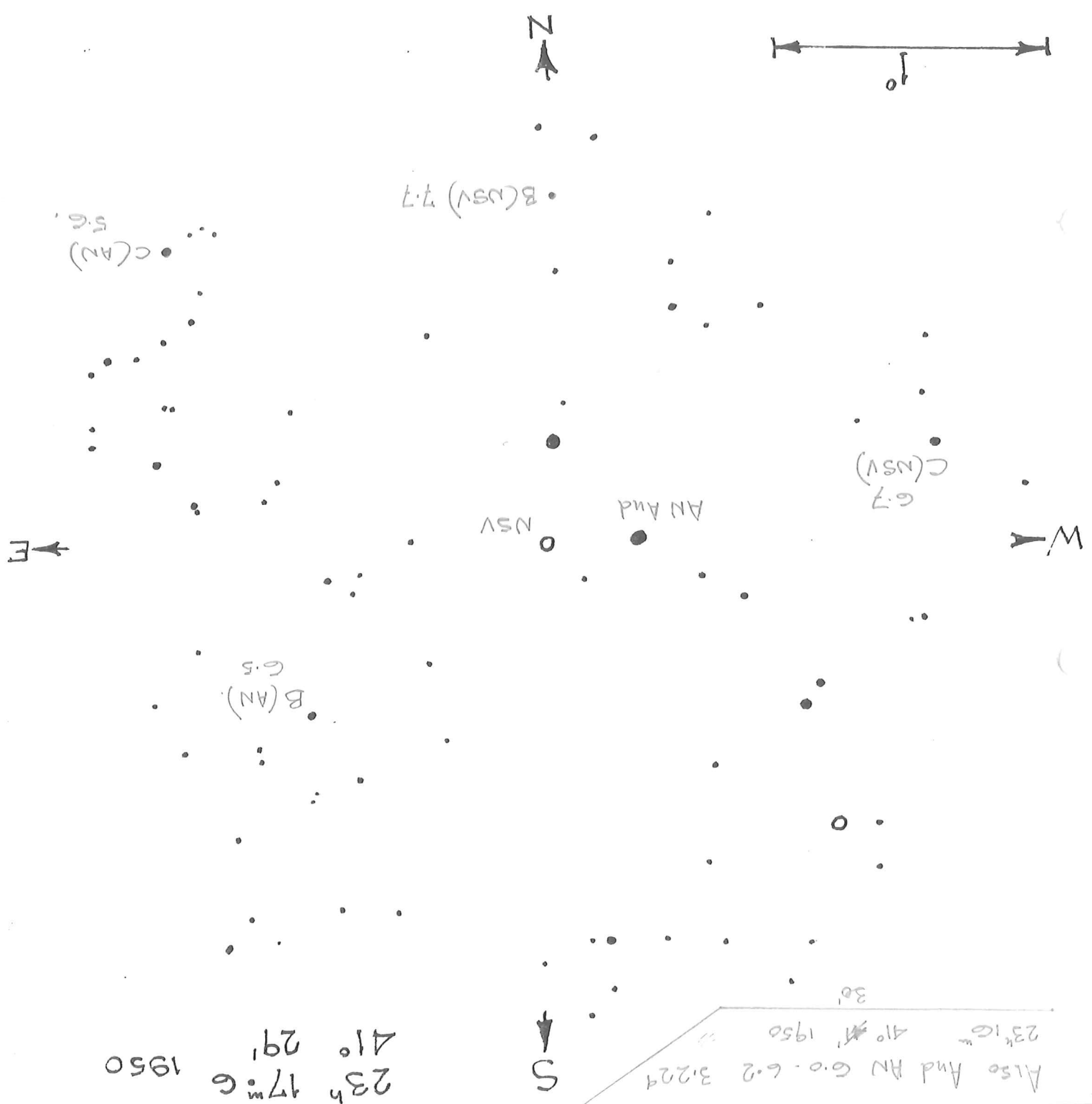


SAO	RA	Dec.	mv	Sp.	JWE
C (AN) 053039	23 ^h 25 ^m	42° 38'	5.6	B9	
B (AN) 052987	23 ^h 22 ^m	40° 50'	6.5	A0	
C (NSV) 052758	23 ^h 11 ^m	42° 14'	6.7	A2	
B (NSV) 052715	23 ^h 17 ^m	42° 41'	7.7	A0	



AN AND also DB5
 EA 7.2-7.7 20^d:85
 23^h 17^m 6 1950
 41° 29'

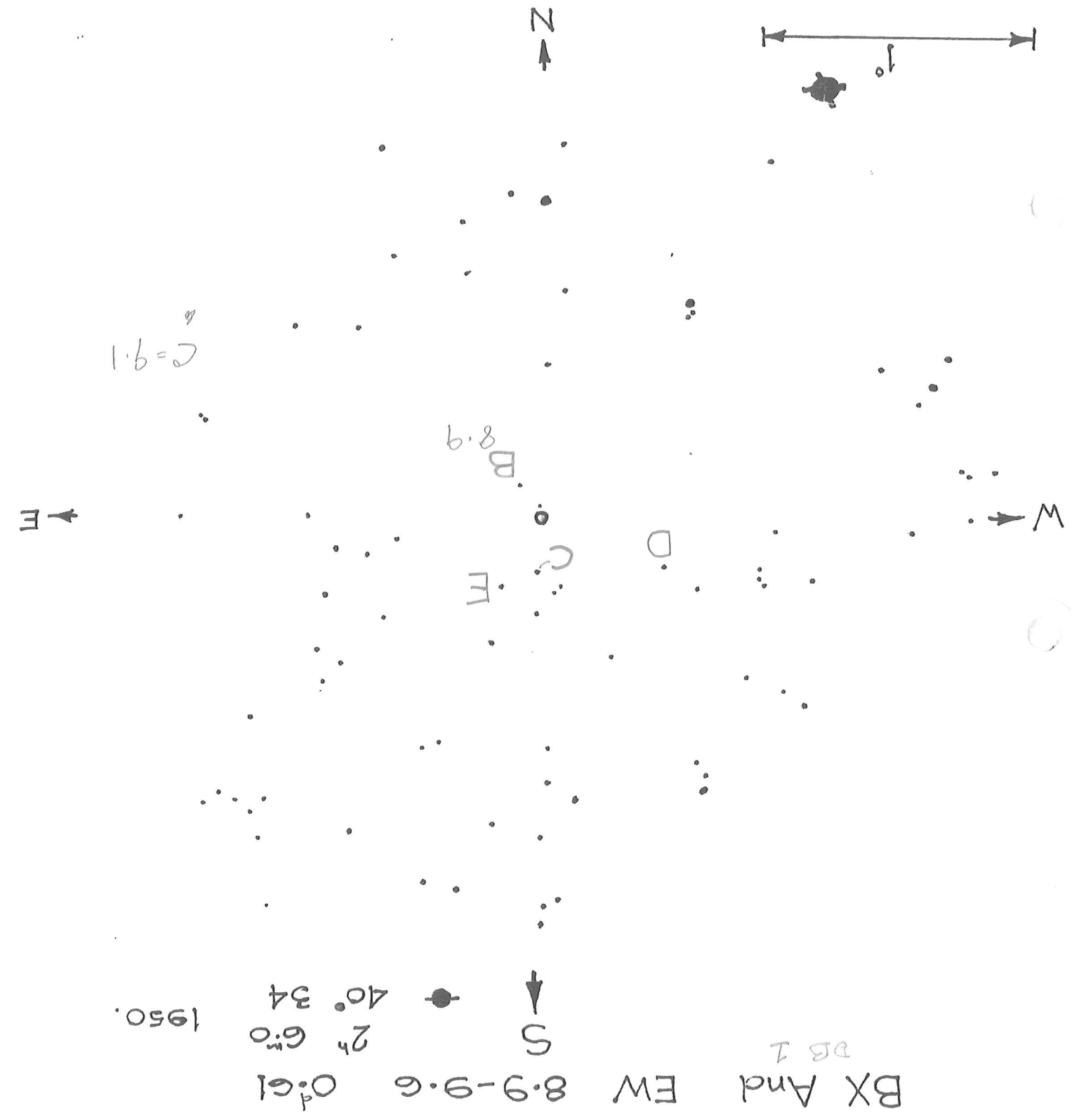
D.B.S
 OT And + NSV 14508 And
 Also And AN 6.0-6.2 3.229
 23^h 16^m 41° 1950

(AH suggests using C comparison & D as check) 1986 Feb. 1985 Dec B & C chosen.

SAO	RA	Dec.	mv	Sp.
B 037815	02 ^h 06 ^m	40° 42'	8.9	—
C 037808	02 ^h 06 ^m	40° 19'	9.1	G0 (B-V 0.7)
D 037773	02 ^h 03 ^m .5	40° 21.5'	8.6	F2 (0.2)
E 037824	02 ^h 06 ^m .8	40° 17'	8.6	A (0)

AH suggests doubling

JWE



JUNE 1982

C. 035122

23^h 10^m 52° 55' 8.5 B9

Added 1982 Sept 6

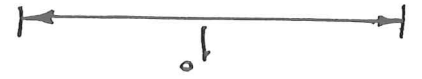
B. Not shown in SAO or AAVSO charts.

23^h 08^m 52° 44' 8.7 (assumed)

SAO RA Dec mv Sp. c.

1989 June 25 - the 'strong' star SAO chosen instead of variable!

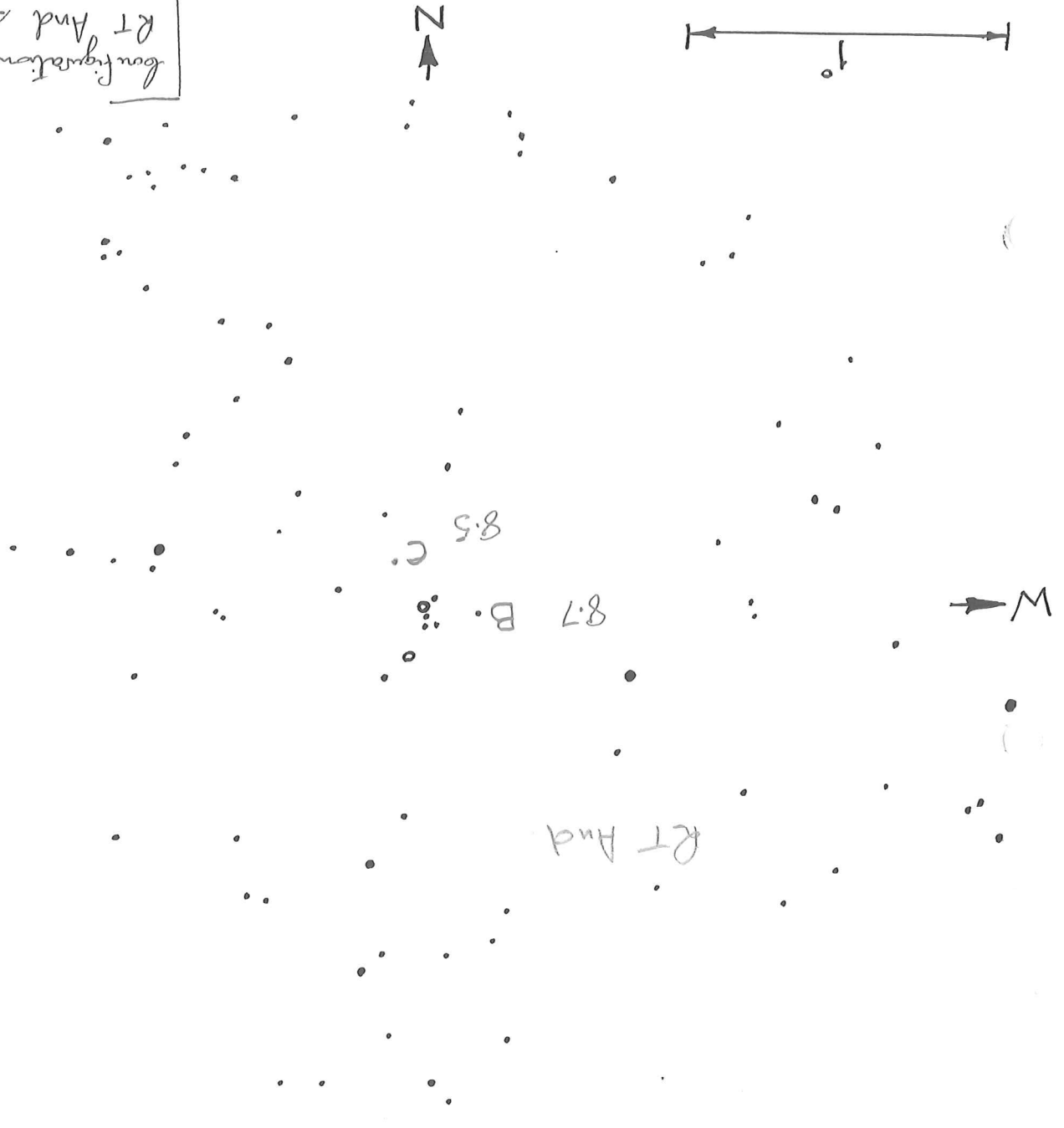
Configuration near RT And should be B

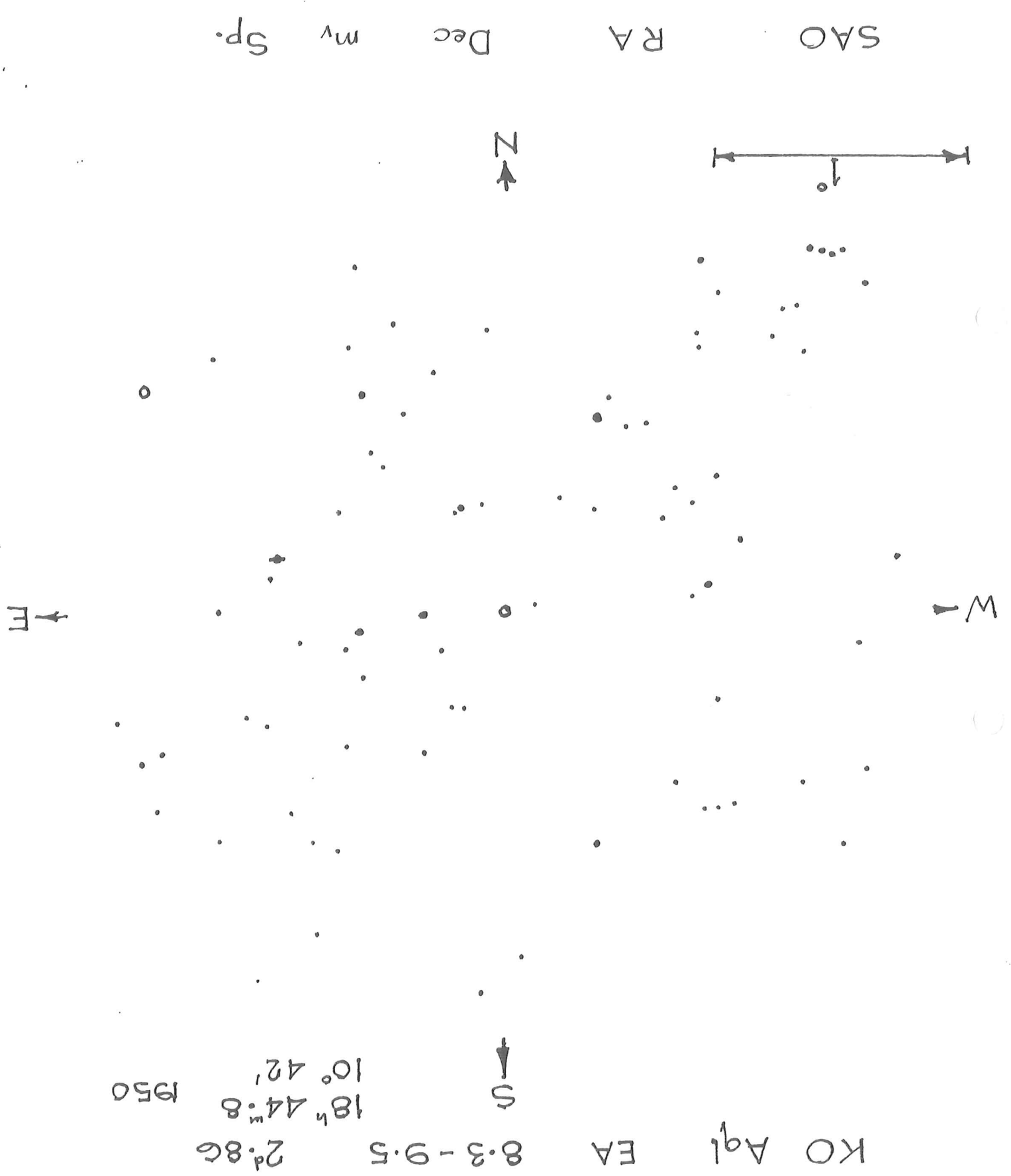


23^h 8^m 52° 45' 8.9 1950

8.5 - 9.4 .629^d

RT And D.B. 2





SAO

RA

Dec

mv

Sp.

N



W

E

S

KO Aql

EA

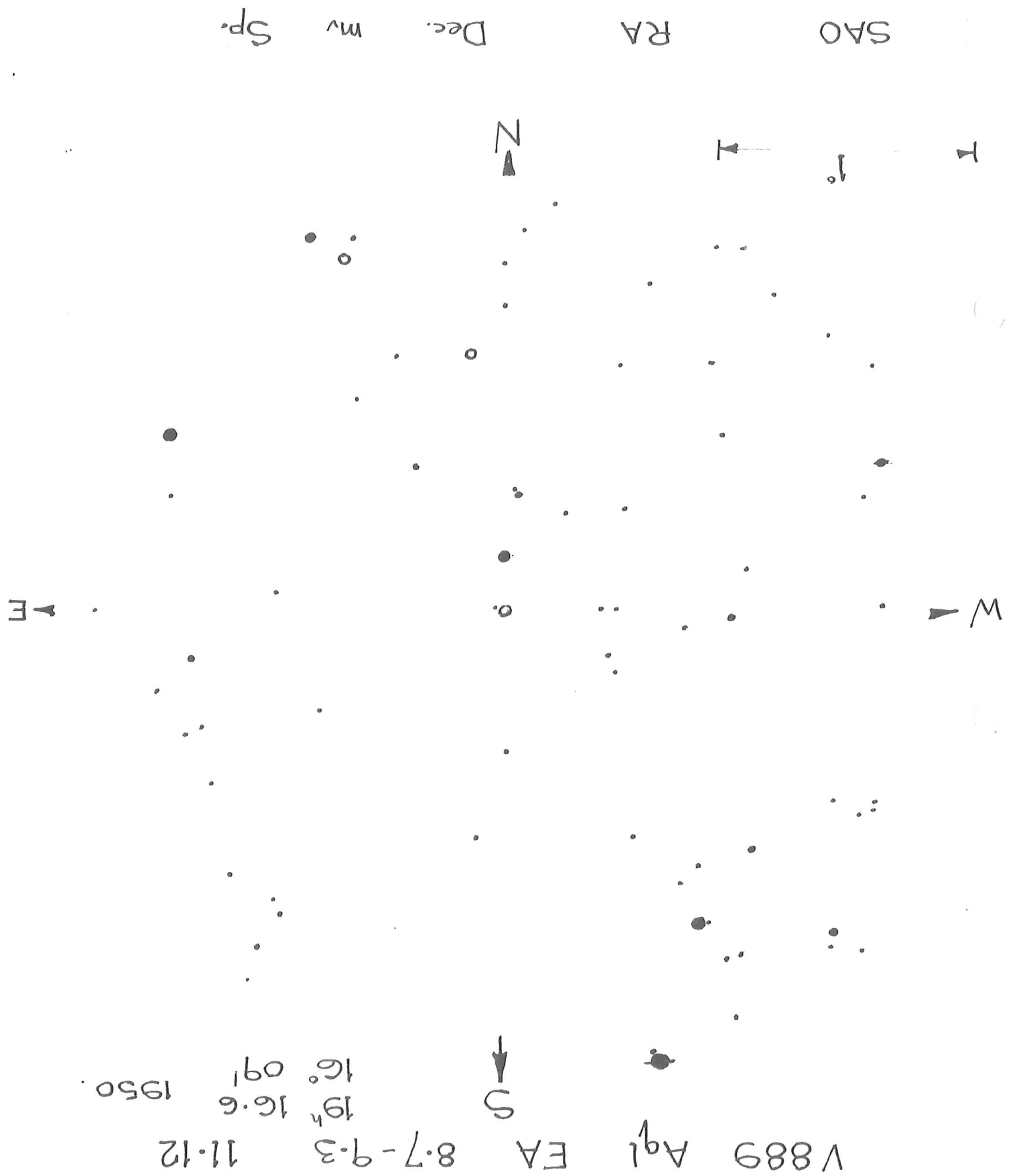
8.3-9.5

18h 44m 8

10° 42'

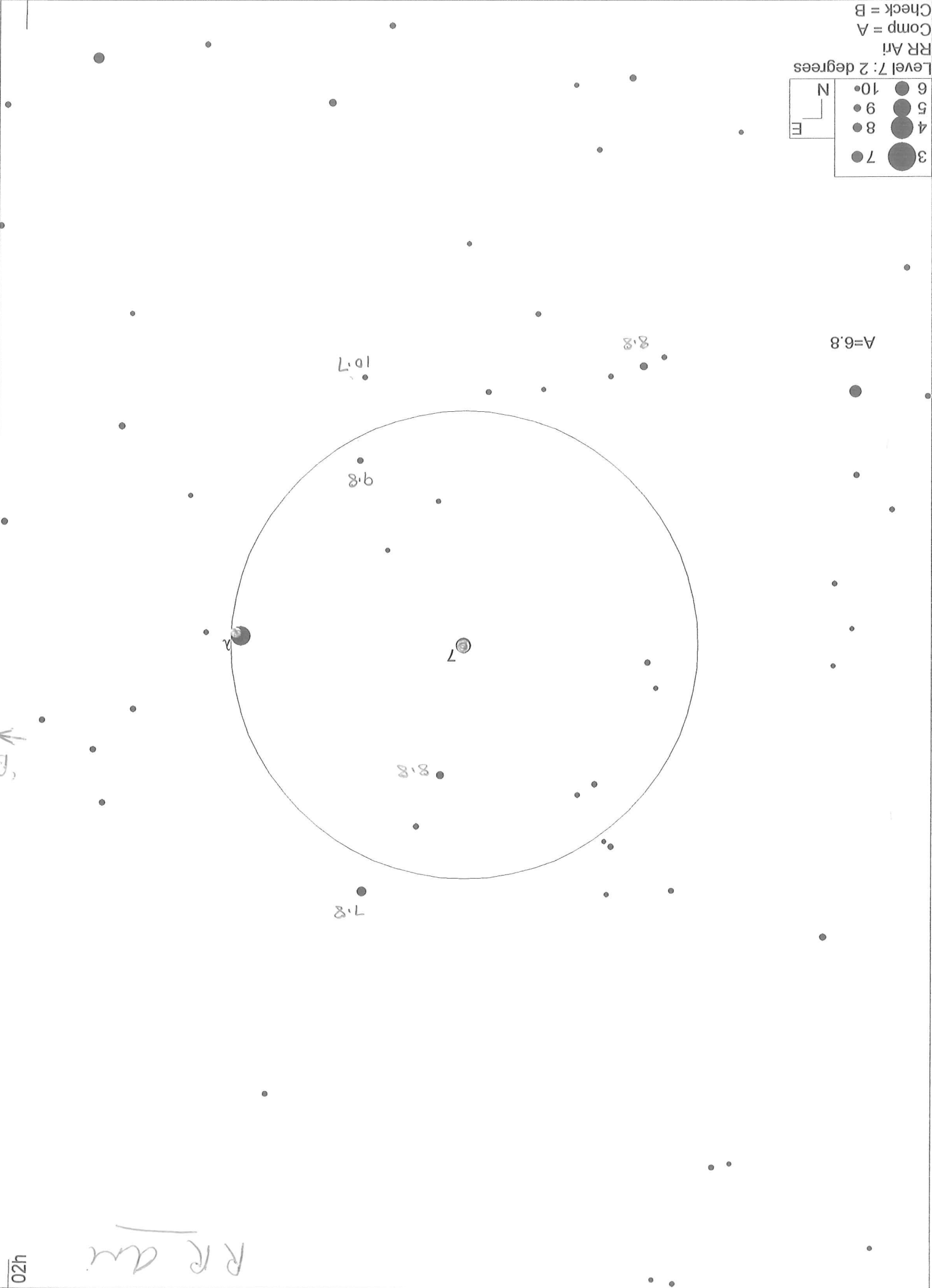
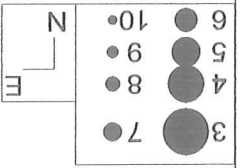
2d 86

1950



Check = B
Comp = A
RR Ari

Level 7: 2 degrees

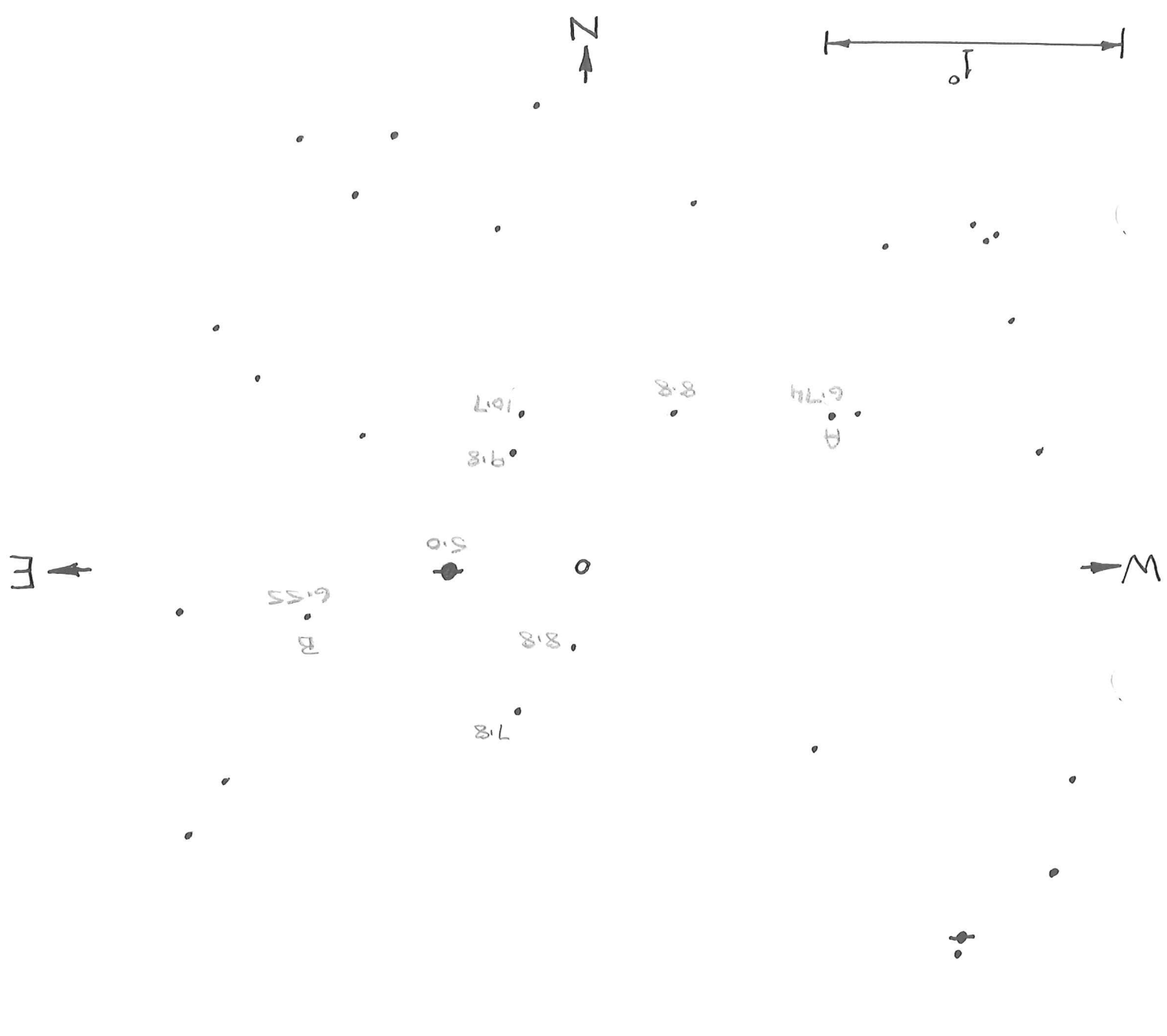
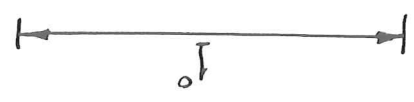


RR Ari

02h

1986 1006

SAO RA Dec mv Sp.



