Remarks: Detail very indefinite, dusky streak seen at moments of good seeing.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Planet .. *VENUS*

Observer .. *G. Wedge*

Local: Date .. *SEPT. 23* .. 19*61* ..

Time .. *13:45-13:55* .. Zone *E.D.T.* ..

U. T.: Date .. *SEPT. 23* .. 19*61* ..

Time .. *17:45-17:55* ..

Telescope: Aperture .. *6 inches*

Type .. *Refractor* .. Power .. *150x* ..

Seeing (0 worst-10 best) .. *2-3*

Transparency (0 worst-5 best) .. *2*

Central Meridian: (1)

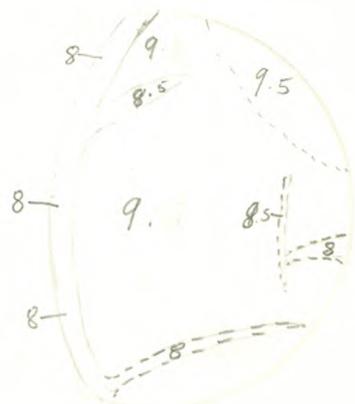
(2)

Remarks:



ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Planet VENUS.....

Observer G. E. WEDGE.....

Local: Date SEPT 30..... 1961.

Time 13:40-13:50... Zone EDT....

U. T.: Date SEPT 30..... 1961.

Time 17:40-17:50....

Teléscope: Aperture 6 INCHES.....

Type REFRACTOR.... Power 150X....

Seeing (0 worst-10 best) 4.....

Transparency (0 worst-5 best) 4.....

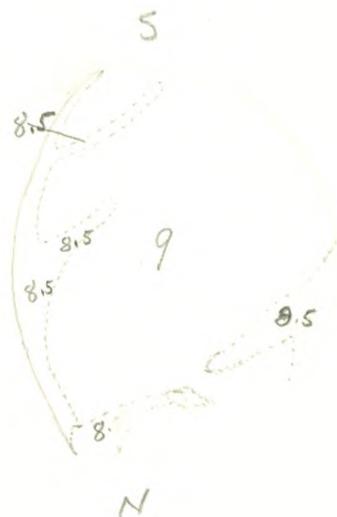
Central Meridian: (1)

(2)

Remarks: Terminator darker than usual.

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



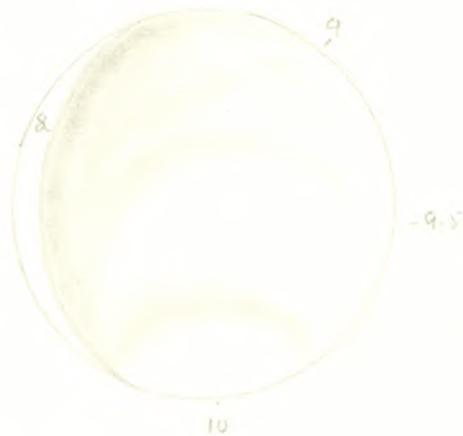
Planet ... VENUS
 Local: Date .. OCTOBER 7 .. 1961 ..
 U. T.: Date .. OCTOBER 7 .. 1961 ..
 Telescope: Aperture .. 6 inches
 Seeing (0 worst-10 best) 1-4-5
 Central Meridian: (1) (2)

Observer .. GEORGE F. WEDGE
 Time .. 12:00-12:10 .. Zone E.D.T. ...
 Time .. 16:00-16:10
 Type .. Refractor Power .. 150x
 Transparency (0 worst-5 best) .. 4
 Central Meridian: (1) (2)

Remarks: *Darby marking on eastern limb glimpsed only during periods of good seeing. Marking to the north appeared to be quite definite. Marking at the south seen only during moments of good seeing, as was the marking at centre of terminator.*