RR A+?
DB 10

↓ S
5.7 - 6.1 (?)
01^h 53^m 0
23° 20'
1950
47.9^d (?)

SAO RA Dec mv Sp.



N



W

E



S



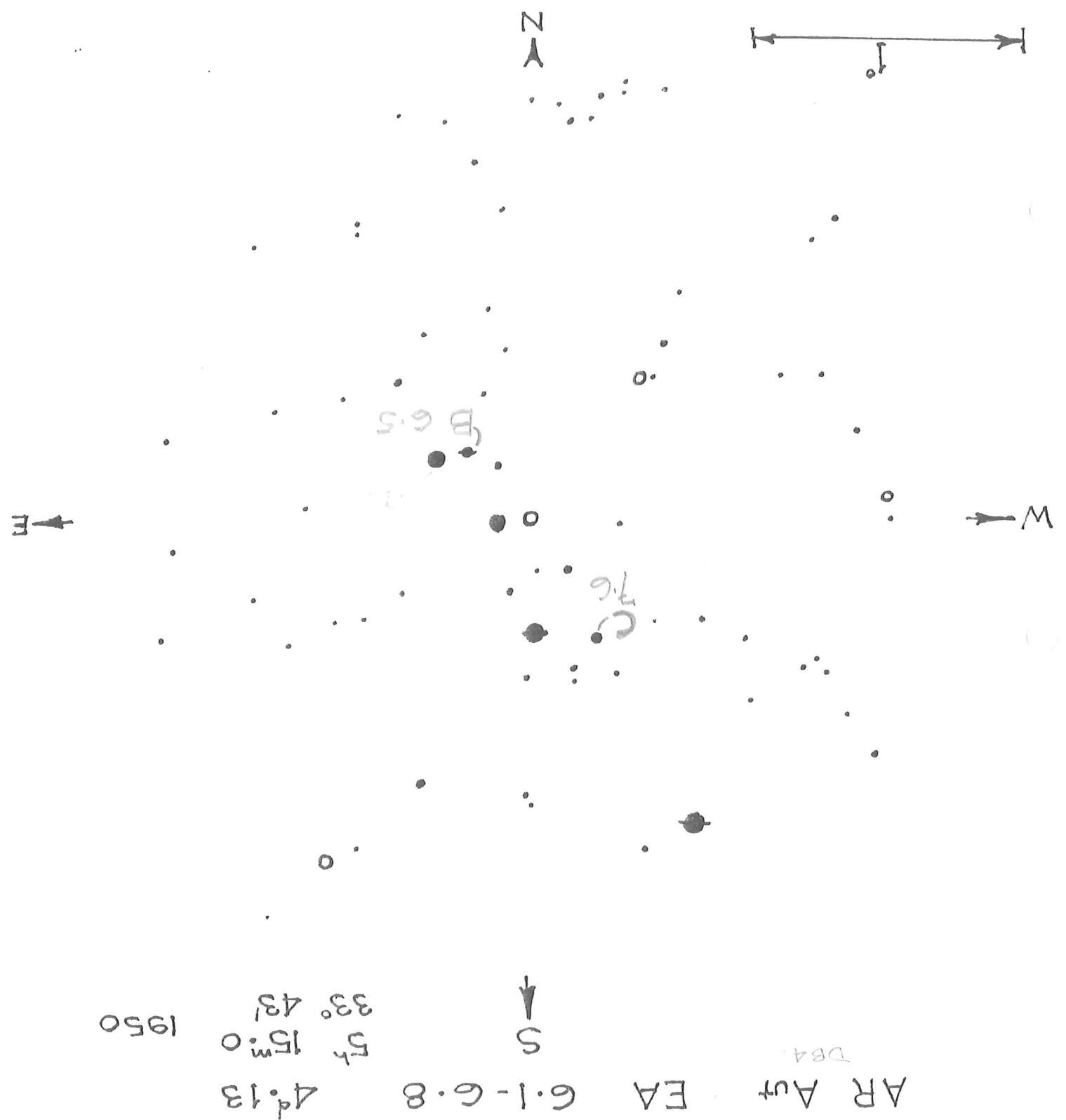
1950
2^h 12^m 7^s
22° 21'

RX Ari EA 9.4-9.8

1^d 03

1986 Jan 1 J.W.E.
 100
 1.5 x 2.5 12

SAO	RA	Dec.	m _v	Sp.
B 057893	05 ^h 16 ^m	33° 56'	6.5	A5
C 057836	05 ^h 14 ^m	33° 17'	7.6	A3
D 057906	05 ^h 17 ^m	33° 54'	5.2	A5

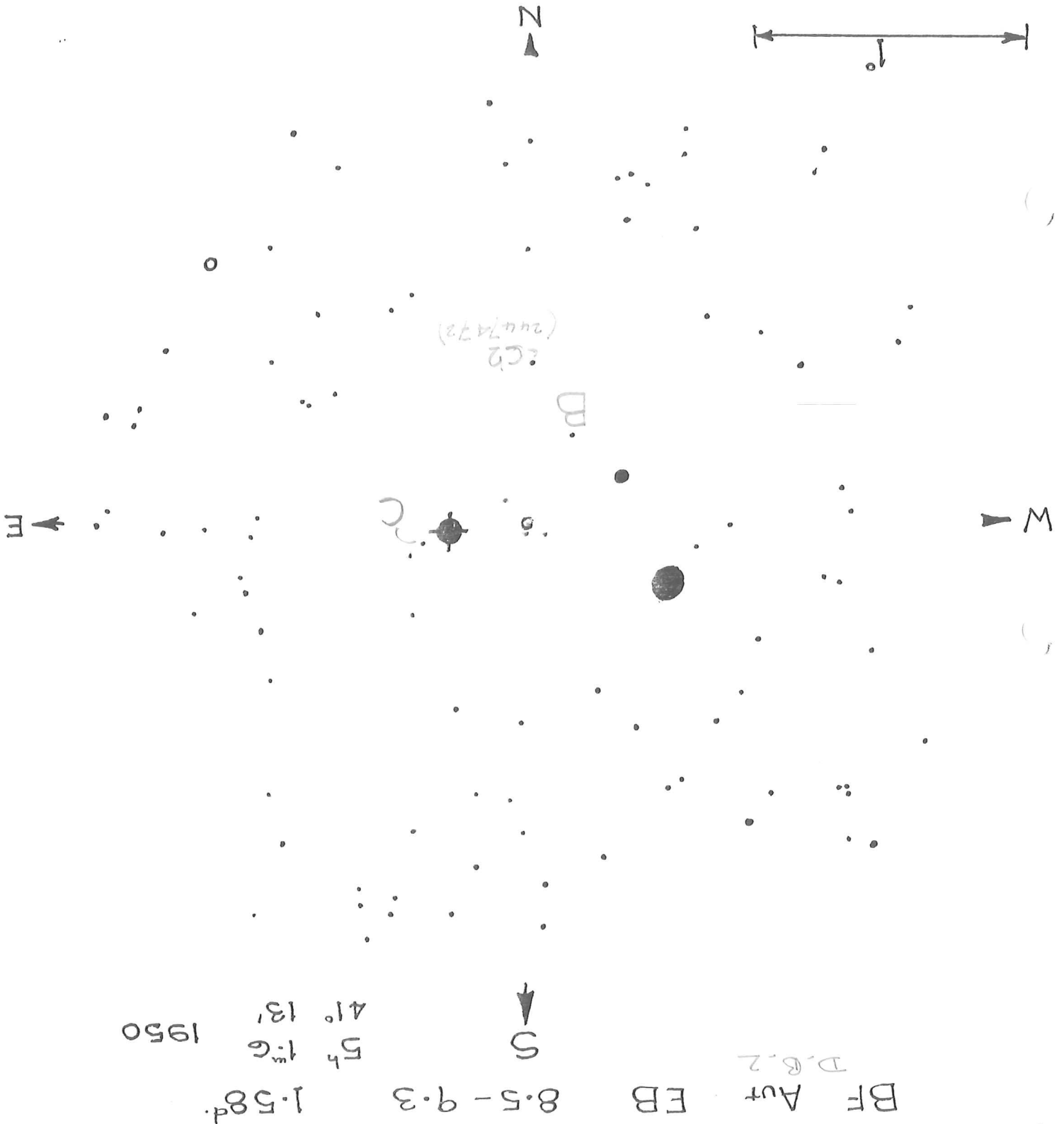


AR Aut
 EA
 6.1-6.8
 4^d 13
 5^h 15^m 0
 33° 43'
 1950

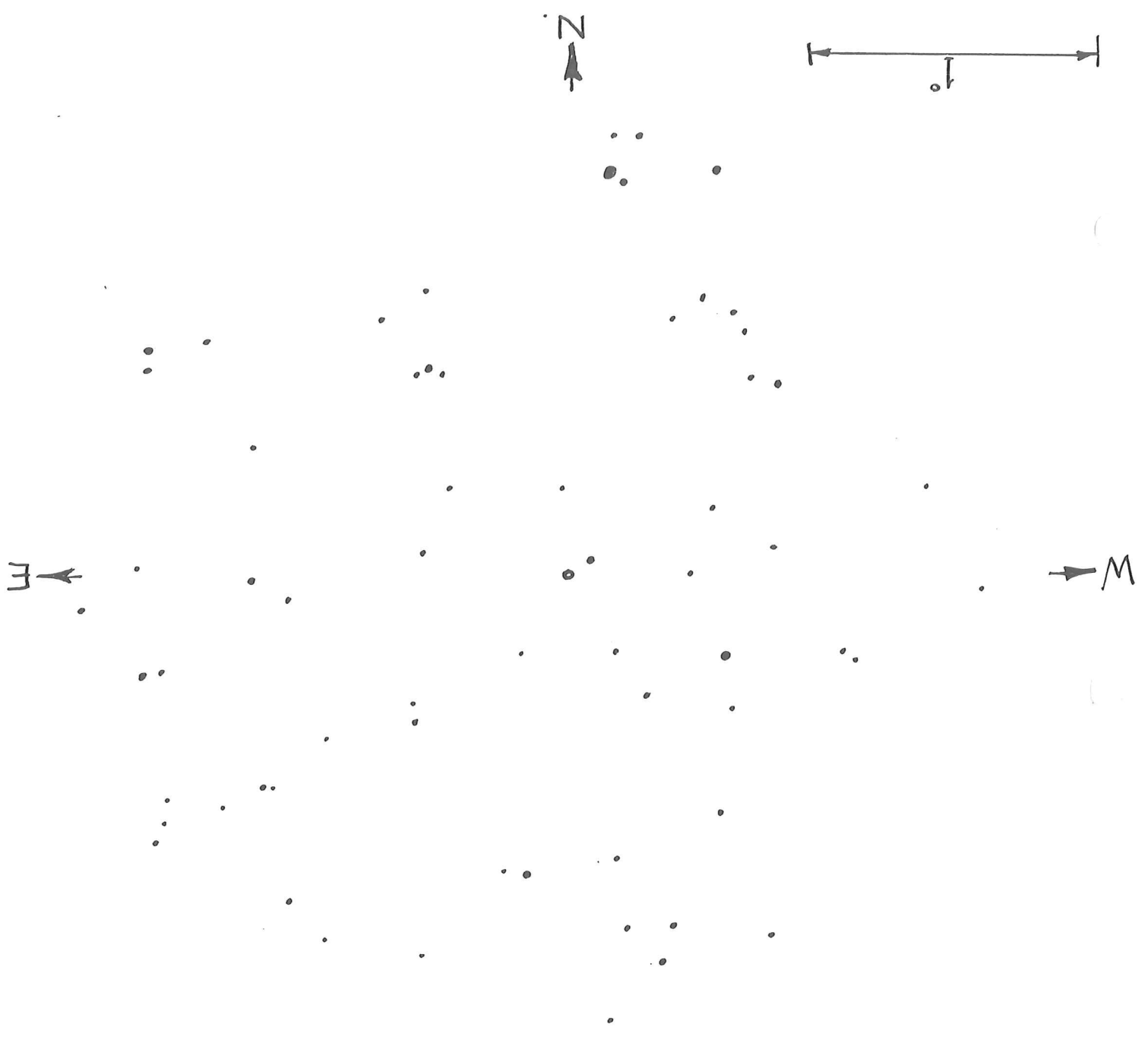
1986 Mar 3 J.W.E.

B+C added + 4 faint stars to assist identification.

SAO	RA	Dec.	m_v	Sp.
B 039992	$5^h 0^m 0.8$	$41^\circ 32'$	8.6	B9
C 040033	$5^h 3.7$	$41^\circ 7'$	8.9	
C2 040001	$5^h 1.4$	$41^\circ 49'$	7.9	A2



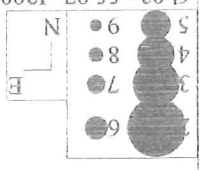
CQ Aut
 9.0 - 9.3
 0.6^h 0.7^m
 31° 20'
 10.6^d
 1950



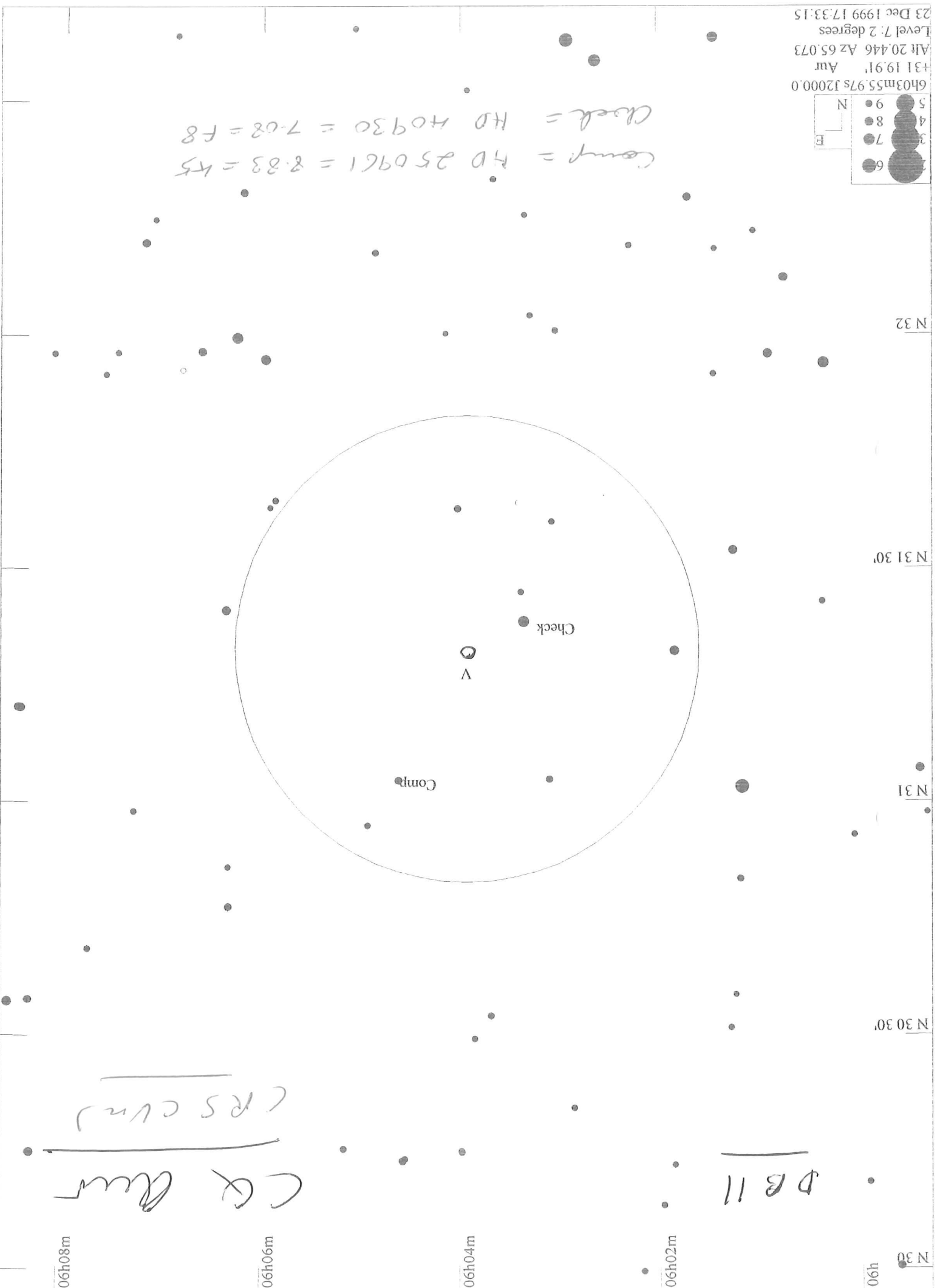
SAO RA Dec. mv Sp.

1.19 F 1985 Jan

23 Dec 1999 17:33:15
 Level 7: 2 degrees
 Alt 20.446 Az 65.073
 +31 19.91' Aur
 6h03m55.97s J2000.0



Comp = HD 250961 = 8.83 = 45
 Check = HD 40930 = 7.08 = F8



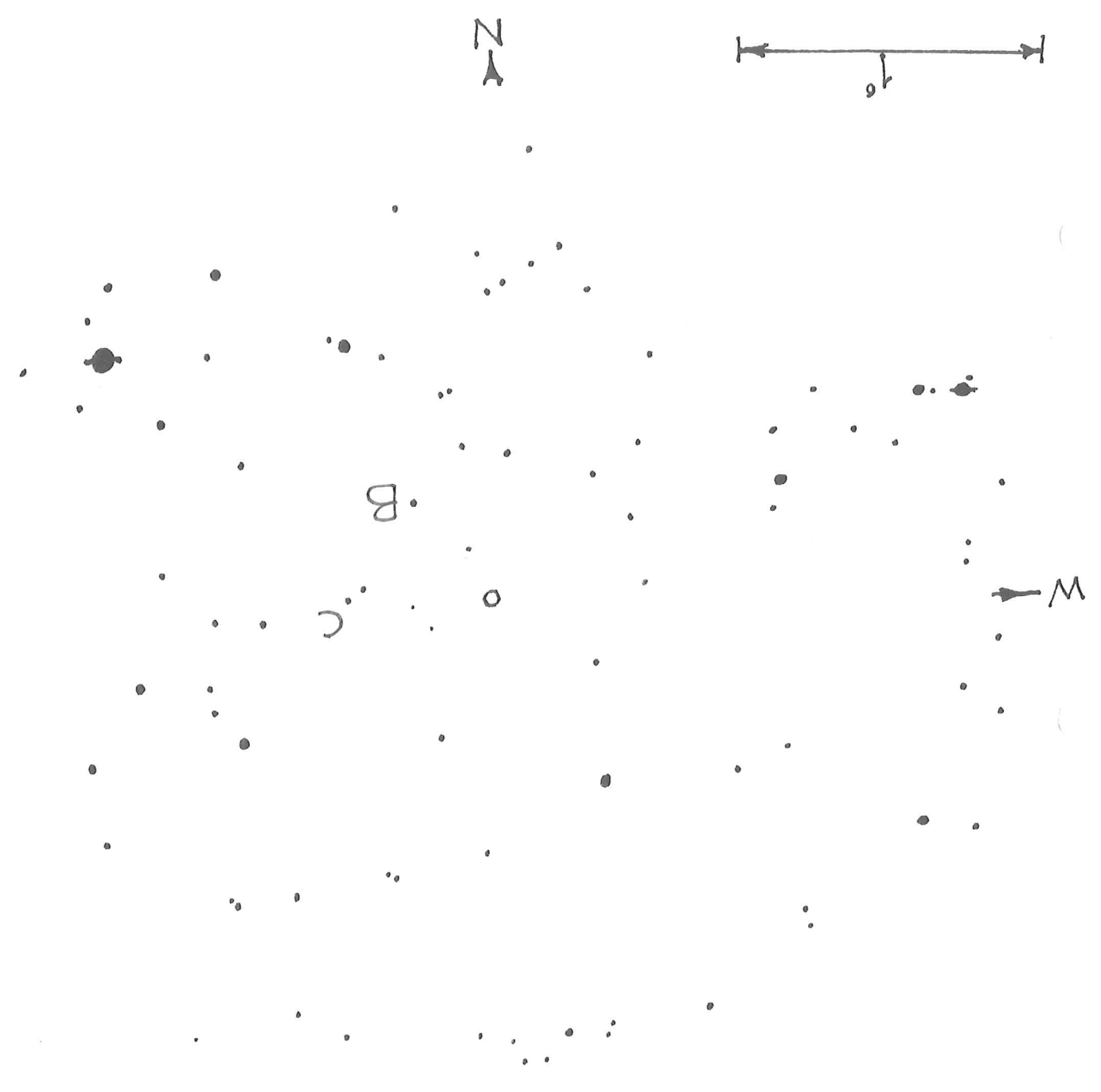
N 32
 N 31 30'
 N 31
 N 30 30'

CRS (vnd)
 CA Aur

DB 11

06h08m
 06h06m
 06h04m
 06h02m
 06h
 N 30'

EO Aut EA 7.5-8.0 S 4.07
 D.B.2 5h 15m 36° 35' 1950



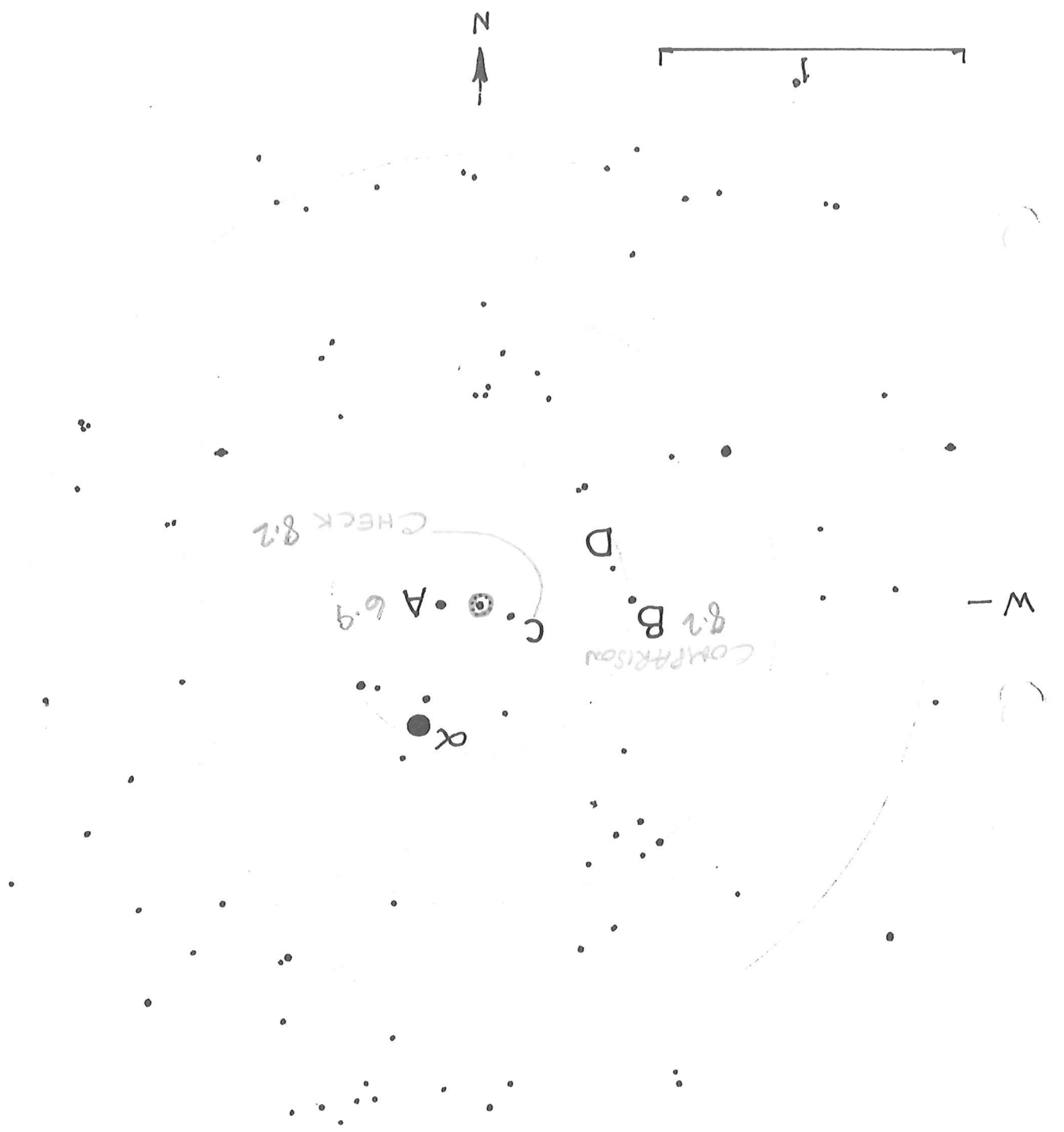
SAO	RA	Dec	mv	Sp.
B 057899	05h 16m	36° 53'	8.3	K2
C 057915	05h 17m	36° 35'	7.9	B2

B+C chosen - 2 faint stars added between EO and B for recognition purposes.
 - star between EO and B moved slightly.
 J.W.E. 1986 Jan.

050846 IM AURIGAE D.B.2

EA 1.24 D
RA 05^h 11.8^m
Dec. +46° 21'

7.9 - 8.5



-E

-W

STAR	m _v	RA	Dec.	SF
EA0				
C40153	6.9	05 ^h 13 ^m	46° 22'	BS
04	8.2	05 ^h 09 ^m	46° 22'	FS
4C	8.2	05 ^h 11 ^m	46° 20'	GS
18	8.9	05 ^h 09 ^m	46° 27'	-

Comparison
Check.

JUNE
12/24

050846

IM AURIGAE

D.B.2

S

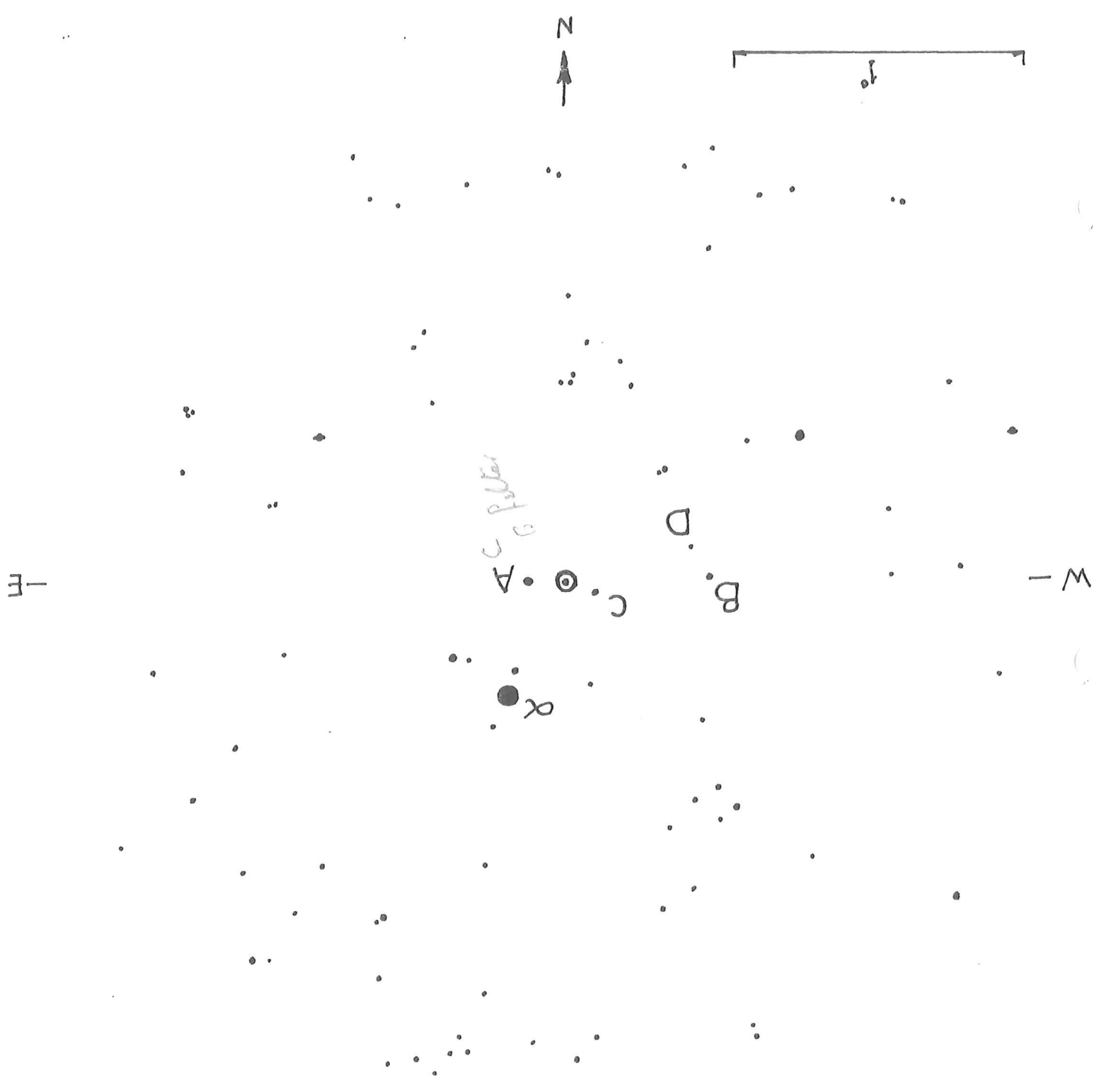
7.9 - 8.5

EA

1.24 d

RA 05^h 11.8^m

Dec. +46° 21'



C40103

18

40

04

8.9

8.9

8.2

8.8

8.9

STAR

10

km

Dec.

SP

05^h 13^m

46° 16'

05^h 11^m

46° 46'

05^h 09^m

46° 29'

BS

FB

GE

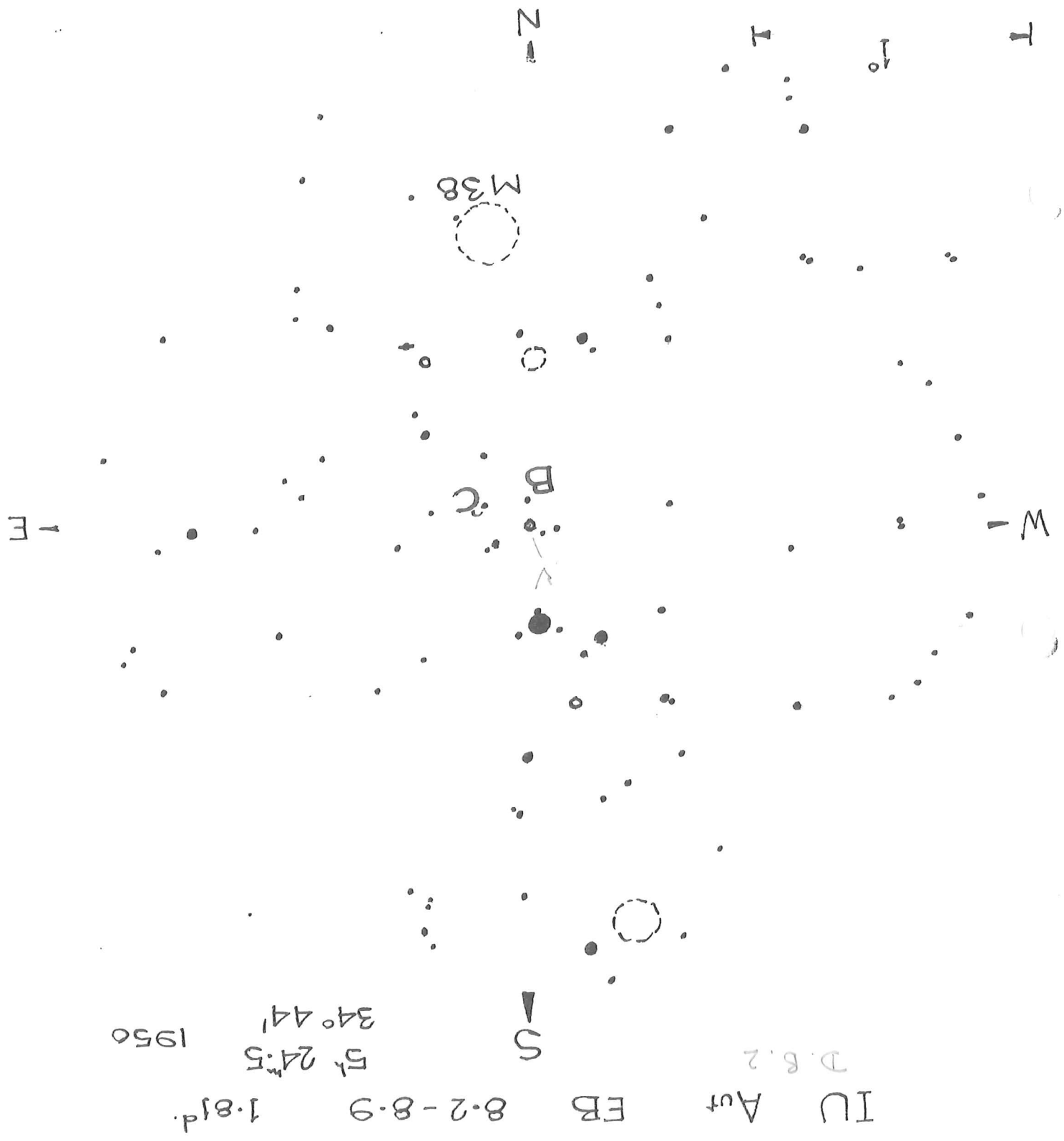
-

-E

-W

RA added. 1986 Feb. 10. J.D.F.

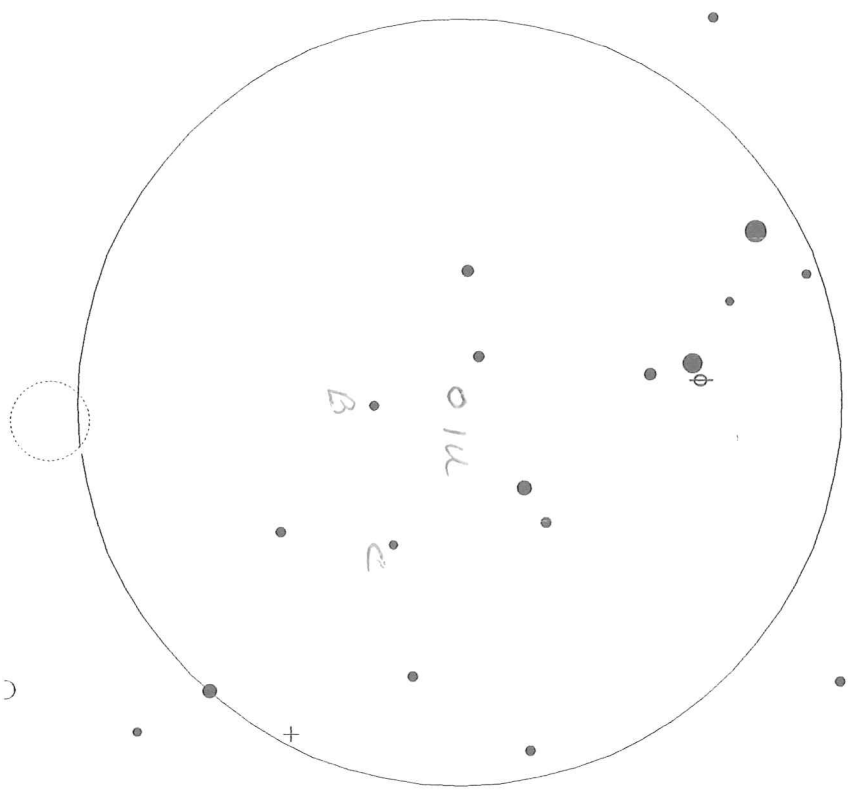
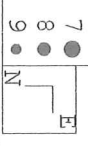
SAO	RA	Dec.	mv	Sp.
B 058061	05 ^h 25 ^m	34° 51'	8.4	K
C 058080	05 ^h 25 ^m	34° 50'	8.7	K2



IU Aut D. 8.2
 EB 8.2-8.9
 S 51 24.5
 34° 44'
 1950 1.81d

14 dwt

Open CI
2 ● 6 ●
3 ● 7 ●
4 ● 8 ●
5 ● 9 ●
05h27m53.85s J2000.0
+34 46.72' Aur
Alt -1.5 Az 339.9
Level 7: 2 degrees
19 Feb 1997 5:52:00



N

SAO
35940
35519

RA
0530
0527

Dec.
3507
3527

mv
6.26
6.15
Sp.
110 = Camp
112 = clock



N

E

W

Aut LY
Aut EB
6.7-7.4 S
4.00^d
5^h 26^m 4
35^s 20
1950

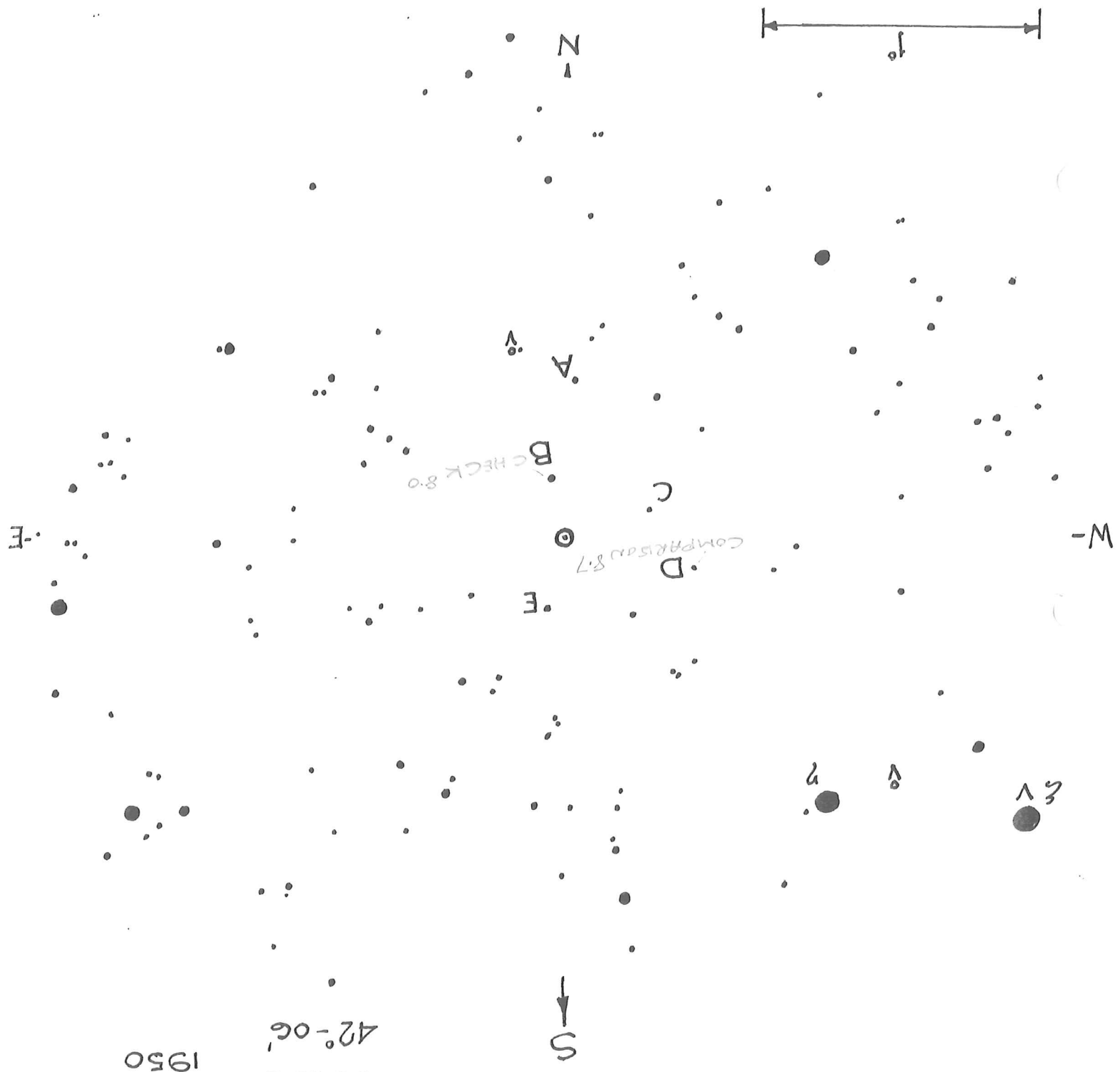
S



SAO	RA	Dec	mv
A 040094	05 ^h 08 ^m 42 ^s 41'	8.2	B9
B 040101	05 ^h 09 ^m 42 ^s 20'	8.0	B8
C 040066	05 ^h 06 ^m 42 ^s 11'	8.9	?
D 040060	05 ^h 06 ^m 41 ^s 59'	8.7	A0
E 040102	05 ^h 09 ^m 41 ^s 50'	8.4	B8

①

②



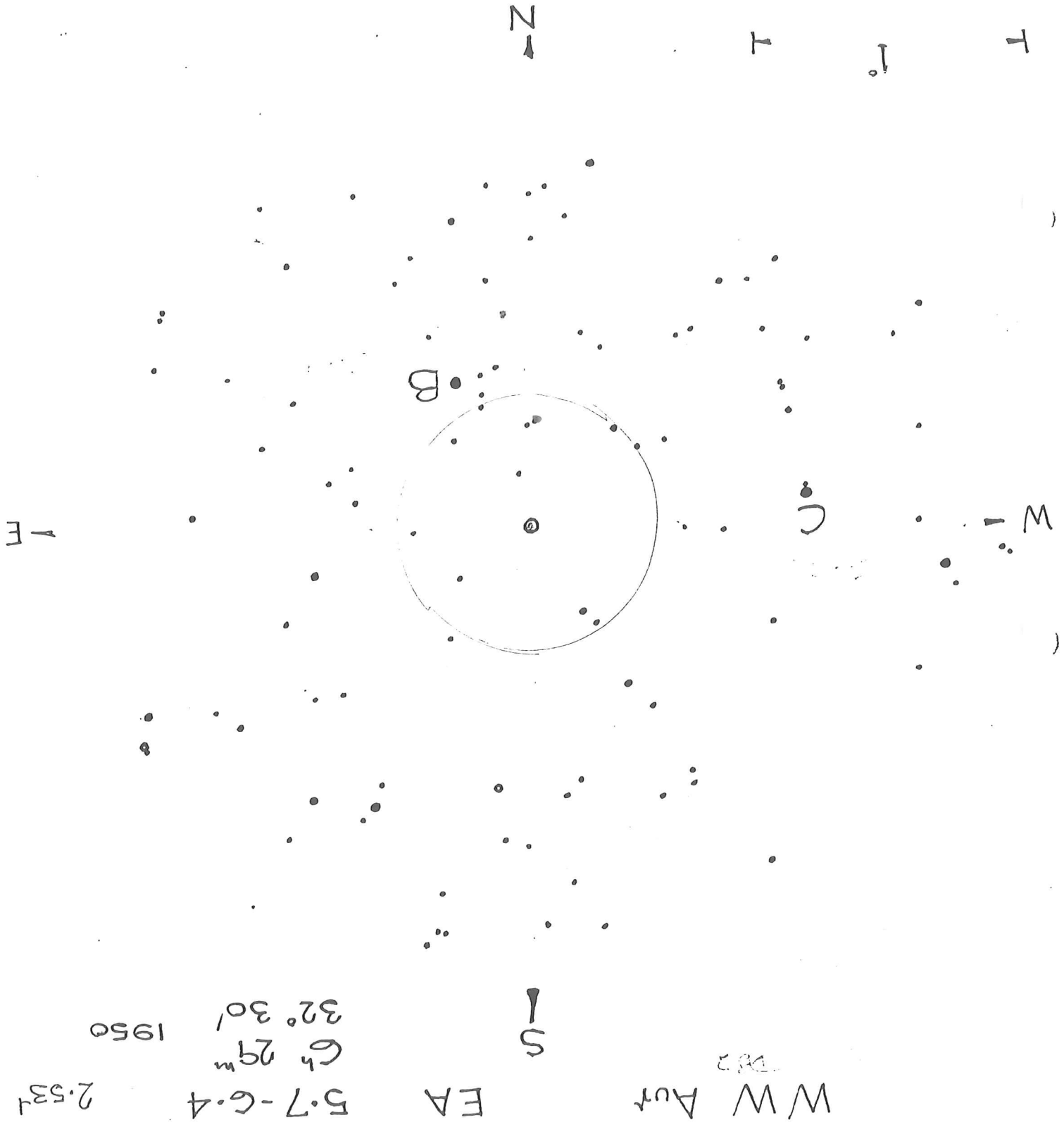
COMPARISON 8.7
CHECK 8.0

1950
05^h 08^m 42^s 06'

SX AURIGAE EB 8.2-8.9 1.21^d (12)

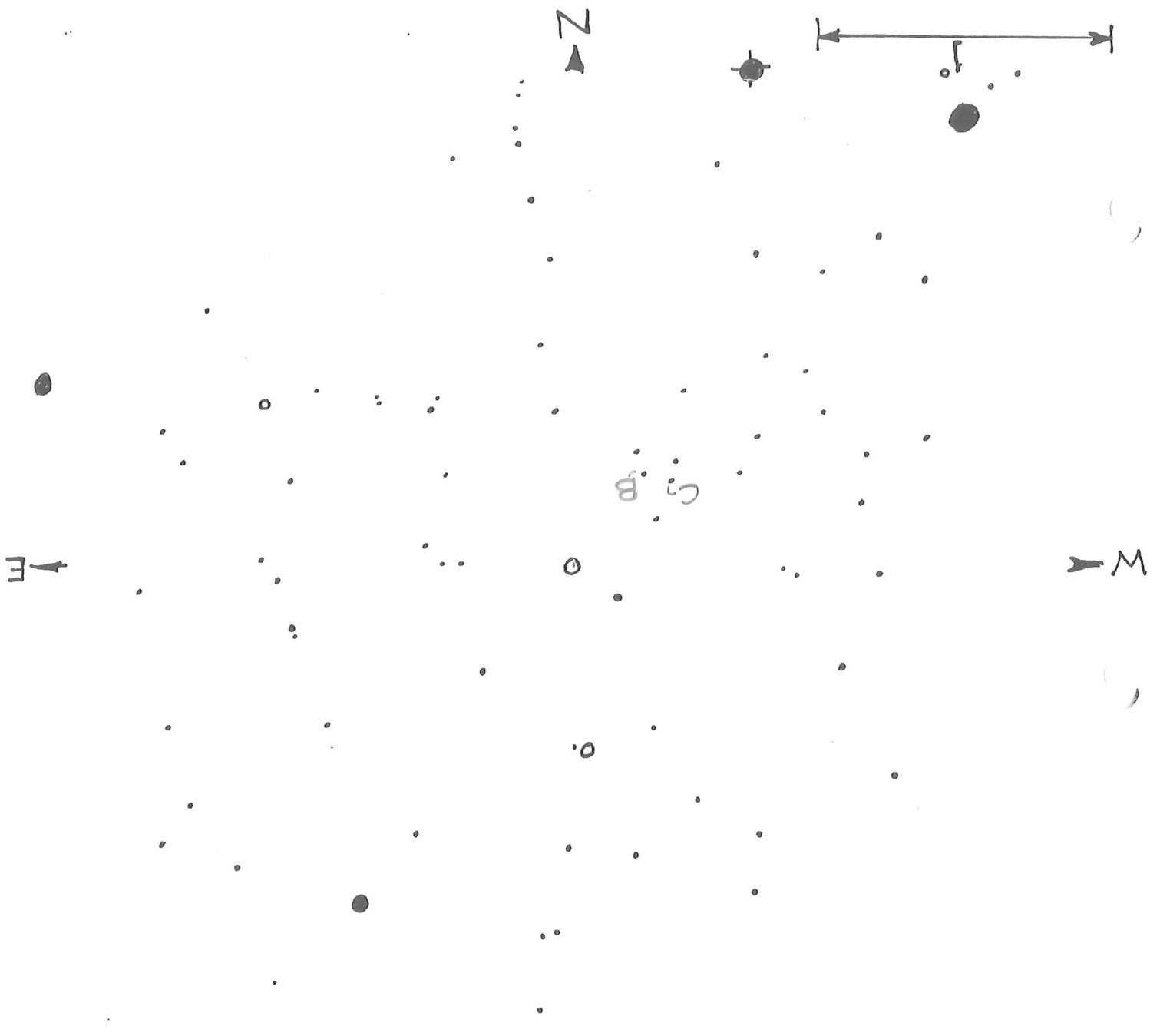
39C added 1986 Feb 21 J.W.E.

SAO	RA	Dec.	<i>m_v</i>	Sp.
B 059222	6 ^h 30 ^m	33° 04'	6.4	A0
C 059096	6 ^h 24 ^m	32° 36'	6.4	K0



JWE

SAO	RA	Dec.	m _v	Sp.
B	05 ^h 05 ^m	39° 48'	8.3	A0
C	05 ^h 04 ^m	39° 47'	8.1	B9



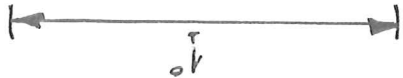
TT Aut	8.3-9.2	5 ^h 39°	6.2	1.33 ^d
EB		32'		
D.B.2.				1950

W

N

S

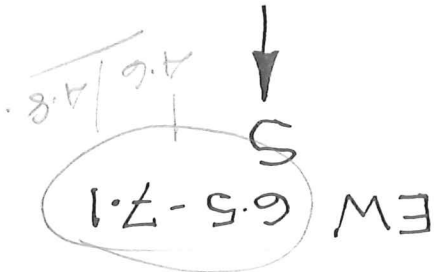
SAO	RA	Dec.	m _v	Sp.
B 045370	15 ^h 04 ^m	48° 21'	5.6	A0
C 045326	14 ^h 59 ^m	47° 28'	6.2	A0



B 5.6

C 6.2

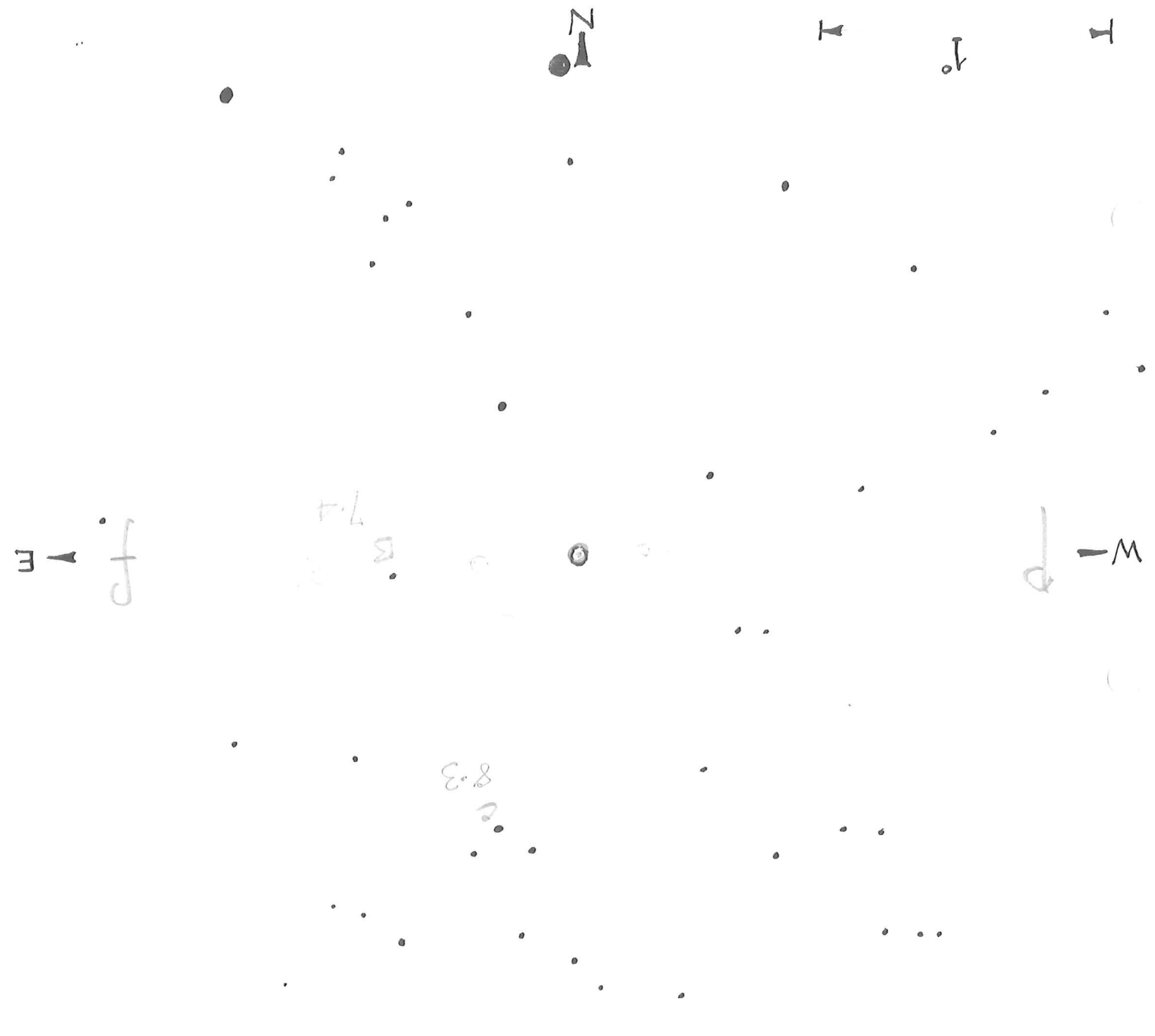
0.27
15^h 02^m
47° 51'



! Boo
587
(60.)