ROYAL ASTRONOMICAL SOCIETY OF CANADA
Montreal Centre

PLANETARY OBSERVATIONS



Planet *Venus* Observer *K. R. Brasch*

Local: Date *Nov. 19* 19. *61* Time *12:30* Zone *EST*

U. T.: Date *Nov 18* 19. *61* Time *17:30*

Telescope: Aperture *8" Refl.* Type *Refl.* Power *245*

Seeing (0 worst-10 best) *2-3* Transparency (0 worst-5 best) *4-5 Day*

Central Meridian: (1) (2)

Remarks: *Diffuse markings only suspected - phase 96%*

OBSERVATIONS OF VENUS

by the Montreal Centre of the R.A.S.C.

by: Klaus R. Brasch.

Serious observations of Venus by members of the Montreal Centre were begun during the apparition 1959-60.

Because accurate visual observations of surface markings, Ashen Light, and other phenomena of the planet are difficult to make, no definite observations programme was undertaken at that time. An effort was made however, to try to obtain simultaneous observations by different observers, with various instruments, for the purpose of confirmation. In this we were quite successful on several occasions, and if nothing else was accomplished, it gave us experience and encouragement to continue observing this rather unrewarding planet.

For 1960-61, a much more ambitious and elaborate programme was undertaken. Observations were again to be made simultaneously, in the afternoon and early evening, in addition however intensity estimates of the markings were made. The same scale as that used by the A.L.P.O., with 0 as sky black, to 10 the brightest, was adopted. On this scale the darkest markings seldom were judged below 8, illustrating the feintness of these features.

A further and very interesting type of observation was made with a violet Wratten 47-B filter. The planet was first observed without a filter and, if anything was seen, a drawing was made. Then the planet was observed with the filter and a second drawing made. In general the markings were more conspicuous with the filter, and often appeared to have different shapes than when seen without it.

On several occasions parallel band-like structures were seen, beginning at the terminator and thinning out toward the limb. The cusp areas at the north and south ends of the terminator were often seen much more definitely with the filter.

On the whole, a blue or violet filter was found to have considerable use in revealing sharper and more conspicuous detail than could otherwise be seen.

Another rather intriguing experiment was undertaken more or less for curiosity's sake.

As is generally known, no definite rotation period for Venus has as yet been established. Although indications are that the period is more than a week and less than a month, times ranging from a few hours to one Venusian year have been quoted.

Certain observers at Pic de Midi Observatory in France, hold the belief that Venus like Mercury has a rotation period of the same length as one year of the planet and consequently always presents us with the same face. It is the belief of these people that Venus is covered with high, dense clouds, in which occasional breaks sometimes reveal markings of lower levels. By superimposing numerous observations they have thus produced a map of what they believe to be more or less permanent markings. A reproduction of this map can be found in the La Rousse Encyclopedia of Astronomy.

Based on the above assumption, and for a lack of a more concrete programme, we have attempted a similar experiment despite the fact that none of us has much faith in the idea.

Several of the best drawings by the most experienced observers and only those made with instruments of 6" or over under fair and upward seeing conditions, were transferred unto tracing paper, superimposed, and an outline made of the darkest and most prominent markings.

In this manner a map of each observer's observations was made and, finally, with allowances made for different drawing styles, a final map was produced from about 30 observations.

From this slides it can be seen that, although a limited degree of agreement is indicated, it cannot be said to be very convincing.

However, it should be bought in mind that our map is based on rather few observations made with smaller instruments, inferior seeing and less experienced observers than the one made at Pic de Midi. Furthermore our map was based almost entirely on direct observations, while the french map is based mainly on filter observations.

A further experiment that may be undertaken, is one in which the same superimposing method may be used coinciding with a certain rotation period, in which case appropriate calculations and corrections would have to be made. This however would be very difficult to do and very time consuming.

Thus as with all experiments and observations of Venus, nothing is definitely proven or disproven, no conclusions can be reached, and in fact one knows no more about the planet than before, except that people will go on observing and speculating about this truly fascinating planet.

March 18th, 1961