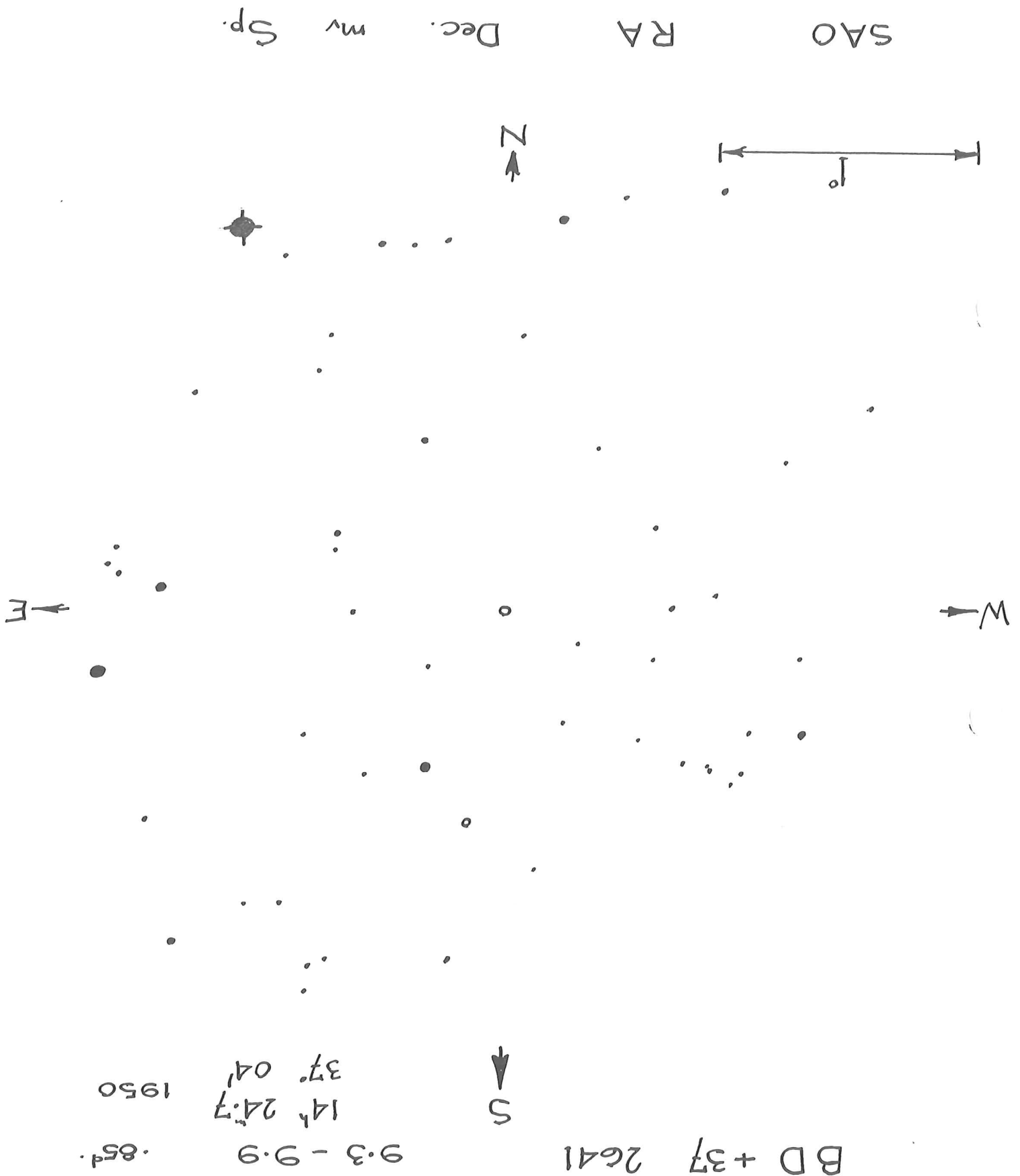
JWE

083096 83
083108 72

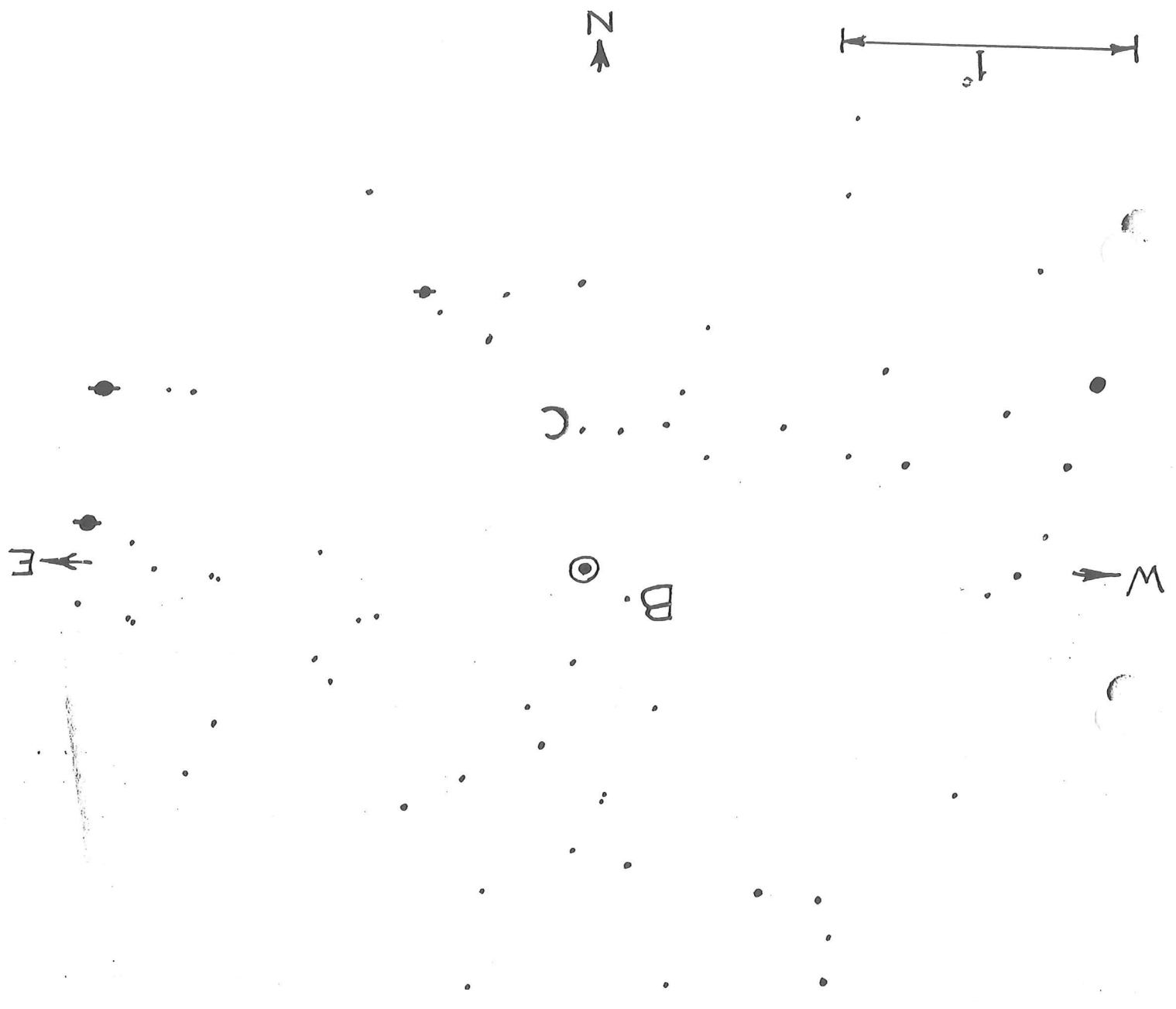


SAO	RA	Dec.	mv	Sp.
B 083108	13 ^h 57 ^m	26° 04'	7.4	A5
C 083096	13 ^h 55 ^m	25° 15'	8.3	K0

ZZ Boo	EA	S	I
D.B.3	6.8	7.2 - 7.9	7.5
	4.99 ^d	13 ^h 53 ^m 9	26° 10'
		1950	



SAO	RA	Dec.	mv	Sp.
B 024616	04 ^h 23 ^m	52°45'	8.5	AO
C 024633	04 ^h 25 ^m	53°20'	8.4	A2.



AO Cam
D.B.S
9.5 - 10.0
04^h 24^m 3
56' 52°
0.33^d
1950

JWE

SAO	RA	Dec	mv	Sp.
B 013471	5 ^h 18 ^m	69° 31'	8.6	A5
C 013467	5 ^h 18 ^m	69° 21'	8.4	F2



N ↑

← E

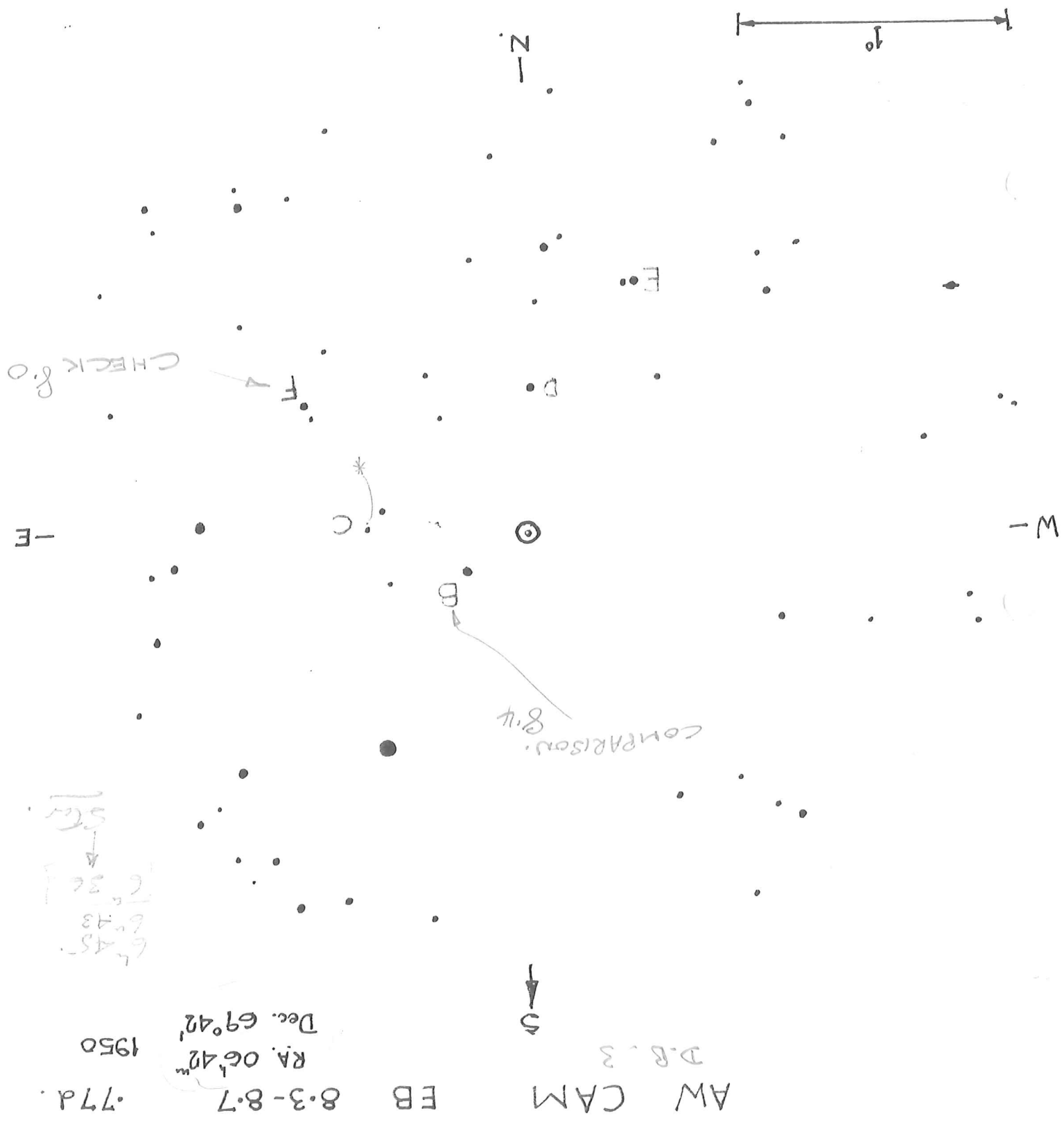
← W

AS Cam	EA	RA	Dec	mv	Sp.	Date
D.B. 5	EA	8.2-8.8	69° 28'	5 ^h 24 ^m 3	3.43 ^d	1950

↓ S

* First comparison near C - estimated to be early

B	06 ^h 41 ^m	69° 38'	K5	8.4	013963
C	06 ^h 49 ^m	69° 44'	K2	8.9	013995
F	06 ^h 51 ^m 8	70° 09'	A0	8.2 to	006016
D	06 ^h 42 ^m	70° 17'	K0	8.3	005973
E	06 ^h 36 ^m 8	70° 28'	G0	8.3	005942



S

AW CAM D.B. 3

EB

8.3-8.7

RA. 06^h 42^m

Dec. 69° 42'

1950

.77A

COMPARISON 8.4

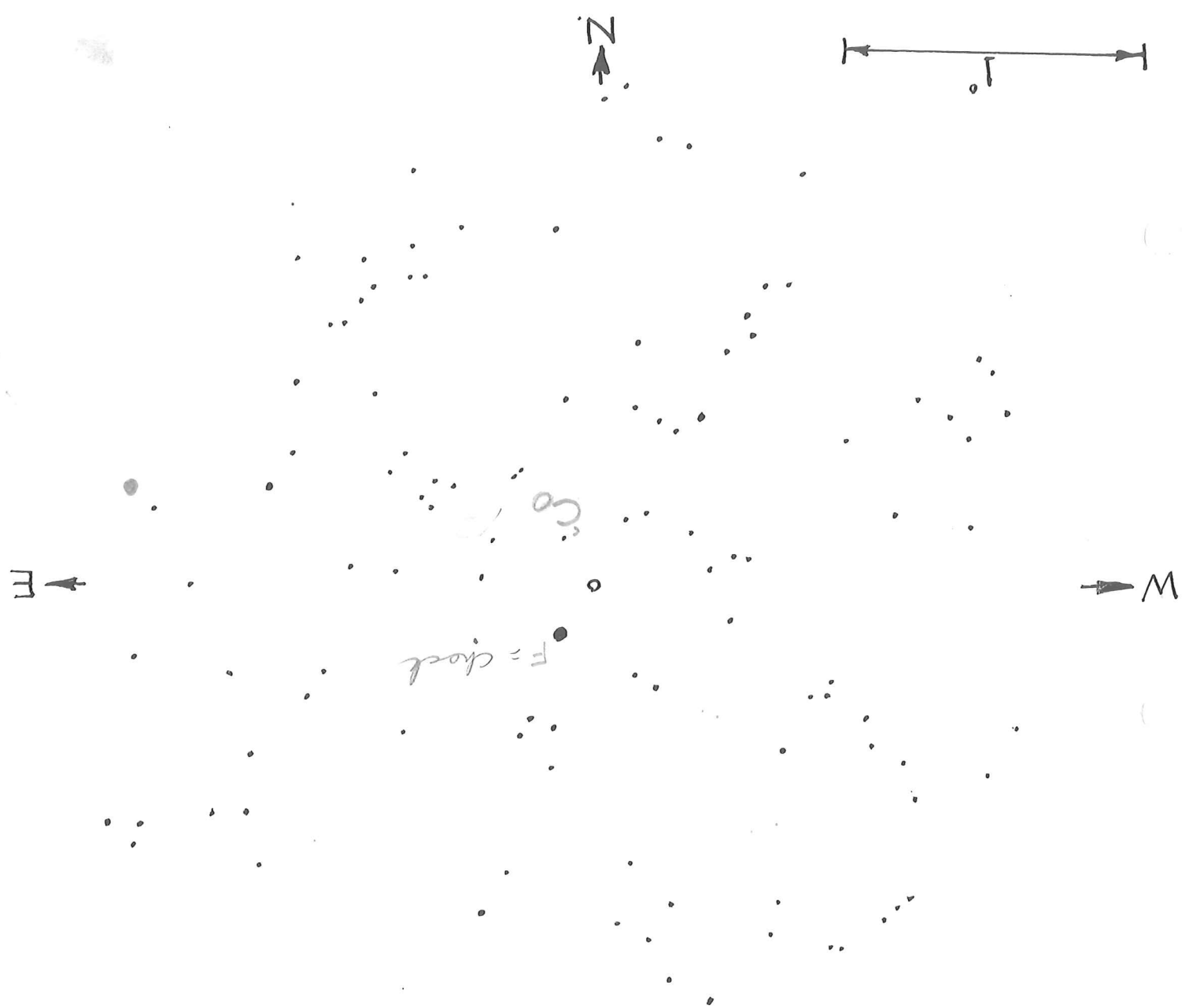
CHECK 8.0

S.P. m

J.W.E. 1986 Jan.
 B9C added 1986 Feb to J.W.E.

check 1989 Jan 18.
 Added = G

SAO	RA	Dec.	m _v	Sp.
B 001060	06^h 40^m	82° 26'	9.3	
C 001047	06 ^h 34 ^m	82° 28'	8.8	KO
F 001043	06 ^h 34 ^m	82° 10'	6.4	A2



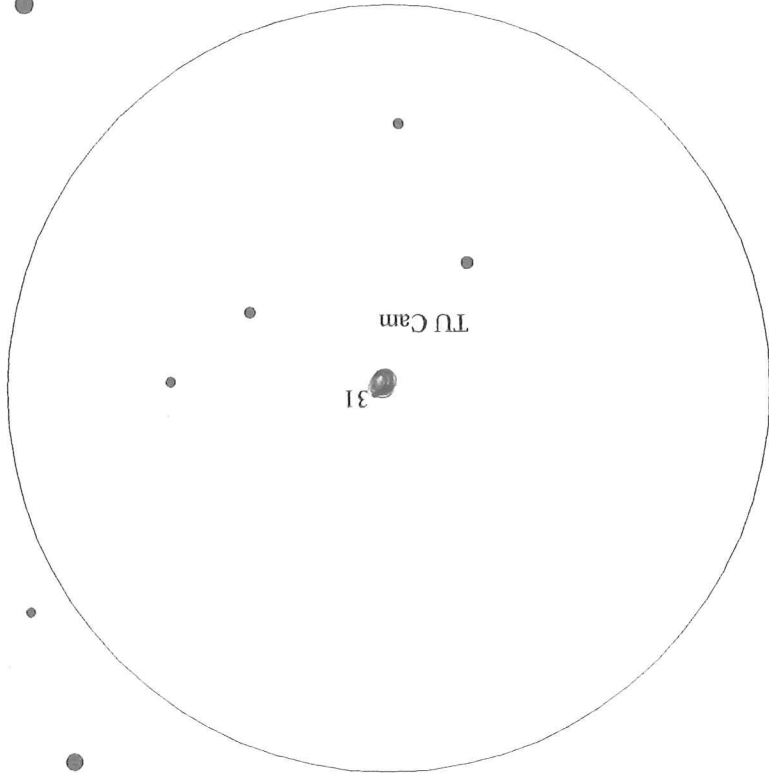
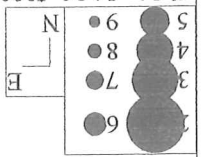
(FSCV2)

0.6^d
 8.4-9.1
 06^h 30^m 6
 82° 19'
 1950

SV Cam
 D & I
 See Revised data
 on sep disc II

S

15 Feb 2000 15:28:21
Level 7: 2 degrees
+59 52.94' Cam
5h54m54.26s J2000.0



B = Comp

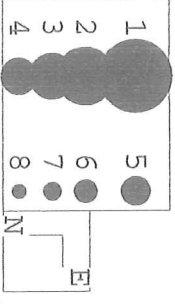
Check

30

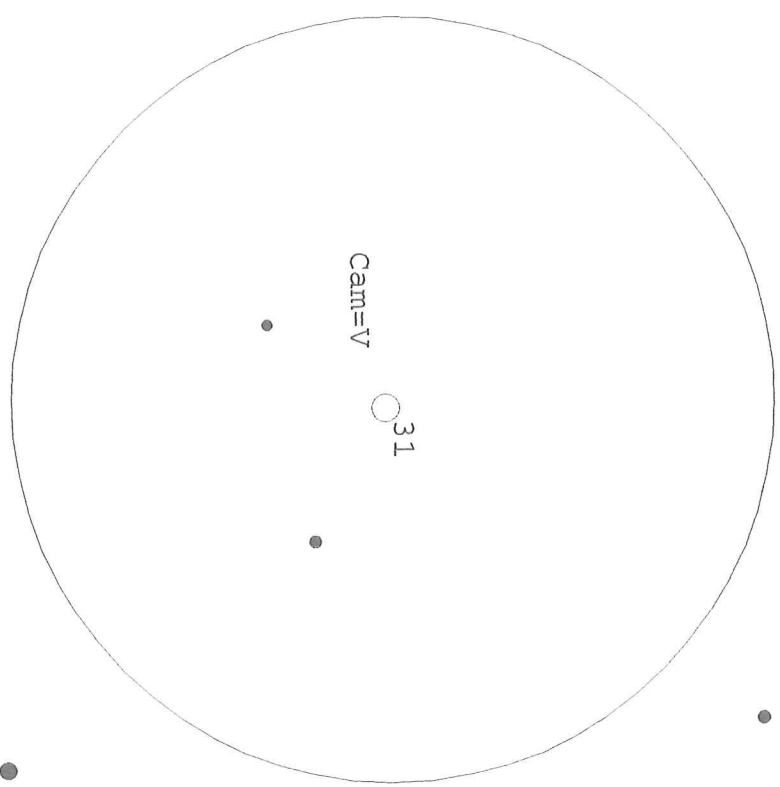
DB 10

TU Cam

05h54m53.08s J2000.0
 +59 52.73' Cam
 Level 7: 2 degrees
 21 Feb 1997 17:34:14
 TU Cam
 5.12-5.29
 A=6.0, B=7.0



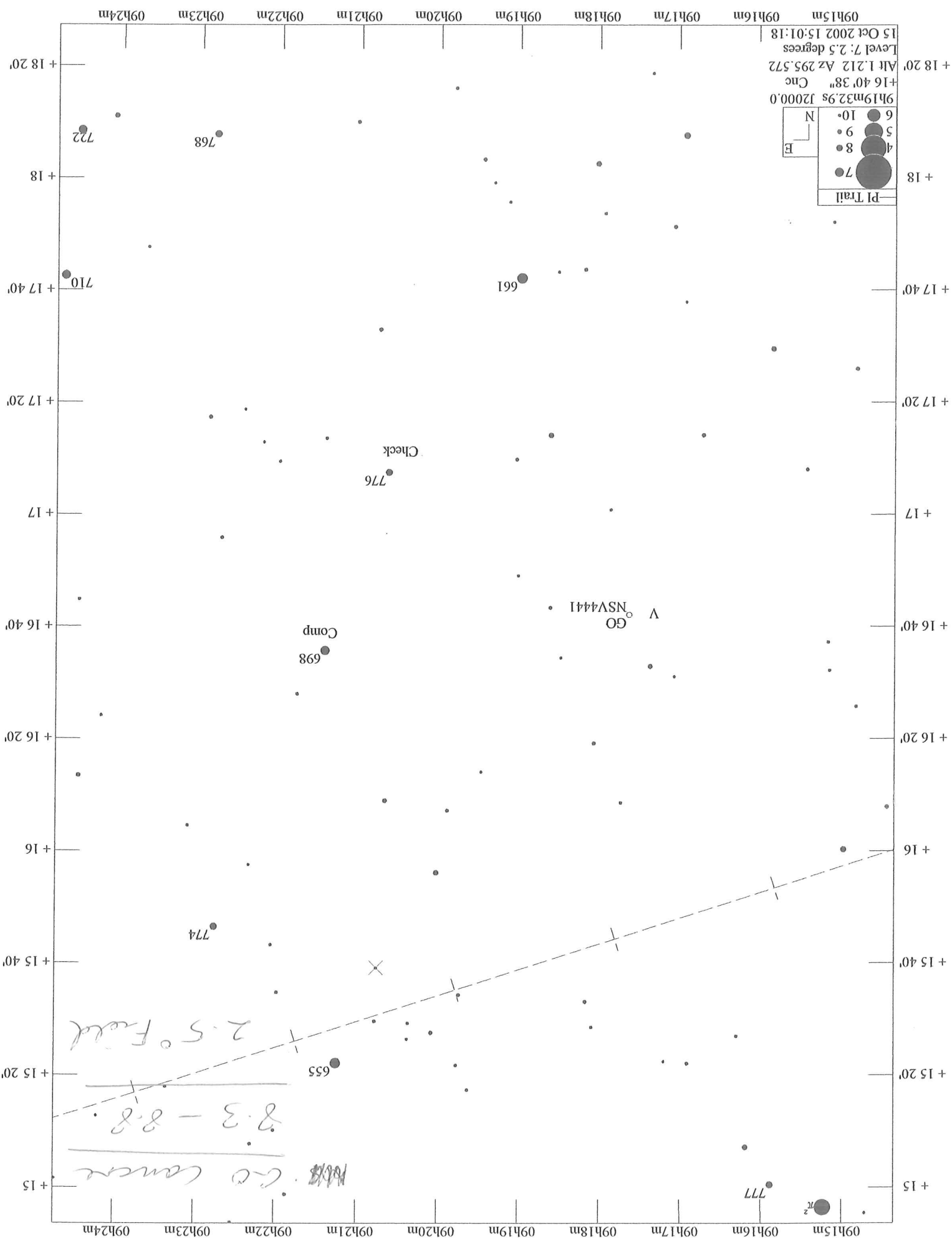
N



= A
 +
 Cur
 30

DB 10

TU Cam



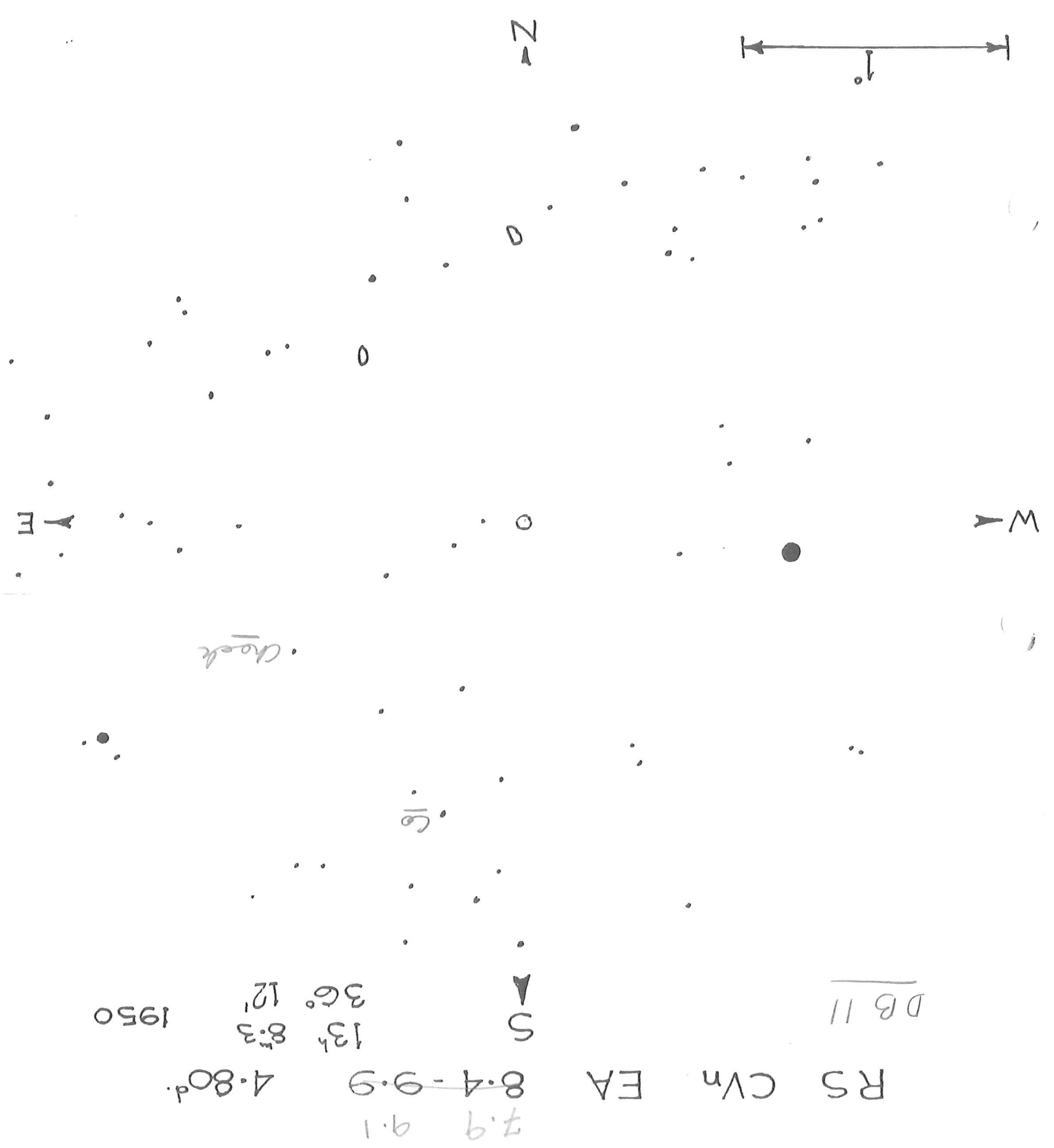
JWE

HD	114778
SAO	63429
RA	13 12
RA	13 15
Dec.	34 49
mv	6.82
Sp.	A2
check	check

HD	115197
SAO	63429
RA	13 12
RA	13 15
Dec.	34 49
mv	6.82
Sp.	A2
check	check

HD	115197
SAO	63429
RA	13 12
RA	13 15
Dec.	34 49
mv	6.82
Sp.	A2
check	check

HD	115197
SAO	63429
RA	13 12
RA	13 15
Dec.	34 49
mv	6.82
Sp.	A2
check	check



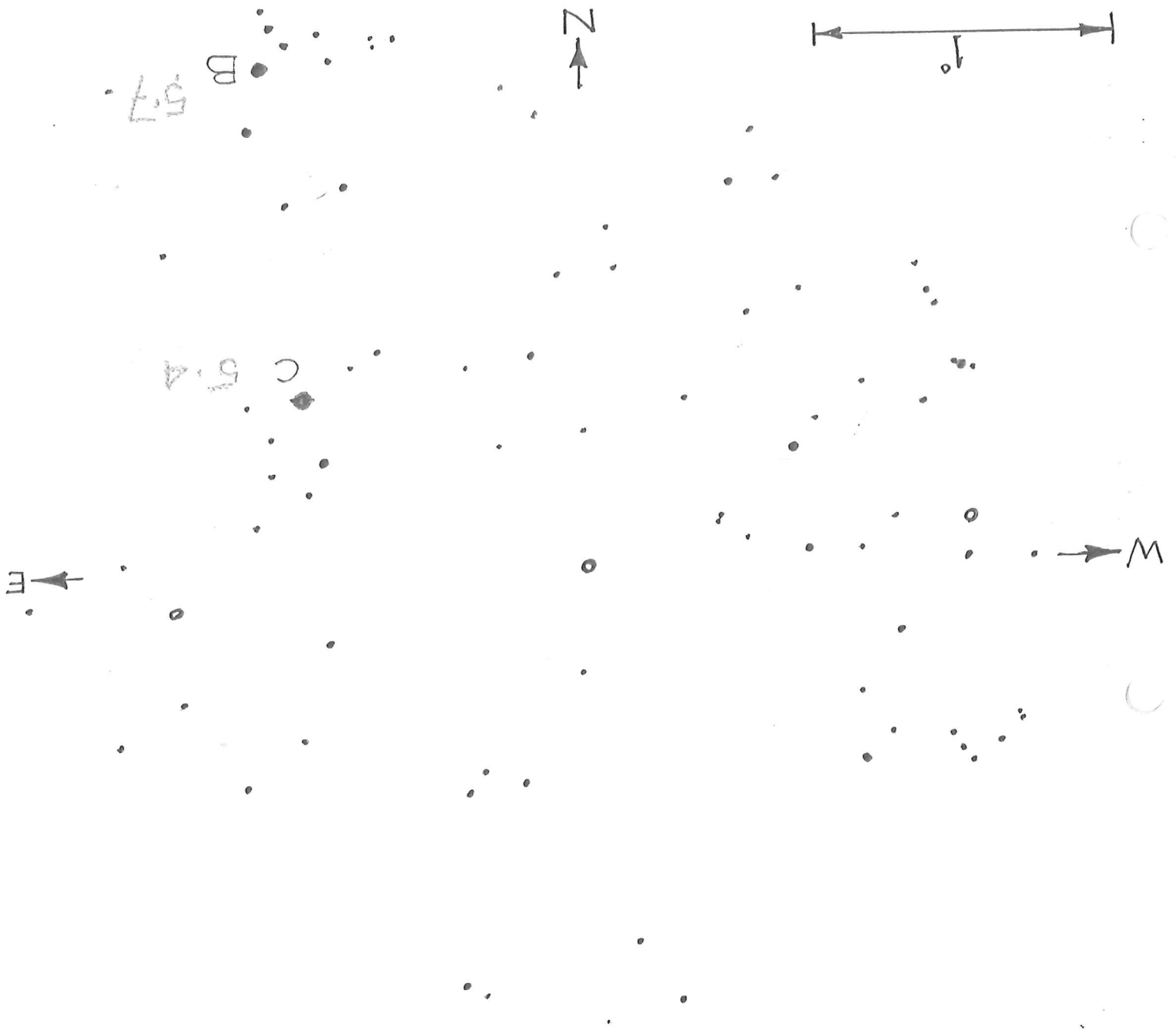
DB 11

RS	CVn	EA
7.9	8.4-9.9	4.80 ^d
13 ¹	8.3	12'
36°	12'	1950

S

1950

SAO	RA	Dec.	MV	Sp.
B 021381	0 ^h 22 ^m	52° 46'	5.7	B9
C 021366	0 ^h 22 ^m	51° 45'	5.4	B3

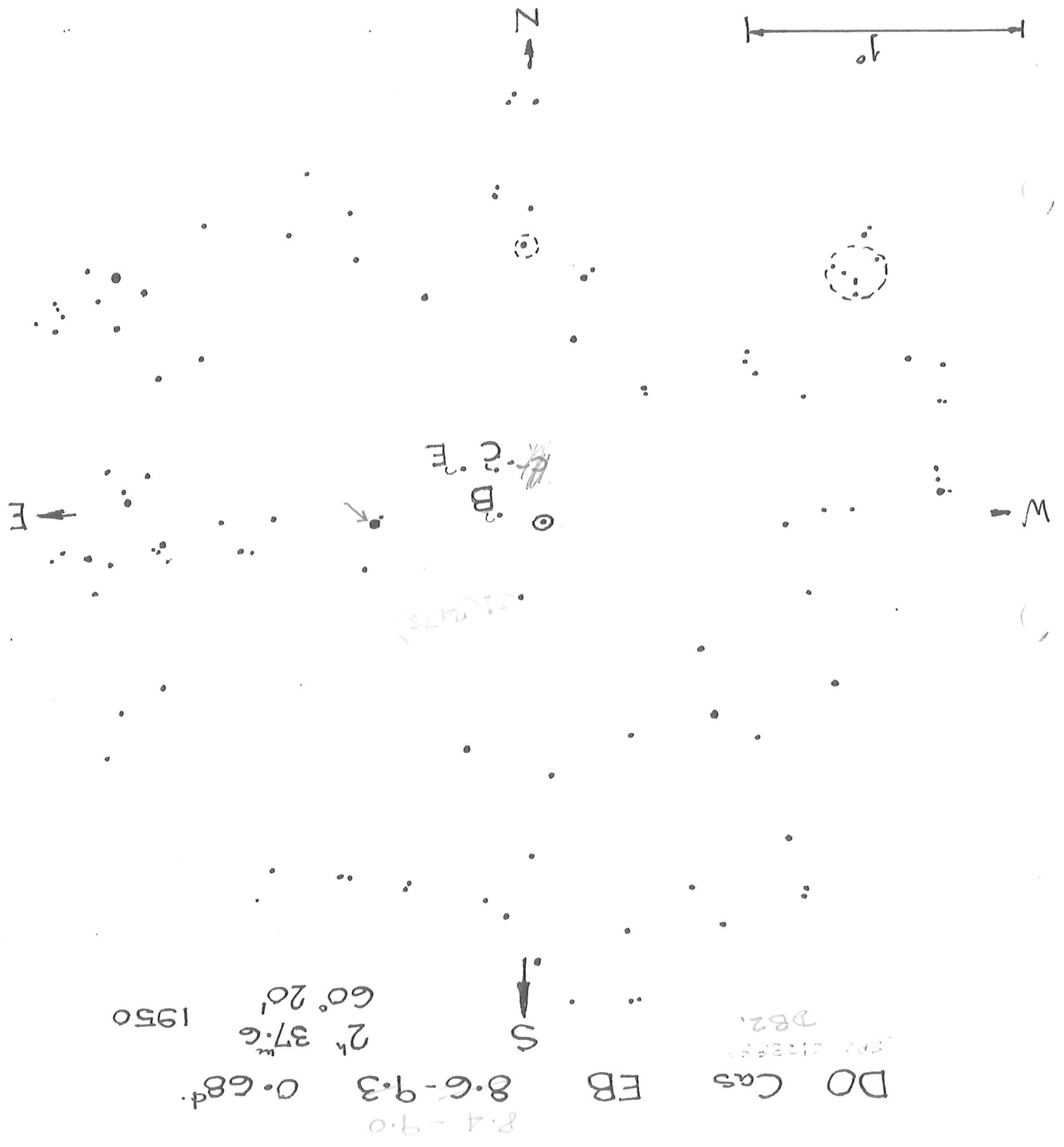
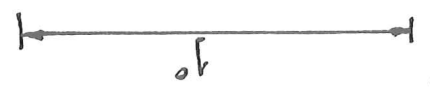


3.52^d
 00^h 15^m 51^s 09' 1950

↓ S
 AO Cas EB 6.0-6.1
 DB7

READ CAREFULLY if V. difficult star to locate. Maybe be best to look for bright stars marked with red arrow, star C in BLACK in one to use. Star E in RED may have inadvertently been used on one occasion. five

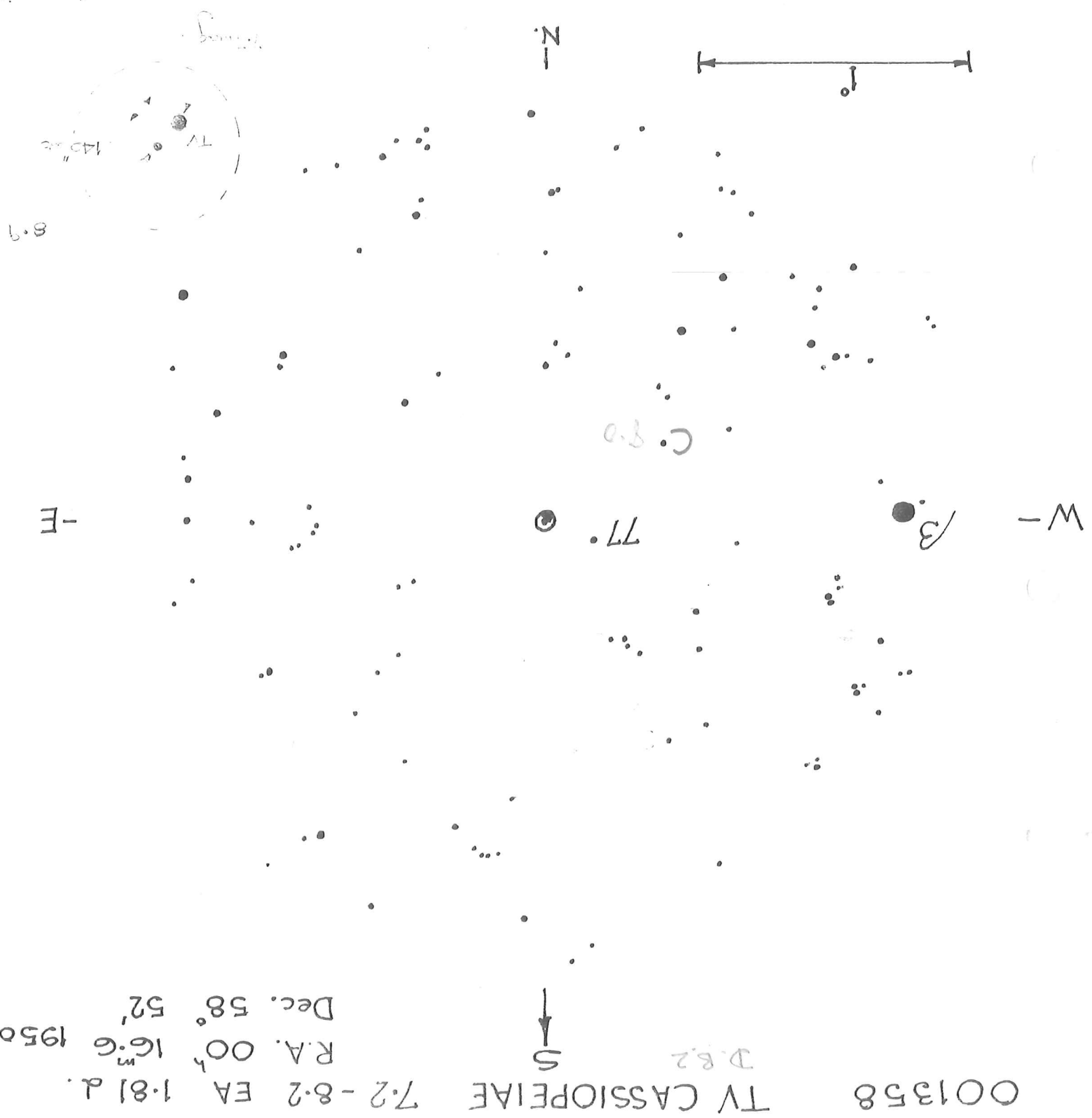
SAO	RA	Dec.	MV	Sp.
012424	02 ^h 41 ^m	60° 40'	9.0	
012409	02 ^h 39 ^m	60° 38'	9.1	
012412	02 ^h 40 ^m	60° 24'	8.8	G0



DO Cas	EB	RA	Dec.	MV	Sp.
		8.4-9.0	8.6-9.3	0.68 ^d	
		2 ^h 37.6 ^m	60° 20'	1950	

1985 Dec 17 + C designations.

SAO	RA	Dec	mv	SP.
021256	0 ^h 13 ^m	59° 10'	8.0	B9
021277	0 ^h 15 ^m	58° 47'	7.6	B5



-E

W-

S

N

TV

77

C.8.0

B

8.9

140

TV

001358

TV CASSIOPEIAE

D.8.2

7.2-8.2 EA

RA.00

Dec.58

52

16.6

1950

58

7.2-8.2

EA

RA.00

Dec.58

52

16.6

1950

58

7.2-8.2

EA

RA.00

Dec.58

52

16.6

1950

58

7.2-8.2

EA

RA.00

Dec.58

52

16.6

1950

58

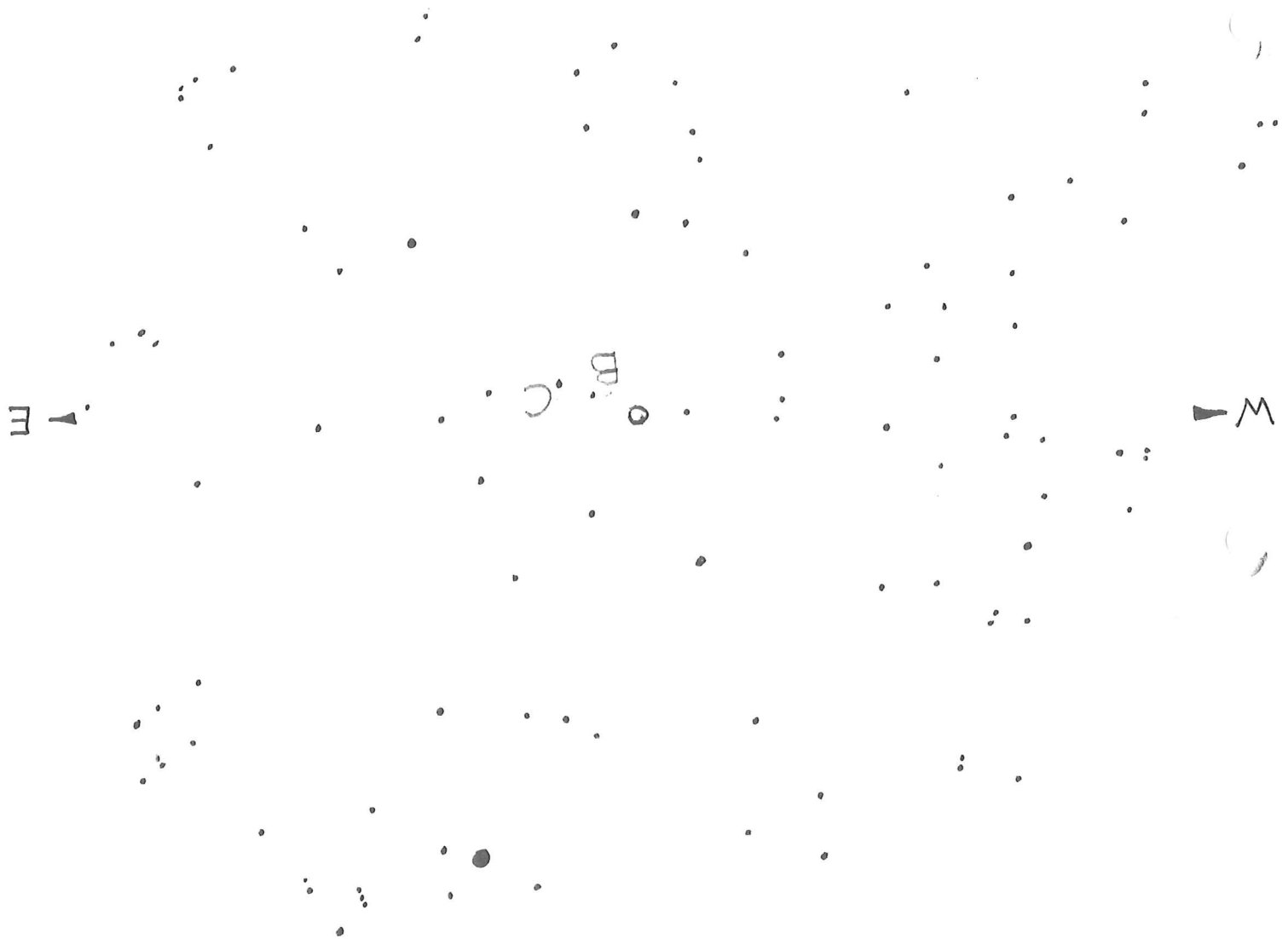
7.2-8.2

EA

SAO	RA	Dec.	m _v	Sp.
B 012495	02 ^h 50 ^m	62° 39'	9.2	A5
C 012501	02 ^h 50 ^m	62° 40'	9.0	A0



N



S

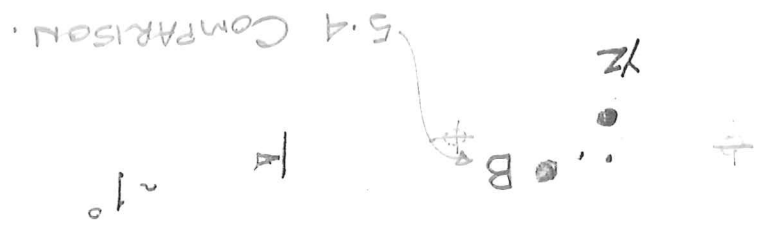
TX Cas 2.85
 EB 9.2-9.8
 2^h 48^m 2
 62° 35'
 1950

2.93^d

004210	A2	004210
004226	B8	004226
004229	A0	004229
004230	00	004230

YZ	00	42"	74° 43'	5.7 - 6.1	Mag.
A B	00	44"	74° 34'	5.4	
C	00	45"	72° 24'	6.0	
H	00	28"	76° 45'	6.4	

Use A key positions

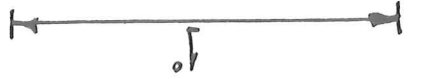


D58

YZ Cas. (Temporary name)

1985 April 17

SAO 004226 B
 RA 0 44^m
 Dec. 74° 34'
 mv 5.4
 Sp. B8



N

E

W

B

*See
 temperature
 chart
 DB8*

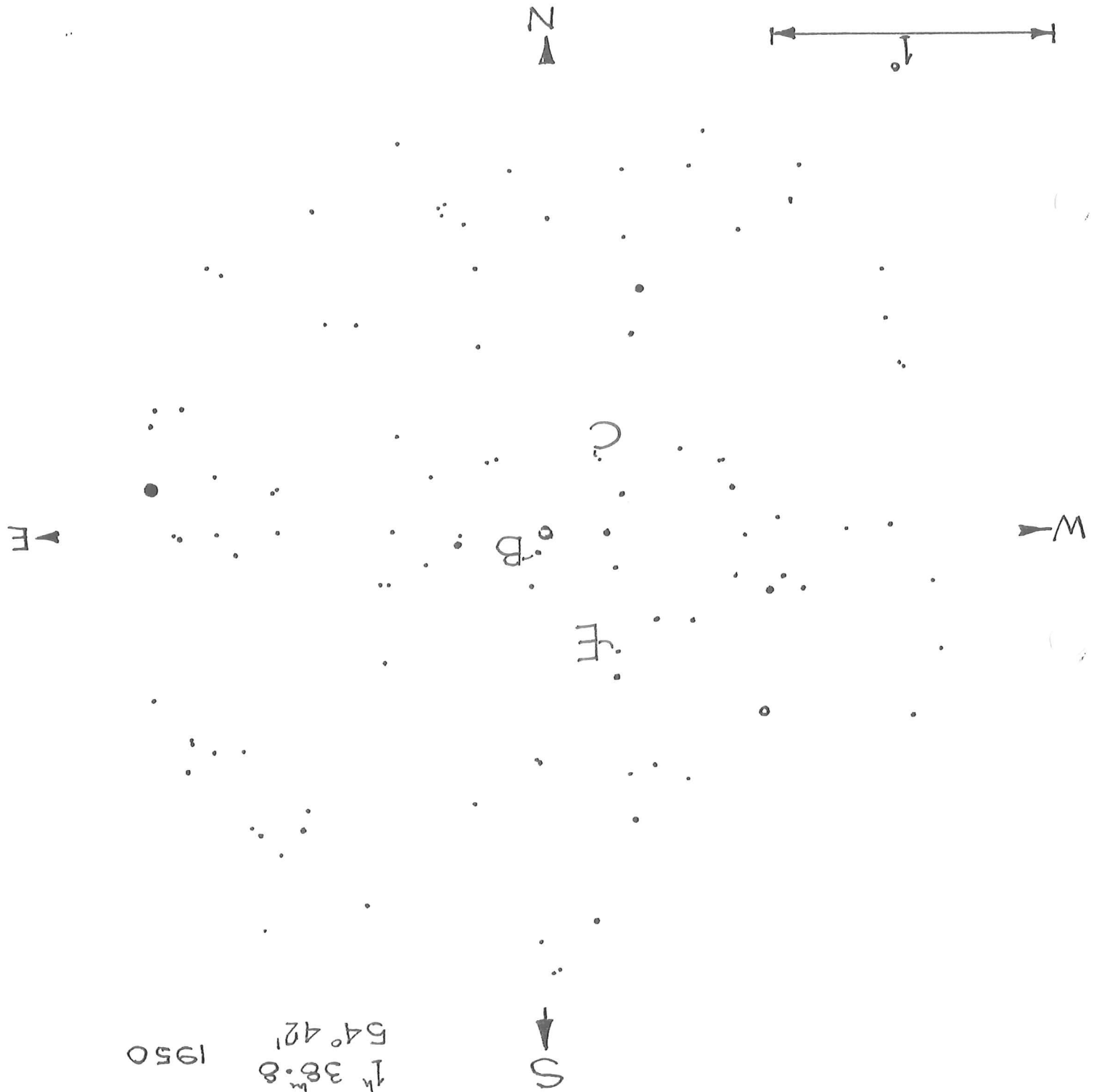
S

4.47d
 O^h 42:3
 74^d 43^m
 1950.

YZ Cas EA 5.7-6.1

1985 Dec. B,C,E added.

SAO	RA	Dec.	m _v	Sp.
B	022524	54° 37'	8.8	F0
C	022502	54° 55'	8.9	B9
E	022490	54° 18'	9.2	G.



Deleted from John Isles list
 MN Cas EA 8.8-9.3 1.92^d
 1^h 38.8 54° 42' 1950

023969

RZ CASSIOPEIAE

EA 6.2-7.7

1.2^d

RA. 02^h44.3

1950

Dec. 69° 26'

S ↓

↑

B

D

F

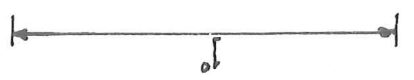
8.0 CHECK

E

7.3 COMPARISON

W-

-E



N ↓

B	012345	6.8 m.v.	02 ^h 21 ^m	68° 09'	F2
D	012356	7.7	02 ^h 33 ^m	68° 50'	K0
E	012386	7.3	02 ^h 37 ^m	69° 30'	B8
F	012365	8.0	02 ^h 34 ^m	69° 51'	A2



TW CASSIOPEIAE

D-8-2

S



8-3-9.0 EA 1-43d.

R.A. 02^h 41^m 7

Dec. 65° 31'

1950

W -

-E



N

L

02^h 54^m

64° 53'

A2

8.4

012534

(2)

A

02^h 43^m

68° 31'

?

8.5

SAC

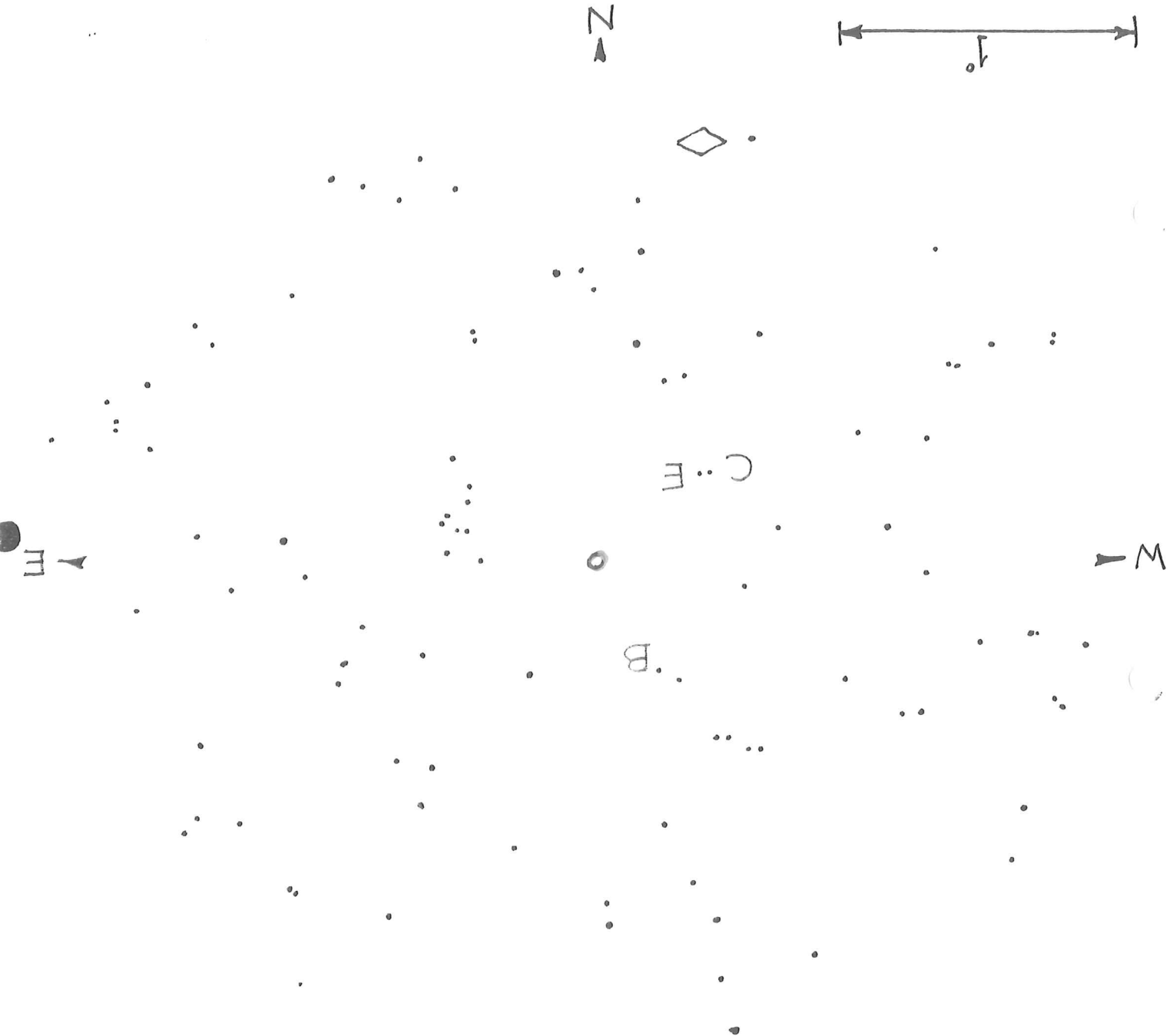
012436

(1)

SAO	RA	Dec.	m _v	Sp.
B	03 ^h 07 ^m	59° 22'	8.9	B8
C	03 ^h 05 ^m	60° 03'	8.8	B9
E	03 ^h 06 ^m	60° 03'	8.6	G5



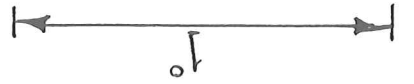
N



V 368 Cas
 D.B.1
 EA 8.5-9.2
 3^h 8^m 44^s
 4.45^d
 1950.

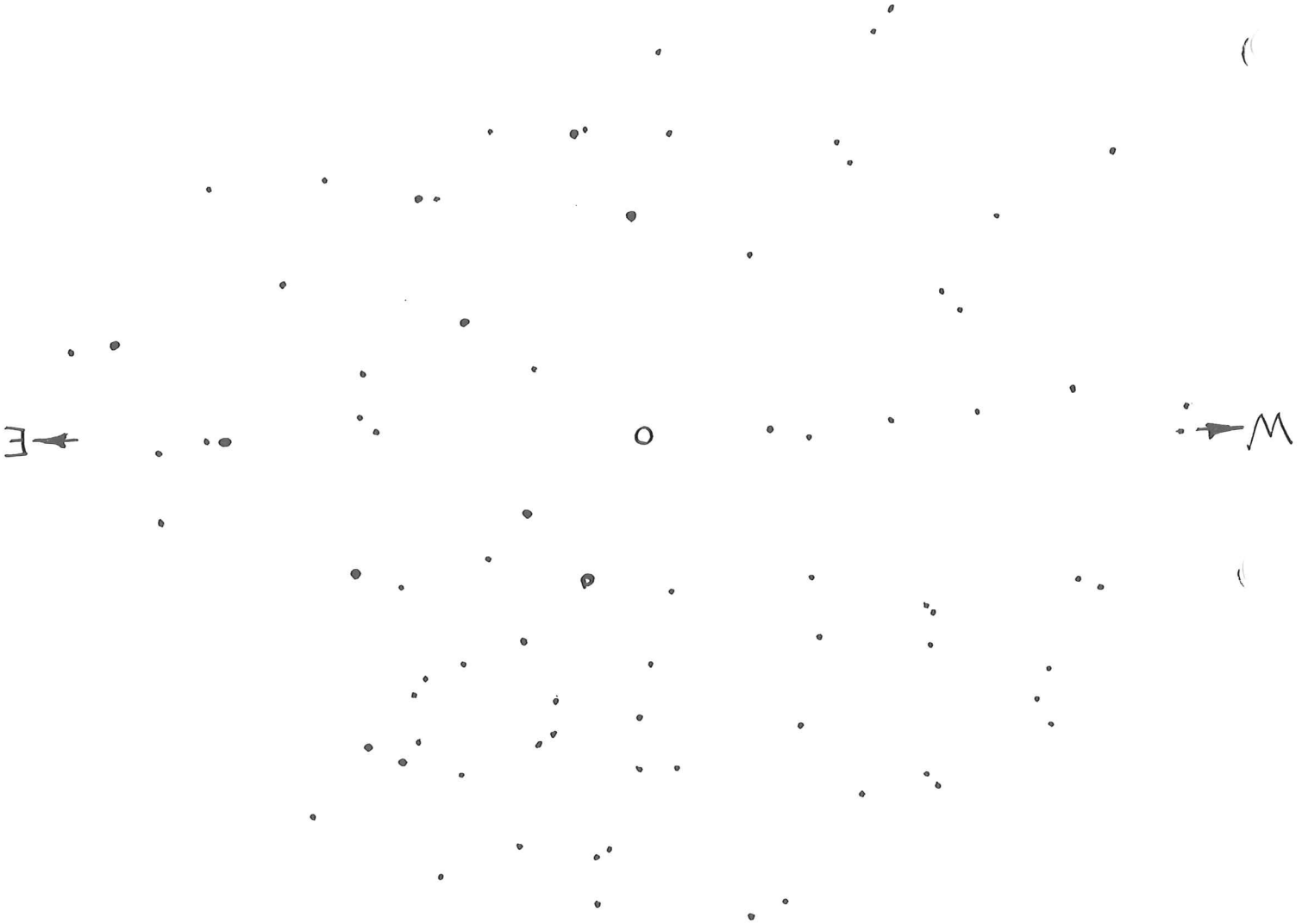
S

SAO RA Dec. mv Sp.



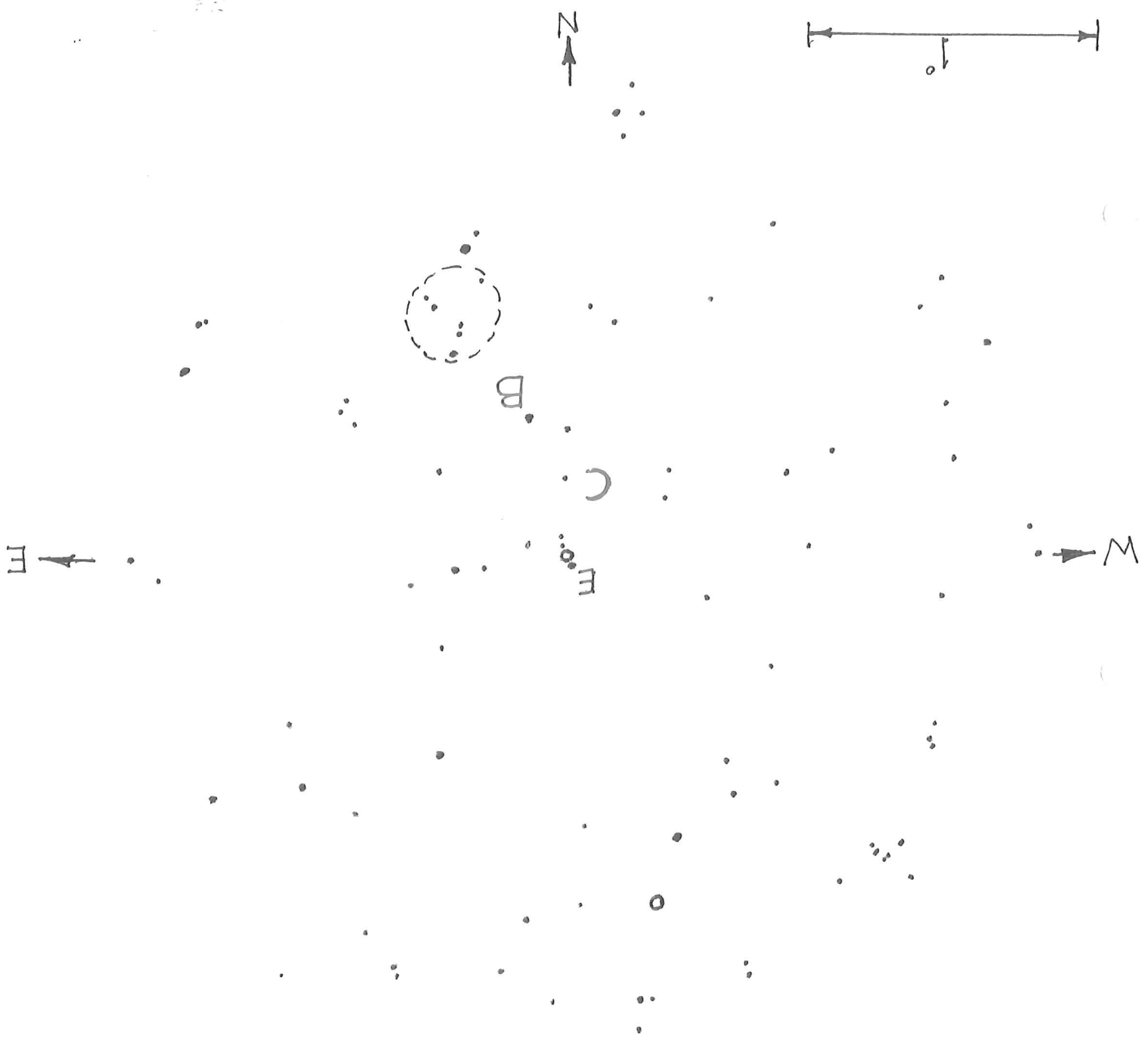
9.5 - 10.0
01h 27m 29s
G2 29'
1950
Gd 16.

Cas V525



V 529 Cas
 Not an eclipsing binary!!
 8.4 - 8.9

S
 02^h 26^m
 60° 27'
 1950



SAO	R.A.	Dec	m_v	Sp.
012313	02 ^h 27'	60° 57'	8.4	A2
012309	02 ^h 26'	60° 44'	8.5	B3
012303	02 ^h 26'	60° 26'	8.2	B3

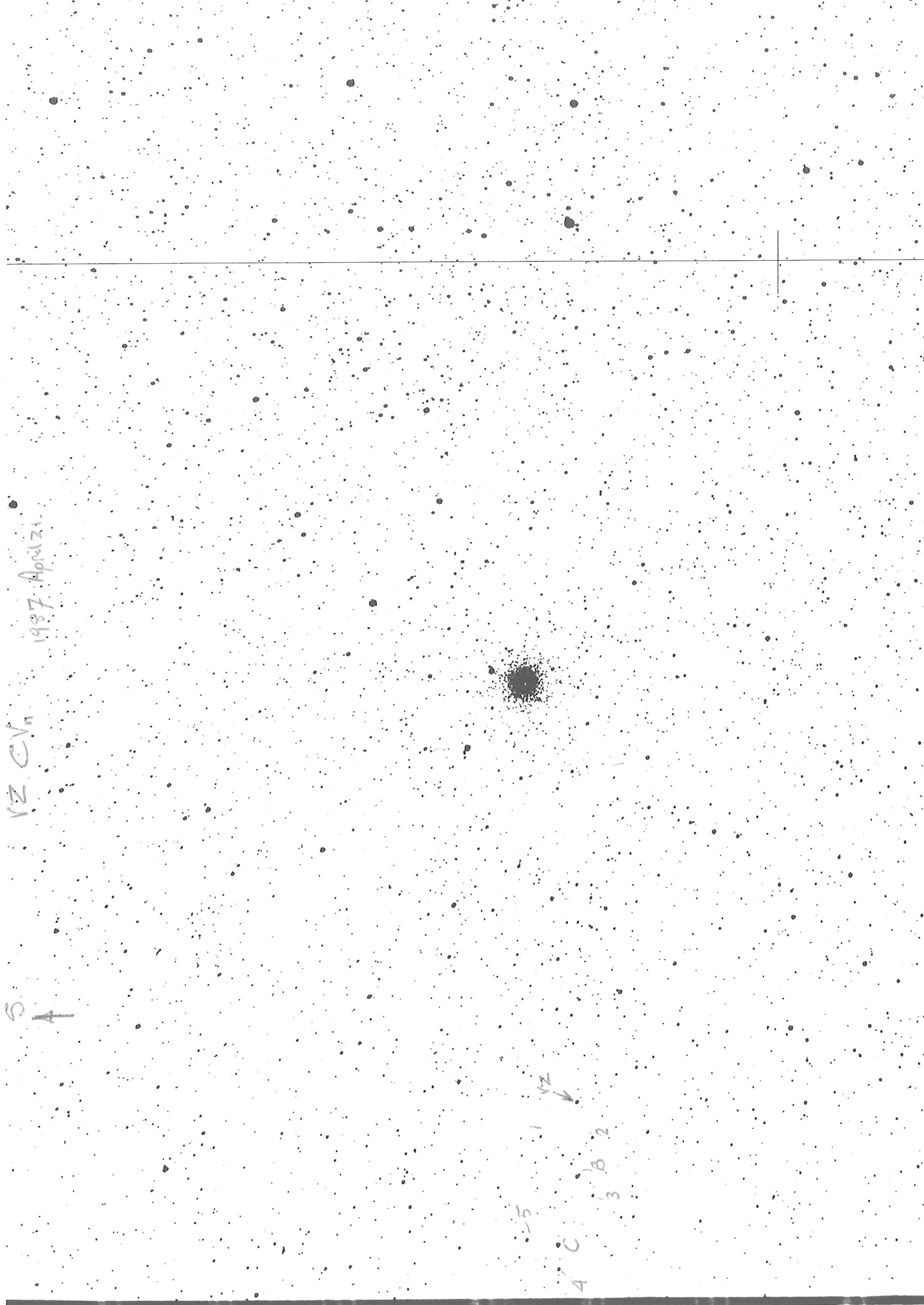
Handwritten notes on the left side of the page, including 'A2', 'B3', and 'Sp.'.

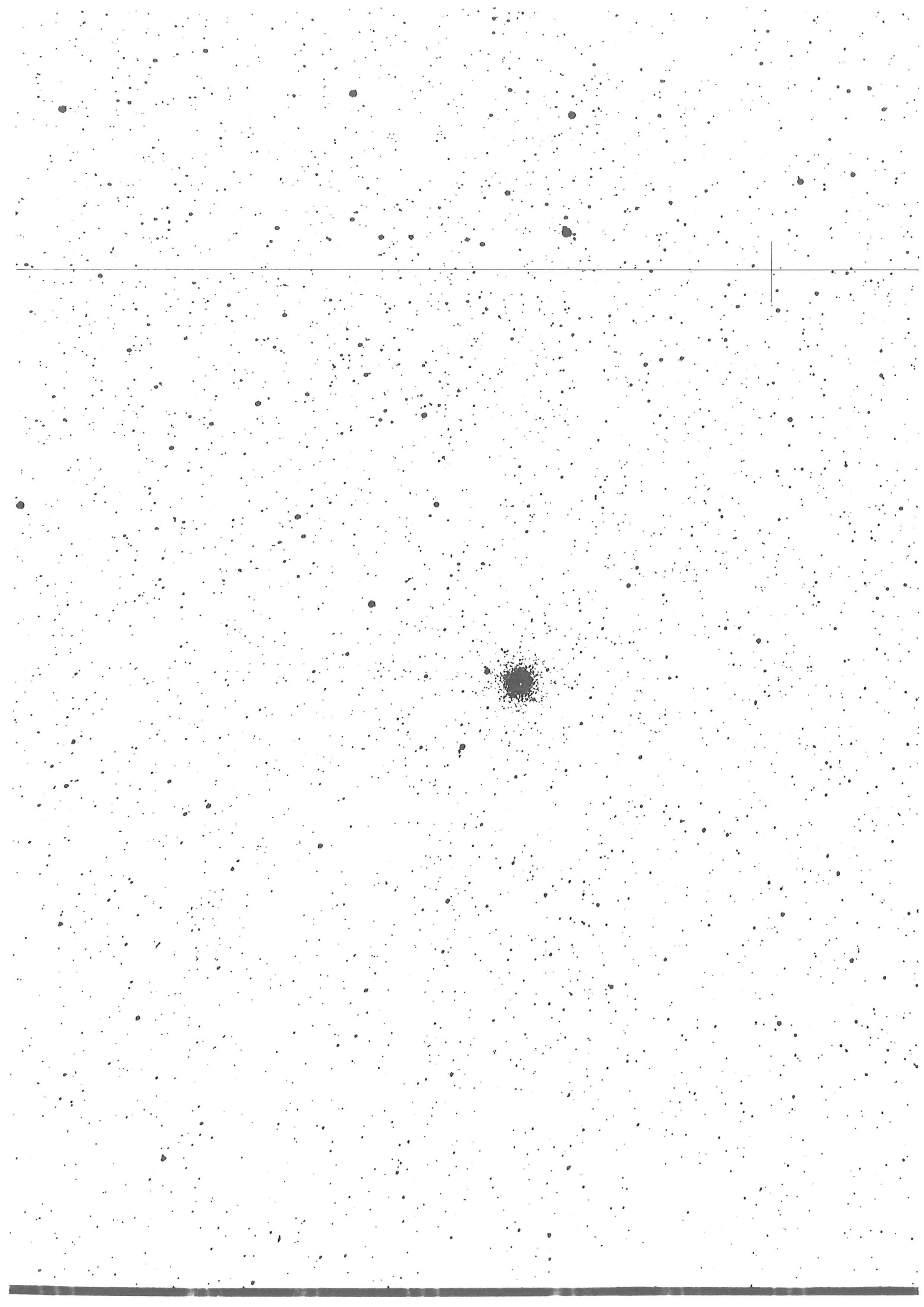
VZ CMn

1987 April 21

S
↑

-5
A C
B 2
3
VZ ↓





Note on observation of VZ CVn. on 1987 Apr. 6/7.

1. This was my first obsⁿ of this EB.
2. That extreme difficulty in identifying field & apart 2.80 min.
3. Altitude at start, 34°, v. slight mist, 1/4 moon (small way).

4. Eventually managed to truly identify group shown with chain-conditions good.
5. After 3 careful readings of circ. opted for star near centre of field, $r < 2.1$ arc from centre, hence it seemed to be of the right mag.

6. N.B. stars marked 1, 2, 3, 4, 5 & B, C were added to chart at the telescope.

7. In making choice of B, C I was by this time convinced that I must have made an error in drawing chart since B, C & 5 were bright & would have been shown on the SAO & the AAVSO charts.

Rough scale of order also

- ① n. 11 too faint for SAO.
- ② n. 10 " " "
- ③ 9+ ?
- ④ 85/90. ?
- ⑤ equal or brighter than C.
- ⑥ at least 0.5 brighter than VZ CVn. also faint seen.
- ⑦ brighter than B.

8. On examining other charts, SAO & AAVSO, none matching, none of these stars are shown. !!!

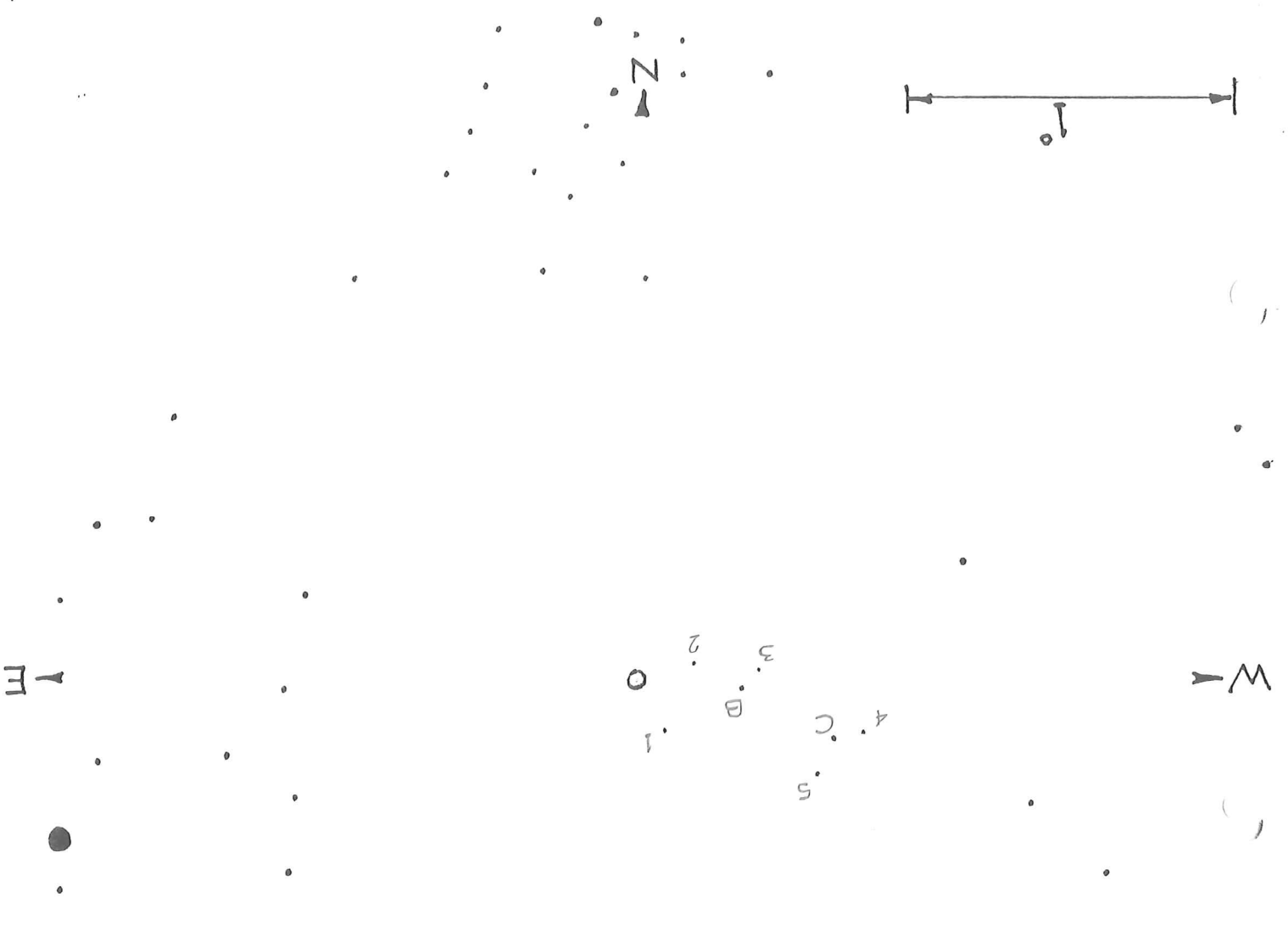
9. Blends presented further readings, none taken a minⁱⁿ I was obtained at the expected time. (C-C) = -0.0017; 2 1/2 min. as it would appear that the correct star was chosen.

Why are the other relatively bright stars, i.e. 5, B, C not shown on the charts.

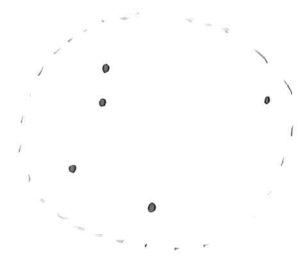
VZ CVn is shown on AAVSO but not on SAO.

There is an BGC object close (2.5') to the par^{ic} shown on the SAO.

SAO RA Dec. mv Sp.

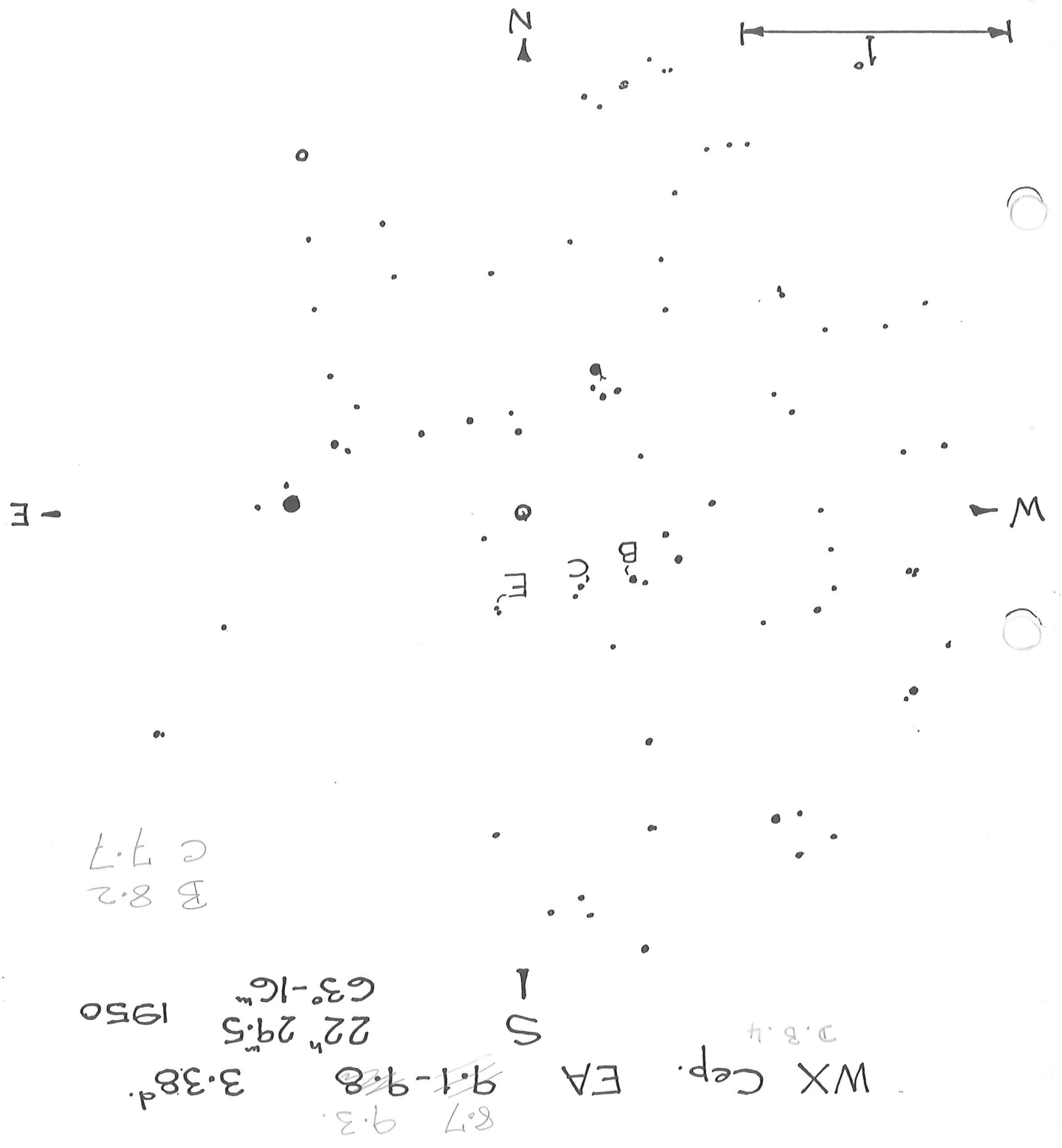


VZ CV_n EB S
 9.2-9.7 13^h 28°
 0.84 29.7 50' 1950



Different B & C chosen. 1988 Sept. 18. J. W. E.

SAO	RA	Dec.	mv	Sp.
B. 020080	22 ^h 26 ^m	03° 01'	8.2	AO
C 020095	22 ^h 27 ^m	03° 01'	7.7	G5
E 020133	22 ^h 30 ^m	02° 56'	9.3	

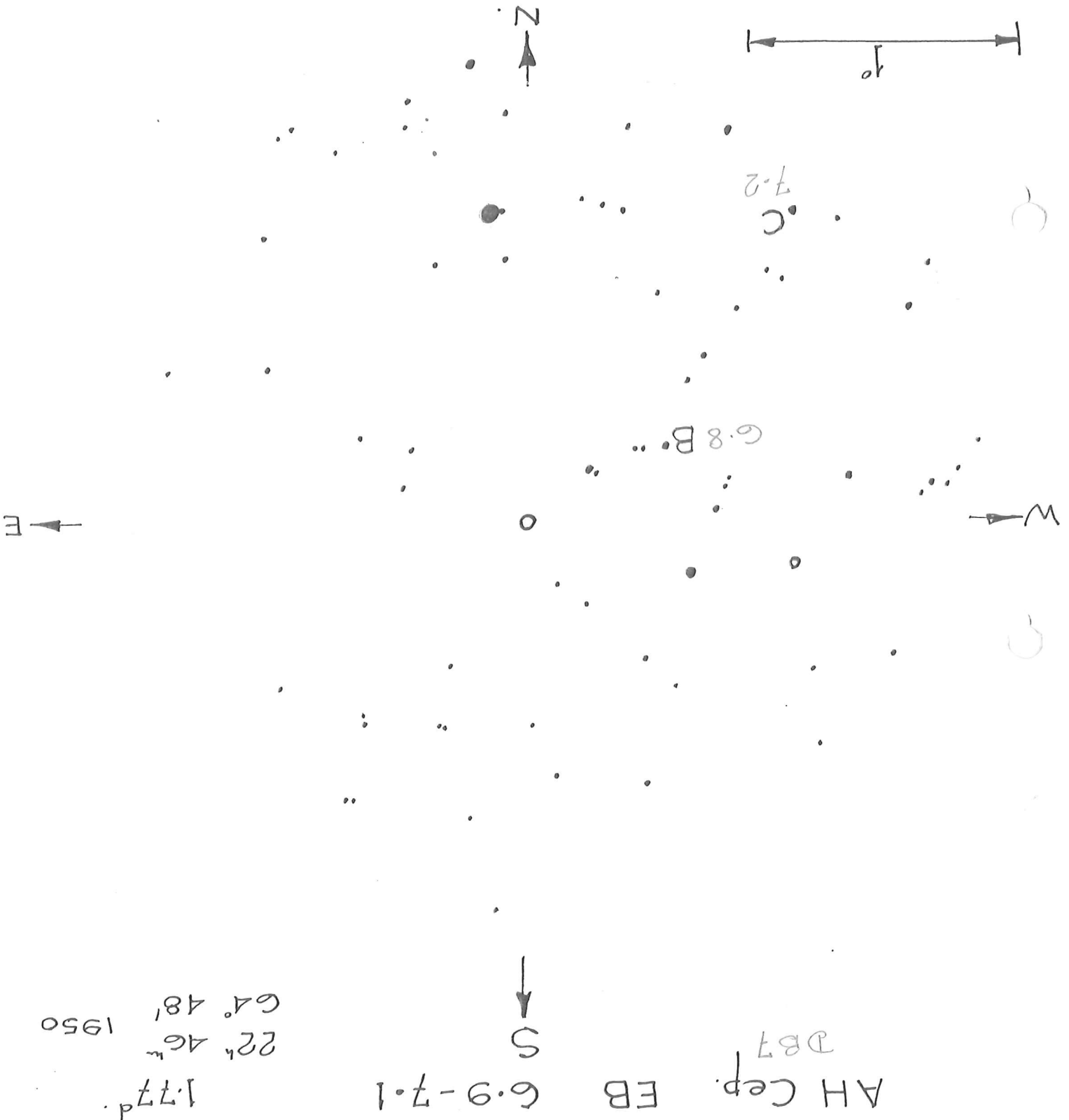


WX Cep. EA 9.1-9.8 8.7 9.3
 22^h 29.5^m 63°-16^m
 1950

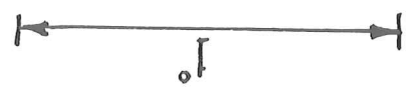
B 8.2
 C 7.7

JWF

SAO	RA	Dec	m_v	Sp.
020214	$22^h 41^m$	$65^{\circ} 04'$	6.8	B2
020186	$22^h 36^m$	$65^{\circ} 53'$	7.2	A0



SAO RA Dec mv Sp.



S
 9.2 - 9.9
 21^h 44^m 8
 56° 41'
 4.23^d
 1950

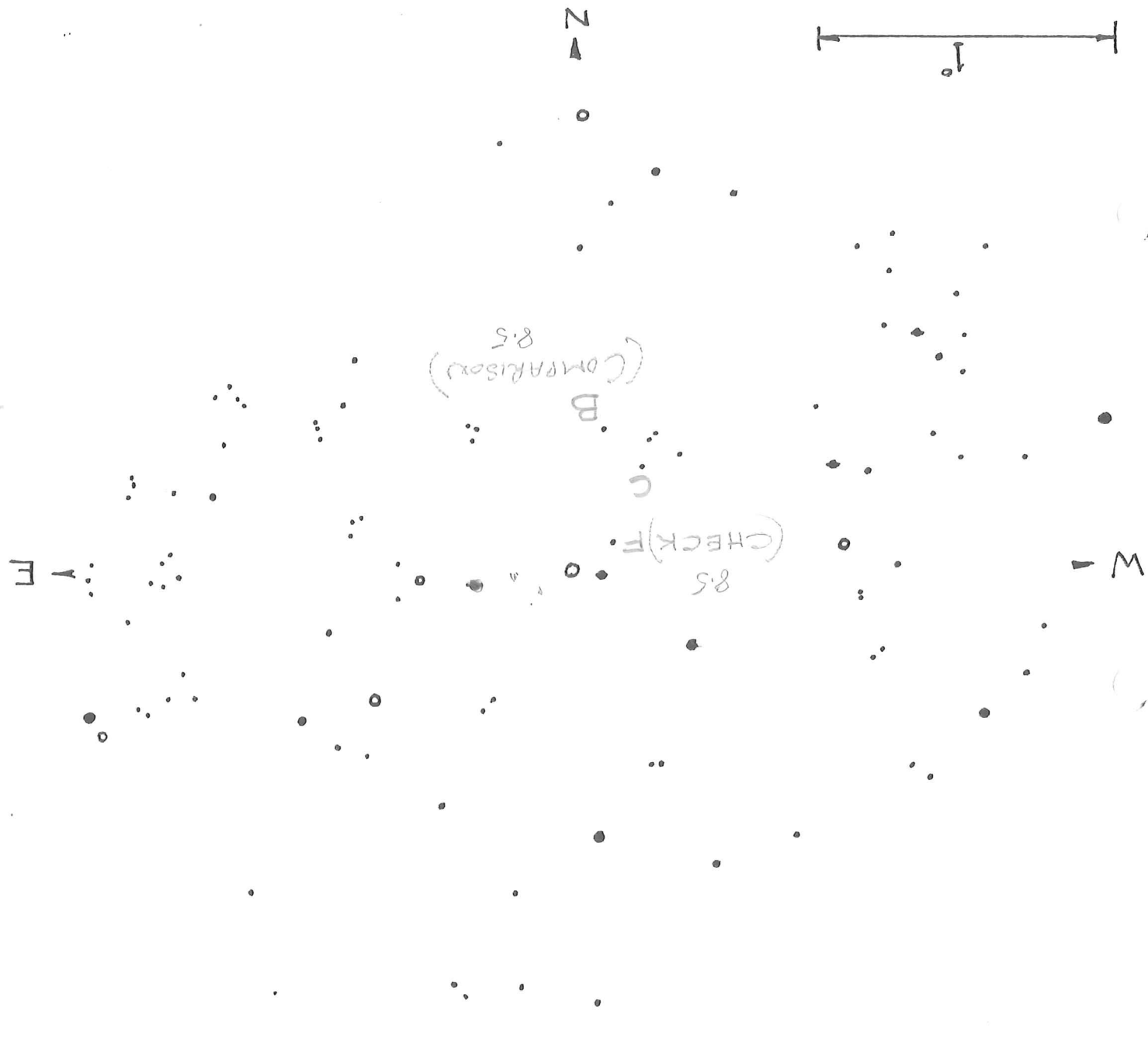
AI Cep



As from 1988 Sept. 7. F used as check star. J.W.E 1986 Oct.

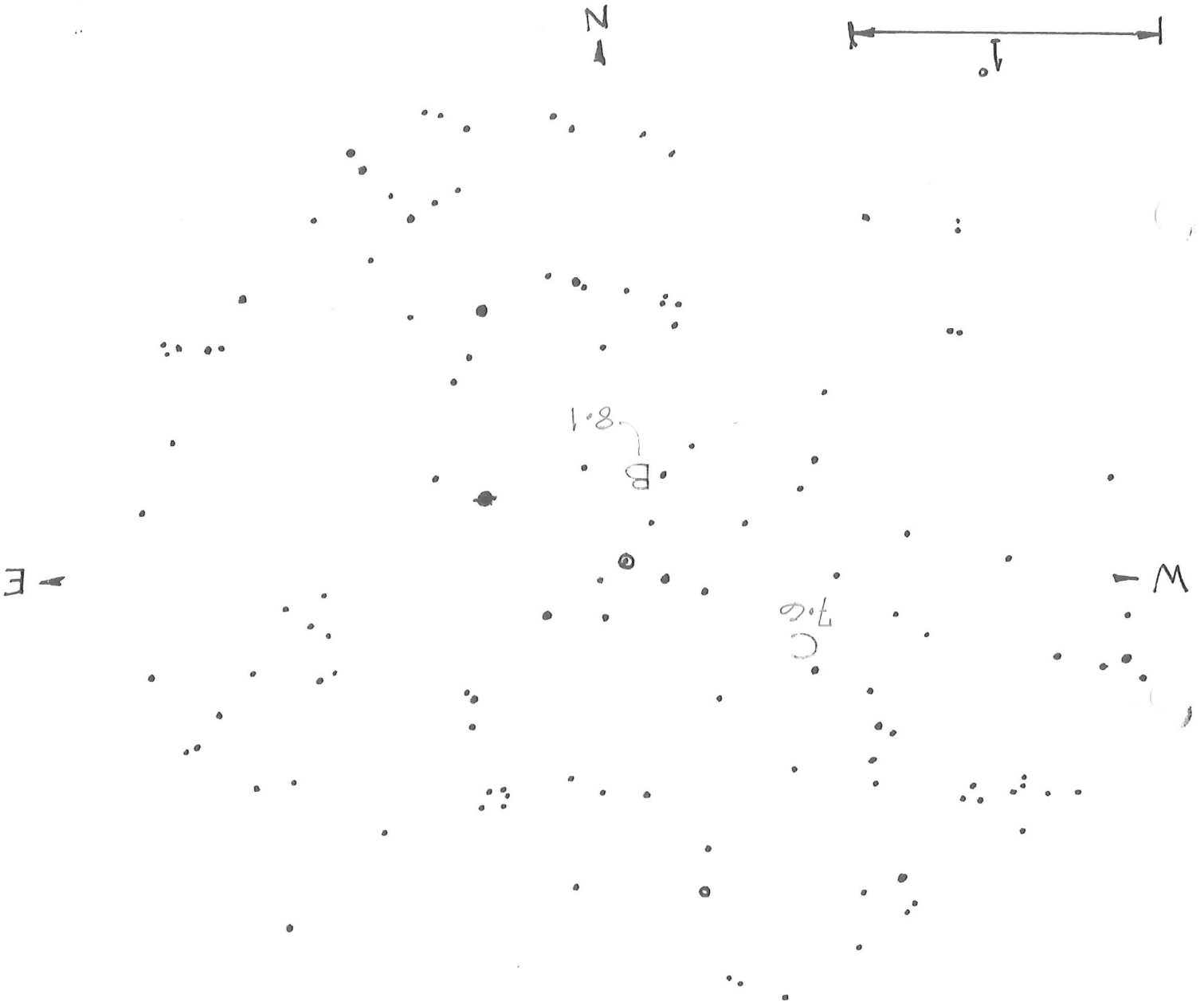
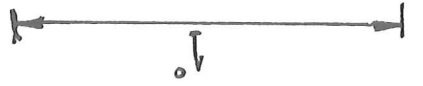
F added 1988 Sept. 12. J.W.E. check

SAO	RA	Dec	m _v	Sp.
B 034603	22 ^h 34 ^m	57° 08'	8.5	AO
C 034584	22 ^h 33 ^m	56° 59'	9.2	B8
F 034601	22 ^h 34 ^m	56° 44'	8.5	A3



CC Cep D.B. 1
 EB 8.6-9.1
 S 22^h 34^m 9
 56° 39'
 1950
 DB1
 1.64^d

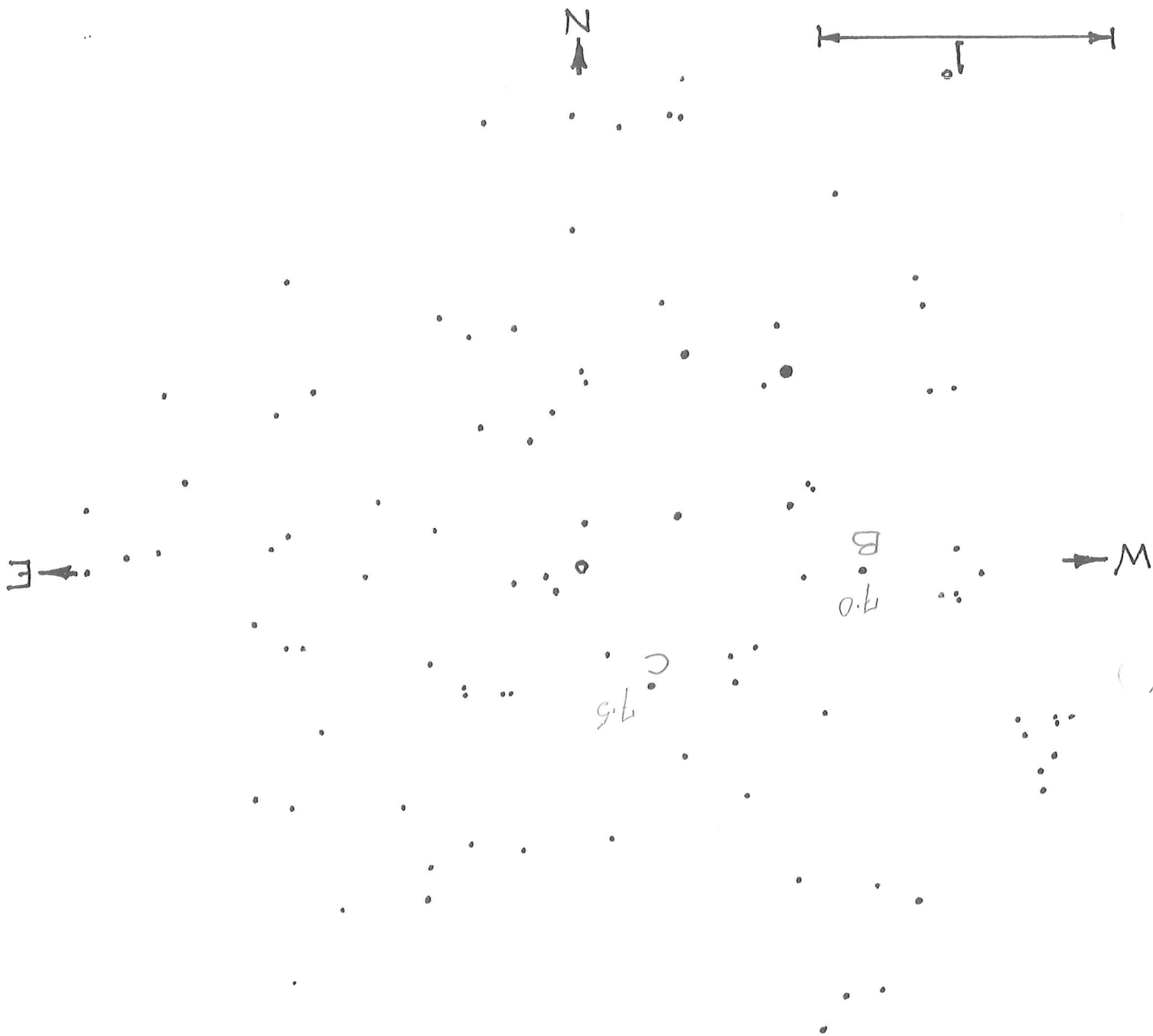
SAO	RA	Dec.	mv	Sp.
B 020390	22 ^h 01 ^m	63° 26'	8.1	B
C 020351	22 ^h 57 ^m	62° 49'	7.6	B8



CW Cep	EA	7.6 - 8.0	23 ^h 23 ^m	63°	2 ^m 8'	1950
D.B.3						
						2.73 ^d

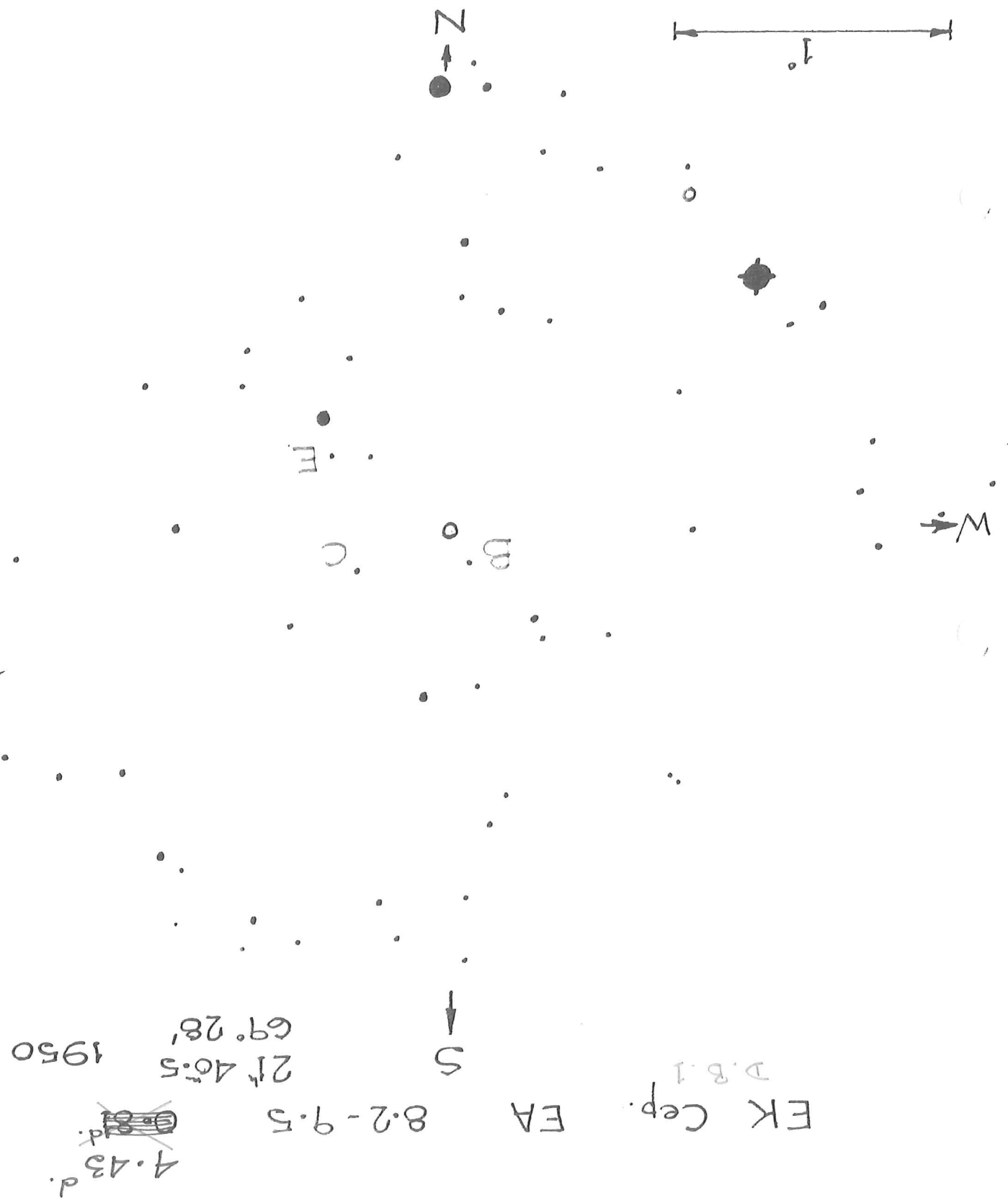
JWE

SAO	RA	Dec.	mv	Sp.
B 009990	21 ^h 13 ^m	+76° 06'	7.0	B9
C 010043	21 ^h 25 ^m	+75° 45'	7.5	K0



7.5-8.0	EA	7.7-8.2	↓ S
8.4-8.8	EI Cep	7.7-8.2	↑ N
D.B.4		8.4-8.8	
		21 ^h 28 ^m 8	
		76° 11'	
		1950	

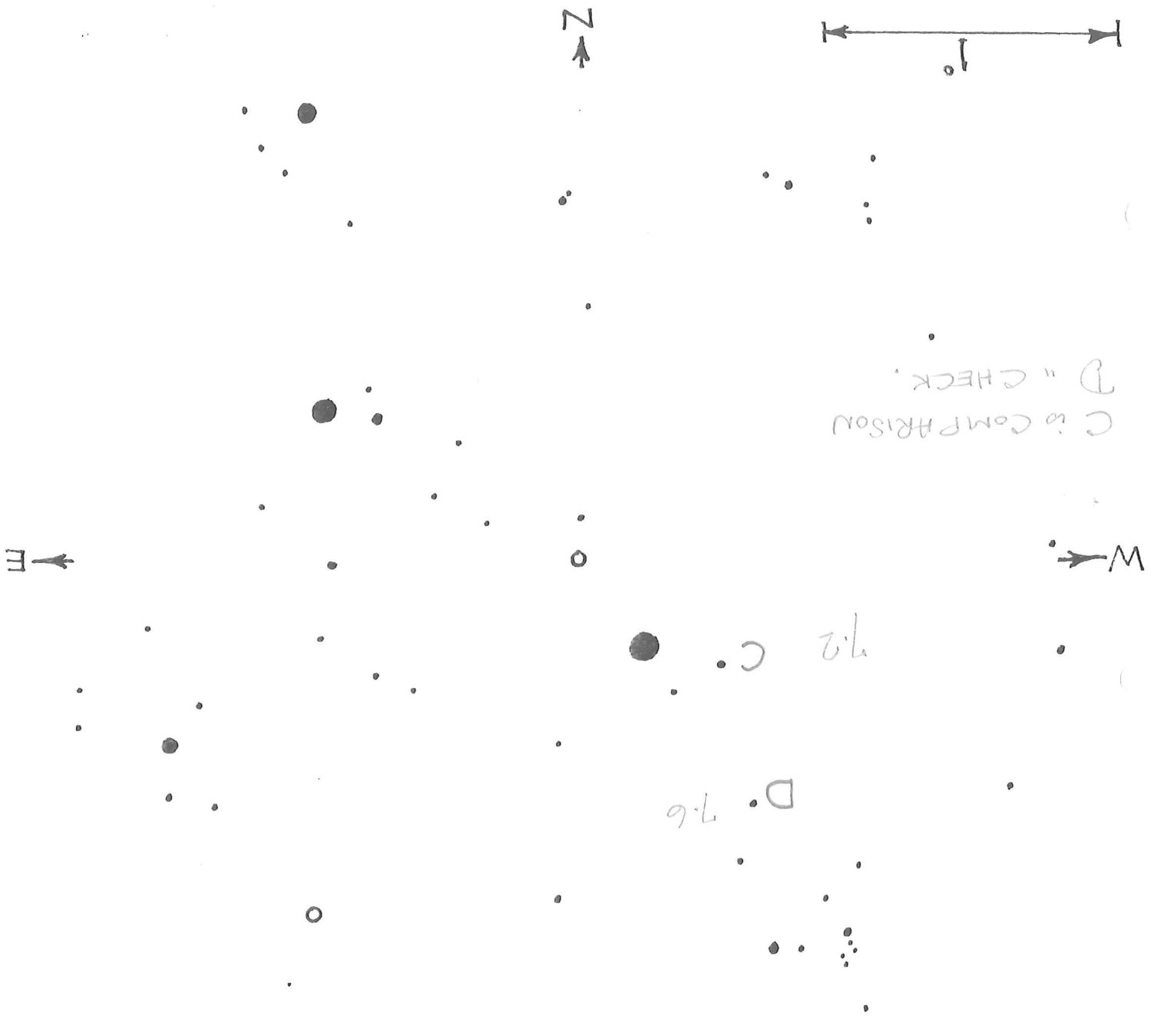
SAO	RA	Dec.	mv	Sp.
B	21 ^h 40 ^m	69° 17'	8.8	G0
C	21 ^h 44 ^m	69° 21'	8.8	
E	21 ^h 46 ^m	69° 46'	8.8	



N.B. Comparison stars correspond to BAA chart 212970

1985 Dec C9D added.

SAO	RA	Dec.	mv	Sp.	Comparison
C 010045	21 ^h 25 ^m	70° 16'	7.2	G5	Comparison
D 019392	21 ^h 24 ^m	69° 47'	7.6	A0	Check.



GK Cep D.B.I.
 EB 6.9-7.4
 0.94 21^h 31^m 4 70° 36'
 1950

1985 Dec Stars re designated.

~~070273 22^h 54^m 68^s 52 1.7 59~~

C 020325 22^h 54^m 68^s 52 8.0 60 → Check.

~~020329 22^h 54^m 68^s 52 1.5 59~~

~~020329 22^h 54^m 68^s 52 1.5 59~~

B 020329 22^h 54^m 67^s 59¹ 8.5 88 → 1st Comparison
 S.A.O. RA Dec m_v 2nd p.



N ↓

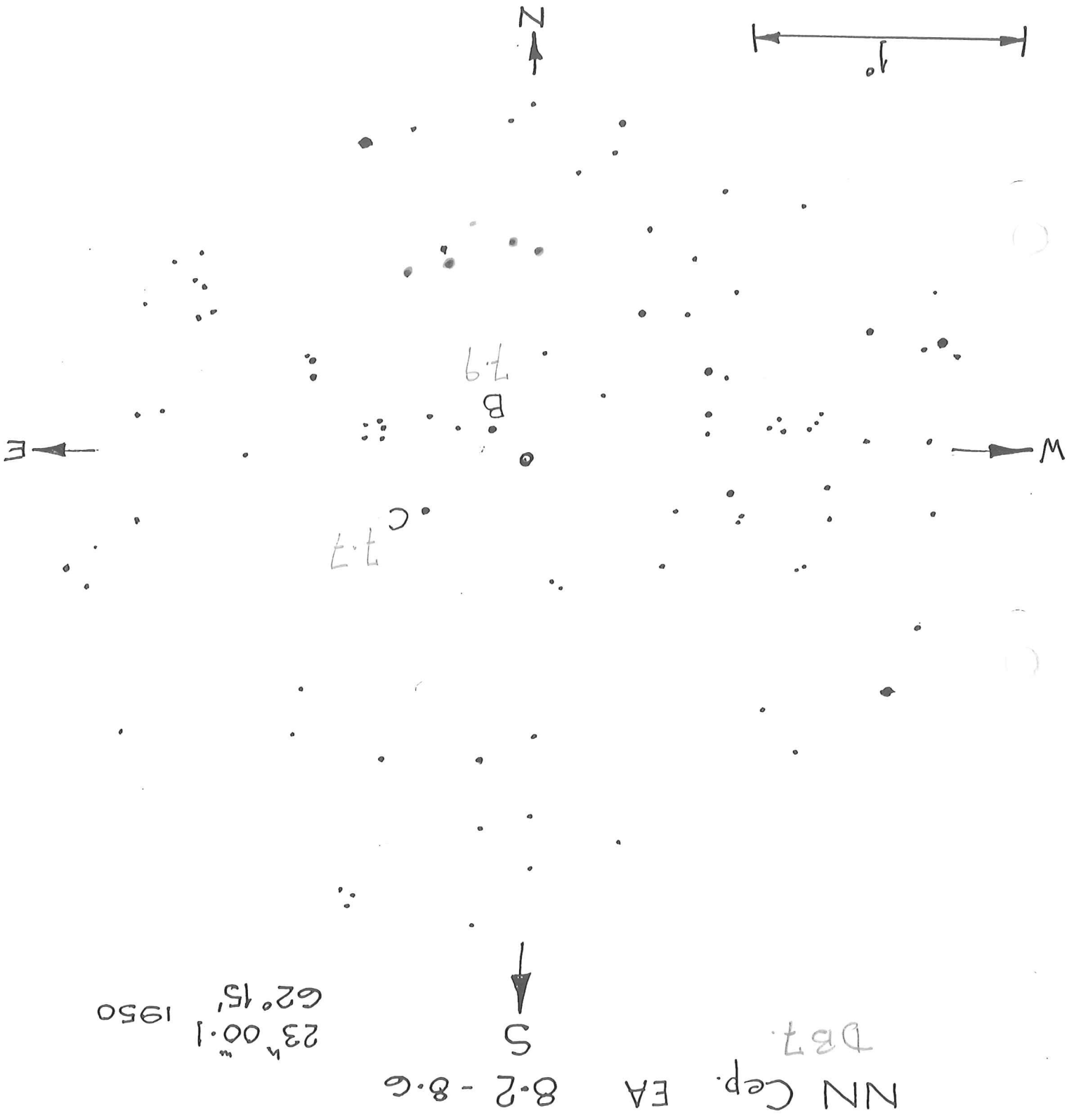
-E

-W

GT CEPHEI TR 4.
 EA 8.2-8.8 22^h 56^m 68^s 08' 1950
 S ↓
 4.91^d

JWE

SAO	RA	Dec.	mv	Sp.
C	23 ^h 05 ^m	62°05'	7.7	A.
B	23 ^h 01 ^m	62°22'	7.9	AO



JWE

SAO	RA	Dec.	mv	Sp.
C 000082	0 ^h 27 ^m	81°06'	7.9	AO
B 000179	1 ^h 01 ^m	81°42'	8.3	AO



N

E

W

U Cep	EA	S	2 ^d 49	0 ^h 57 ^m 6	81°36'	1950
U Cep	6.8-9.1	↓	2 ^d 49	0 ^h 57 ^m 6	81°36'	1950

S

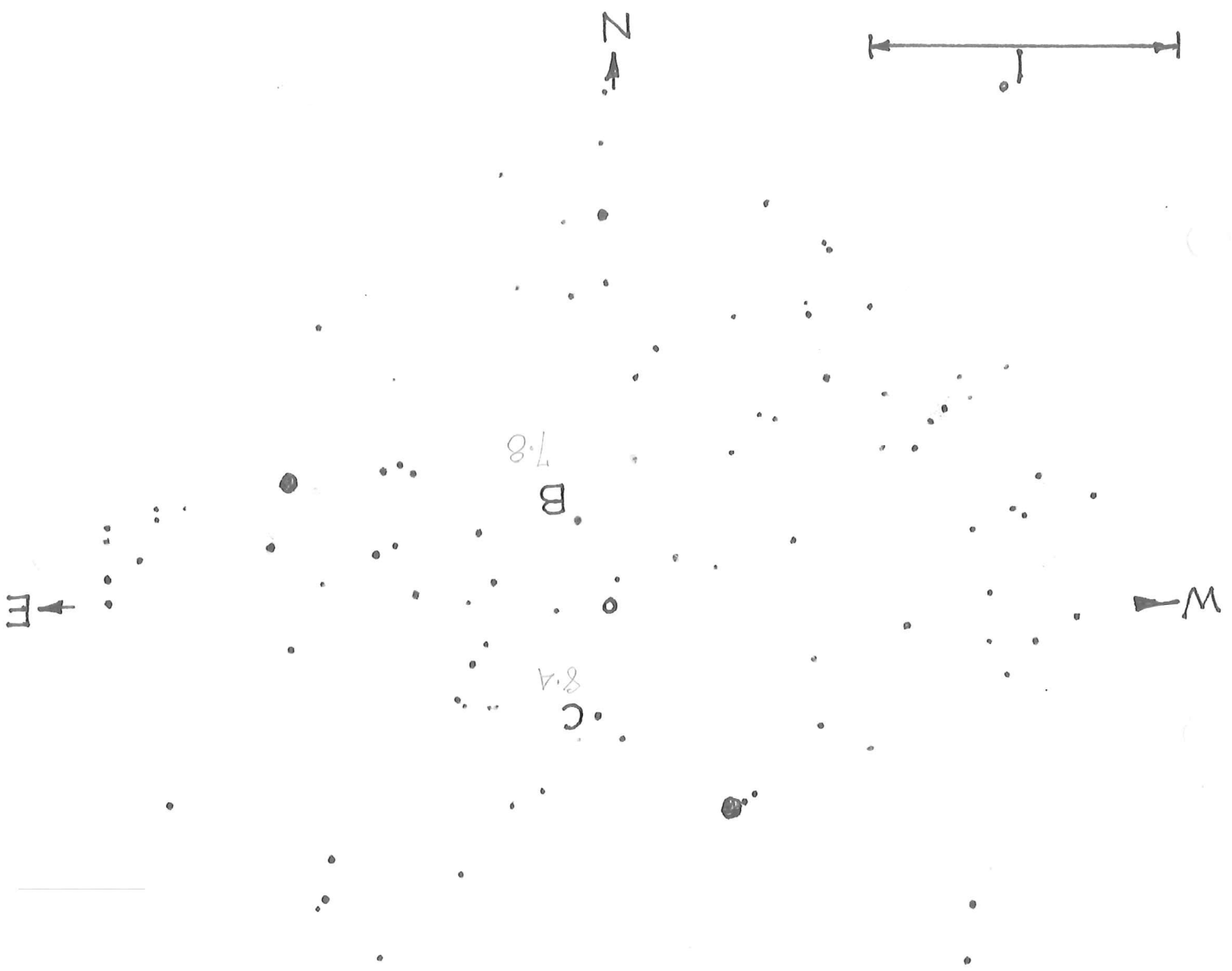
7.3.1

U
B
8.3

C
7.9



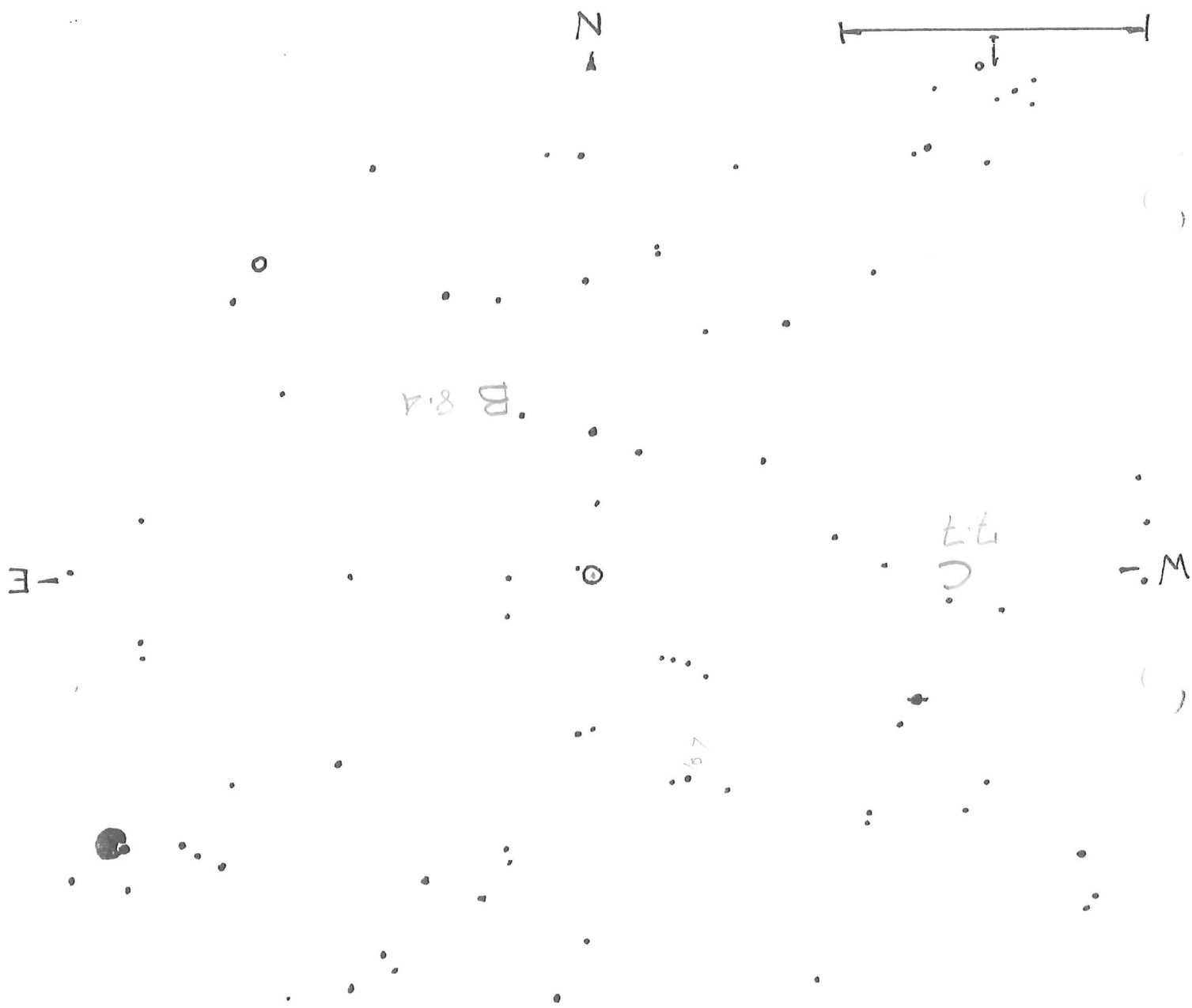
SAO	RA	Dec.	mv	Sp.
B 009841	20 ^h 40 ^m 0	75° 42'	7.8	K0
C 009837	20 ^h 39 ^m 0	75° 05'	8.4	A2



1950
 20^h 38^m 7 75° 25'
 Od 28
 7.2 - 7.7
 S
 7.8 - 8.2
 EW
 VW Cep
 D.B.2

JWE

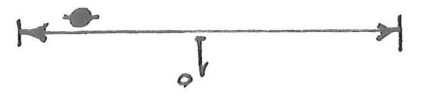
SAO	RA	Dec	mv	Sp.
B 020164	22 ^h 33 ^m	67° 28'	8.4	A0
C 020023	22 ^h 19 ^m	66° 43'	7.7	A5



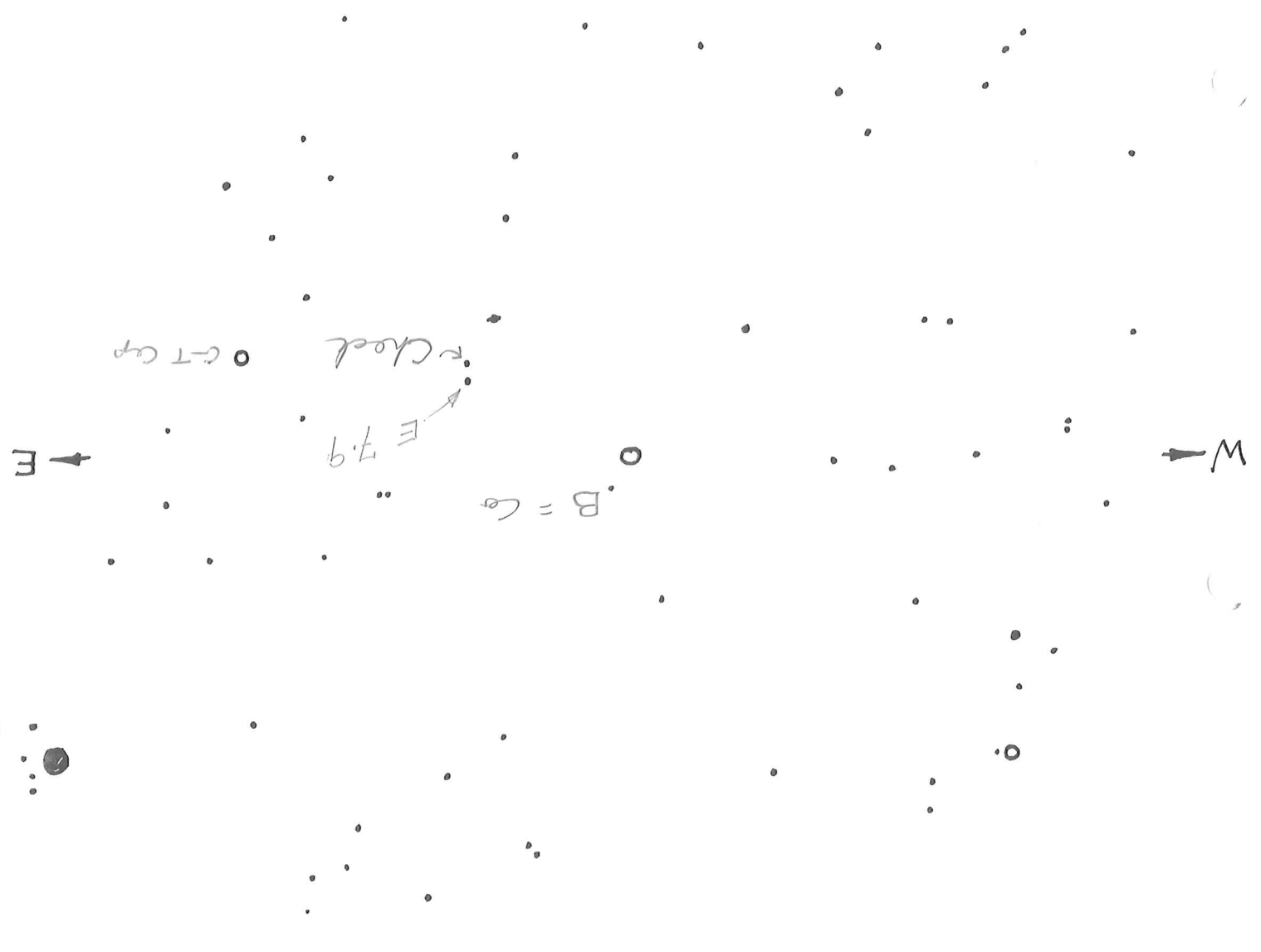
8.0 - 8.8
 EB Cep. XZ
 DBC
 S
 22^h 30^m 8
 66° 54
 1950
 5.1d.

B & C added 1987 Nov 10. JUE

SAO	RA	Dec.	mv	Sp.
B 020231	22° 44'	67° 45'	8.8	—
C 020275	22° 49'	68° 11'	8.5	—
E 020273	22° 49'	68° 7'	7.9	B9



N



See Rev. DB II

D.B.1

EA	RA	Dec.	mv	Year
ZZ Cep	8.6-9.6	22° 43.4'	2.14 ^d	1950
EA	8.6-9.6	67° 52'	2.14 ^d	1950

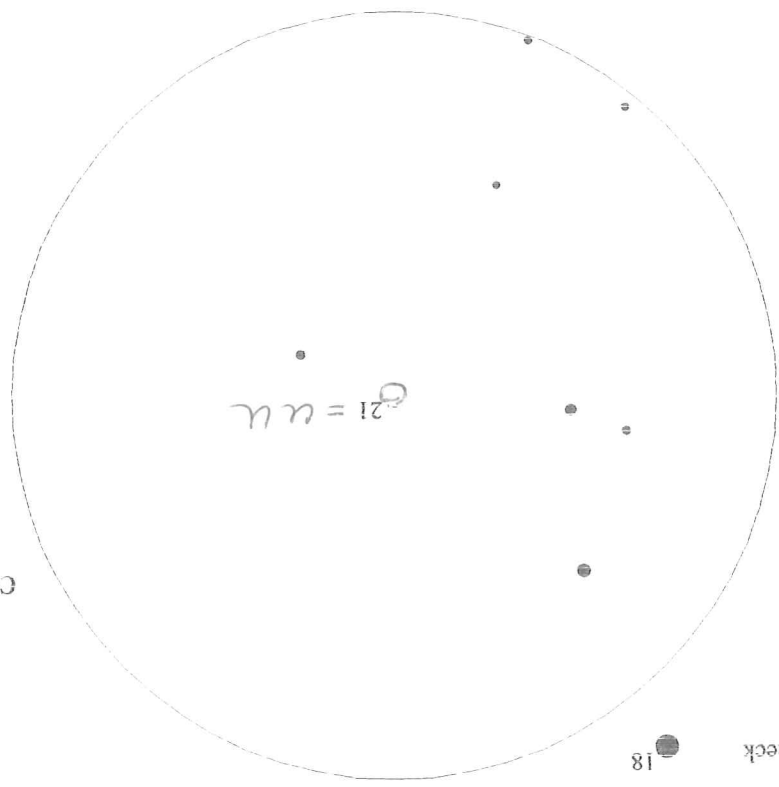
S

12h31m00.74s J2000.0
 +24 34.04' Com
 Level 7: 2 degrees
 12 Apr 1997 18:11:41
 UU Com 5.41
 22=Comparison=6.14
 18=Check=5.49

3	●	7
4	●	8
5	●	9
6	●	10
		N
		E

17 ●

Comp = HD 109307 = 6.26 = A2
 Check = HD 108722 = 5.48 = F5



Check

18 ●

Comp

22 ●

21 = uu ●

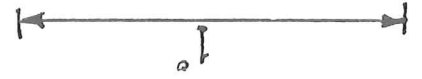
UU Com

DB 10

JWE

SAO	RA	Dec.	<i>m_v</i>	Sp.
B 064647	15 ^h 19 ^m	31° 39'	6.9	F5
C 064630	15 ^h 17 ^m	32° 42'	6.1	A2

N



C
6.1

B
6.9

E

W

S

1950

15^h 16^m 2
31° 50'

U C+B EA 7.0 - 8.4 3.4G^d

D38

192150

CH Cygni

6.4 - 8.7

Z And

M7 III + B

(1950) $19^h 23^m 2 + 50^{\circ} 08'$

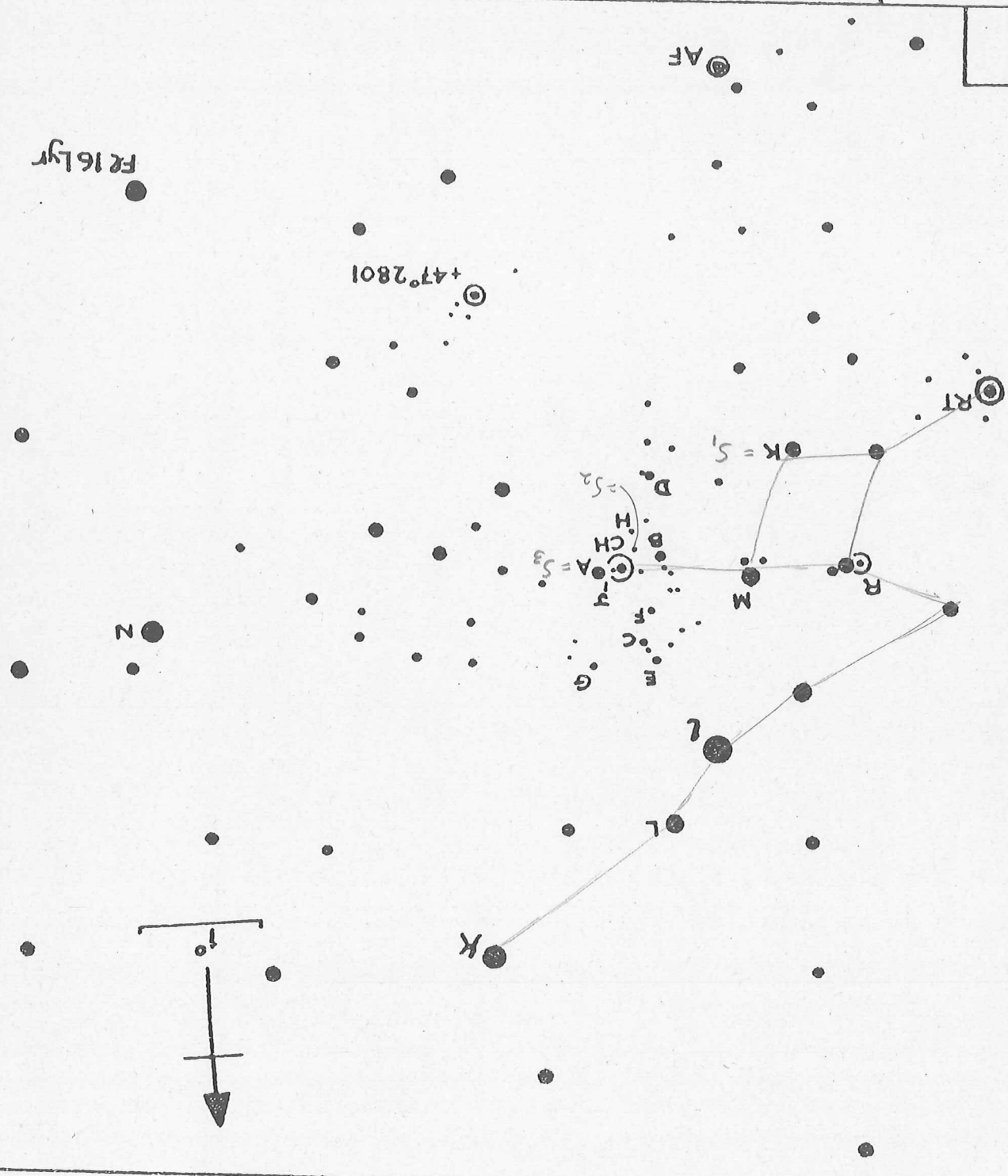
A-J from AAVSO
Circular 24 N,
M,L,K mv mags -
"SKY CAT - 2000.0"

RCyg, 6.1-14.2, M, 426^d
RT Cyg, 6.4-12.7, M, 190^d
AF Cyg, 6.4-8.4, SRB, 94^d
+47° 2801, 7.4, var?

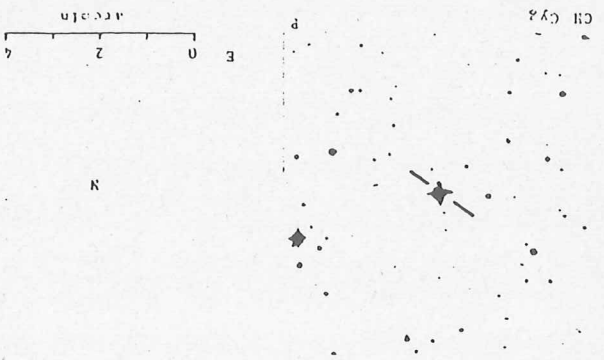
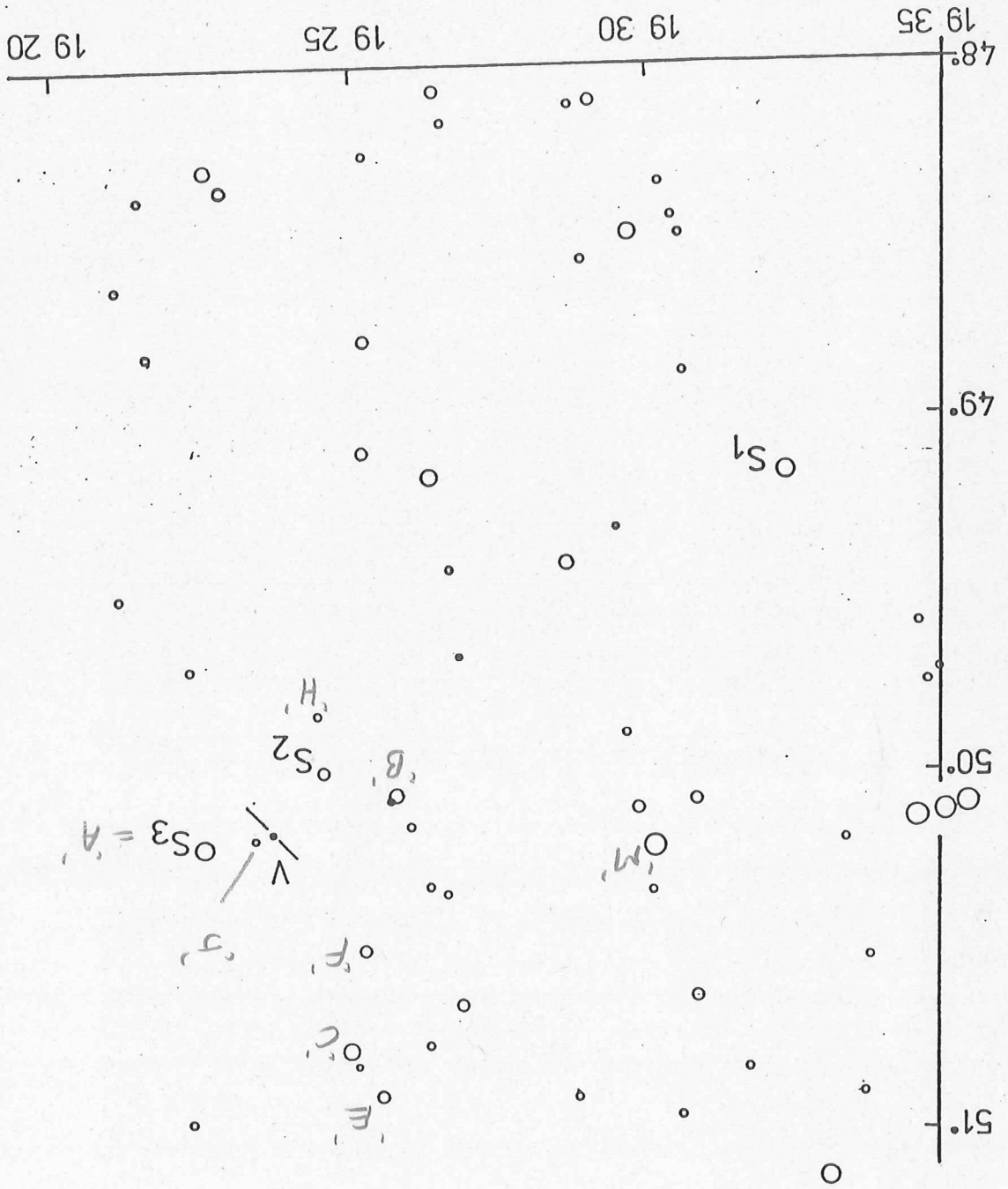
BAA VSS

DAP 1975 Sep 07
Revised MDT
1982 Feb 20

- | | |
|---|----------|
| N | 5.4 |
| L | 5.8 |
| K | 6.2 |
| A | 6.5 |
| B | 7.4 |
| D | 8.0 |
| E | 8.1 |
| F | 8.5 |
| G | 8.5 |
| H | 9.2 |
| J | 9.4 |
| C | 7.8 var? |



FR 16 Lyr

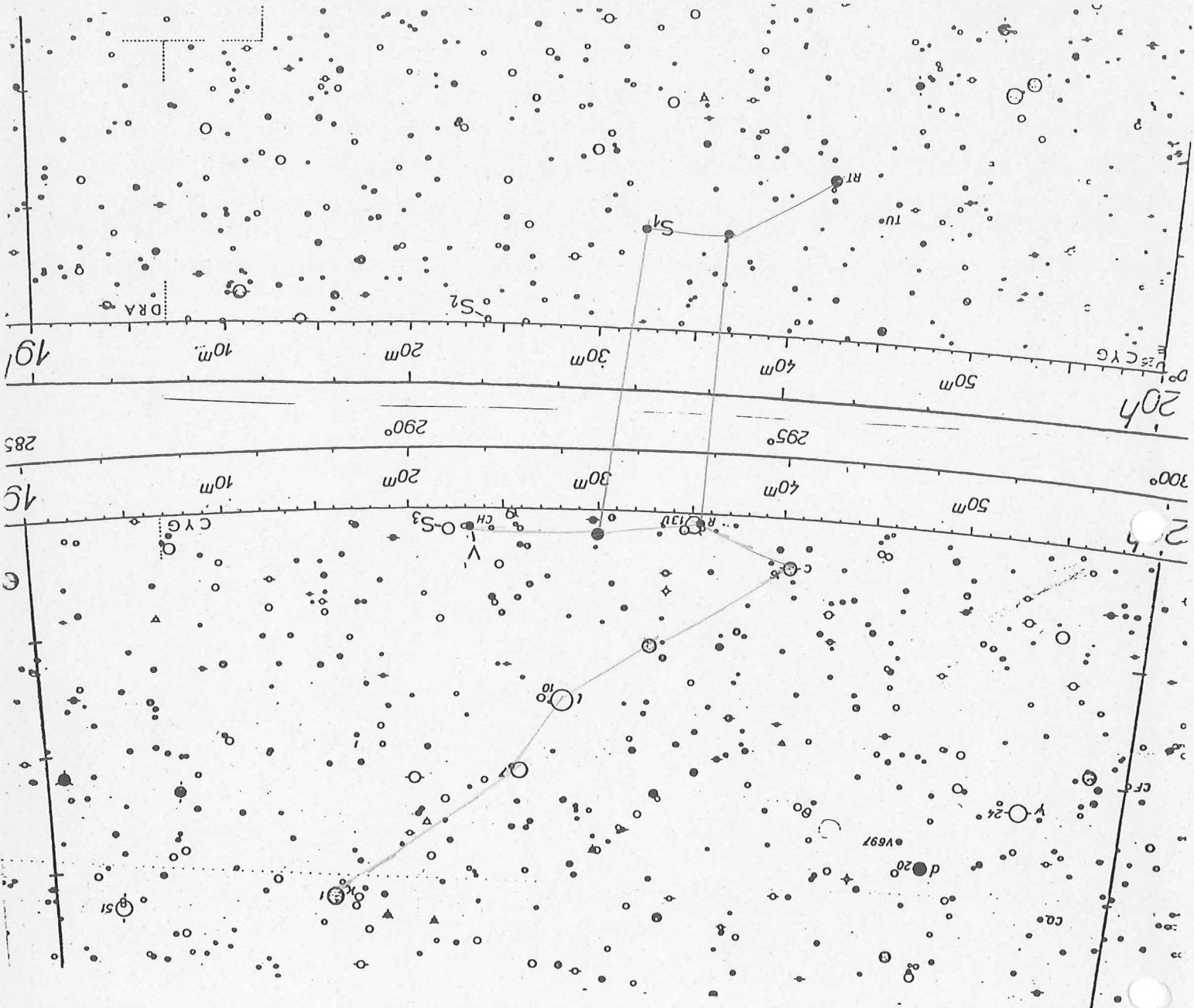


CH CY9

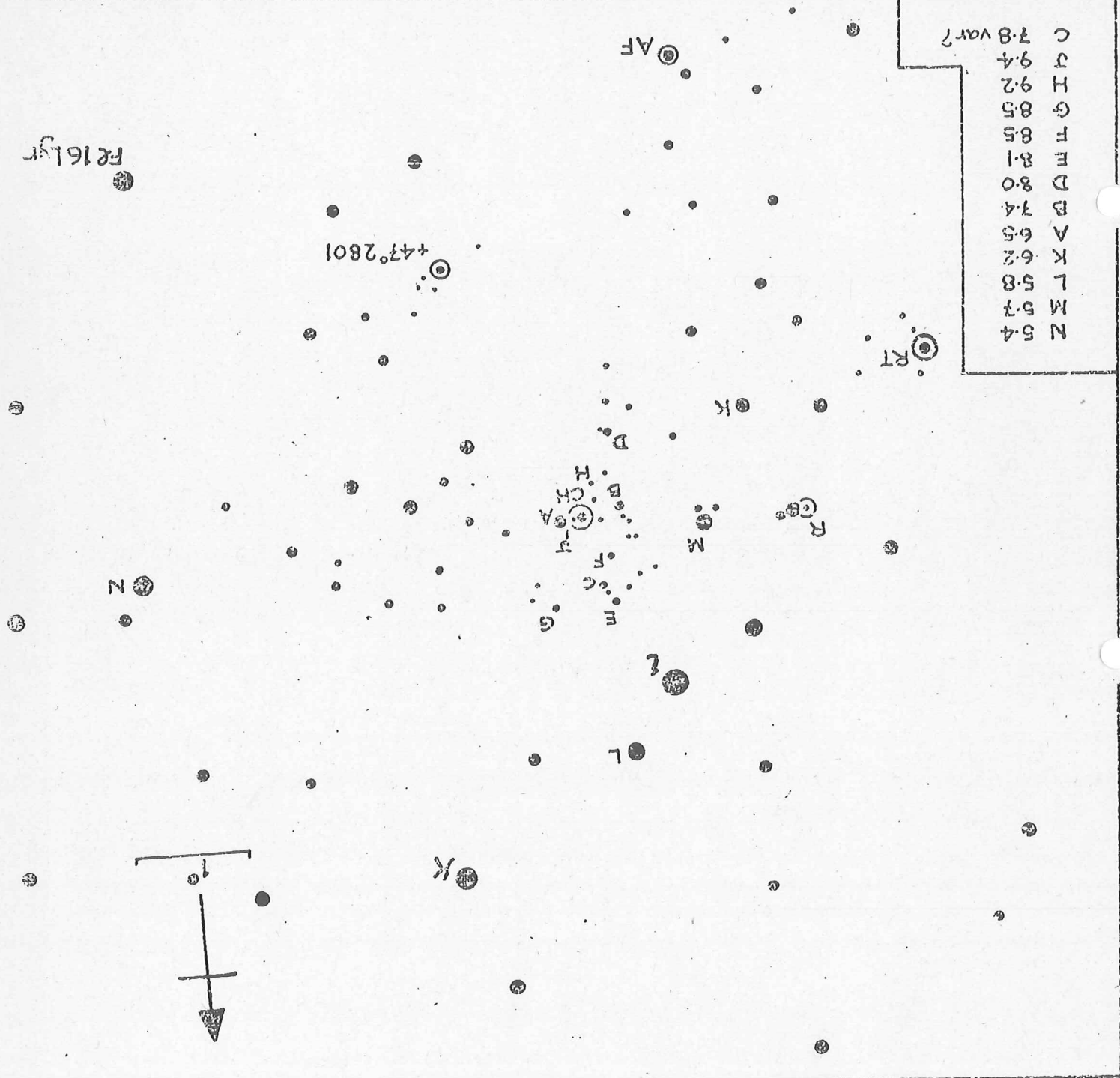
N ↓

CH CYB

$\alpha_{1950.0}$	$\delta_{1950.0}$	V	B-V	U-B	SP
19 23 14.2	50 08 31	7			M6
19 32 18.9	49 09 09.8	5.91	1.62	1.74	M8
19 24 10.5	49 58 14.4	$m_V = 8.0$	$m_{PB} = 8.6$		F8
19 22 05.1	50 10 21.9	$m_V = 6.3$			B9
19 22 05.1	50 10 21.9				S3: SAO 31623
19 24 10.5	49 58 14.4				S2: SAO 48428
19 32 18.9	49 09 09.8				SAO 48589
19 32 18.9	49 09 09.8				S1: HD 184786



A-T from AAVSO
 Circular 24. N.
 M, L, K my mags -
 "SKY CAT. - 2000.0"
 R Cyg, 6.1-14.2, M, 4.26^d
 RT Cyg, 6.4-12.7, M, 1.90^d
 AF Cyg, 6.4-8.4, SRB, 94^d
 +47° 28' 01", 7.4, var?
 BAA VSS
 Rev'd MDT
 DAP 1975 Sep 07
 1982 Feb 20

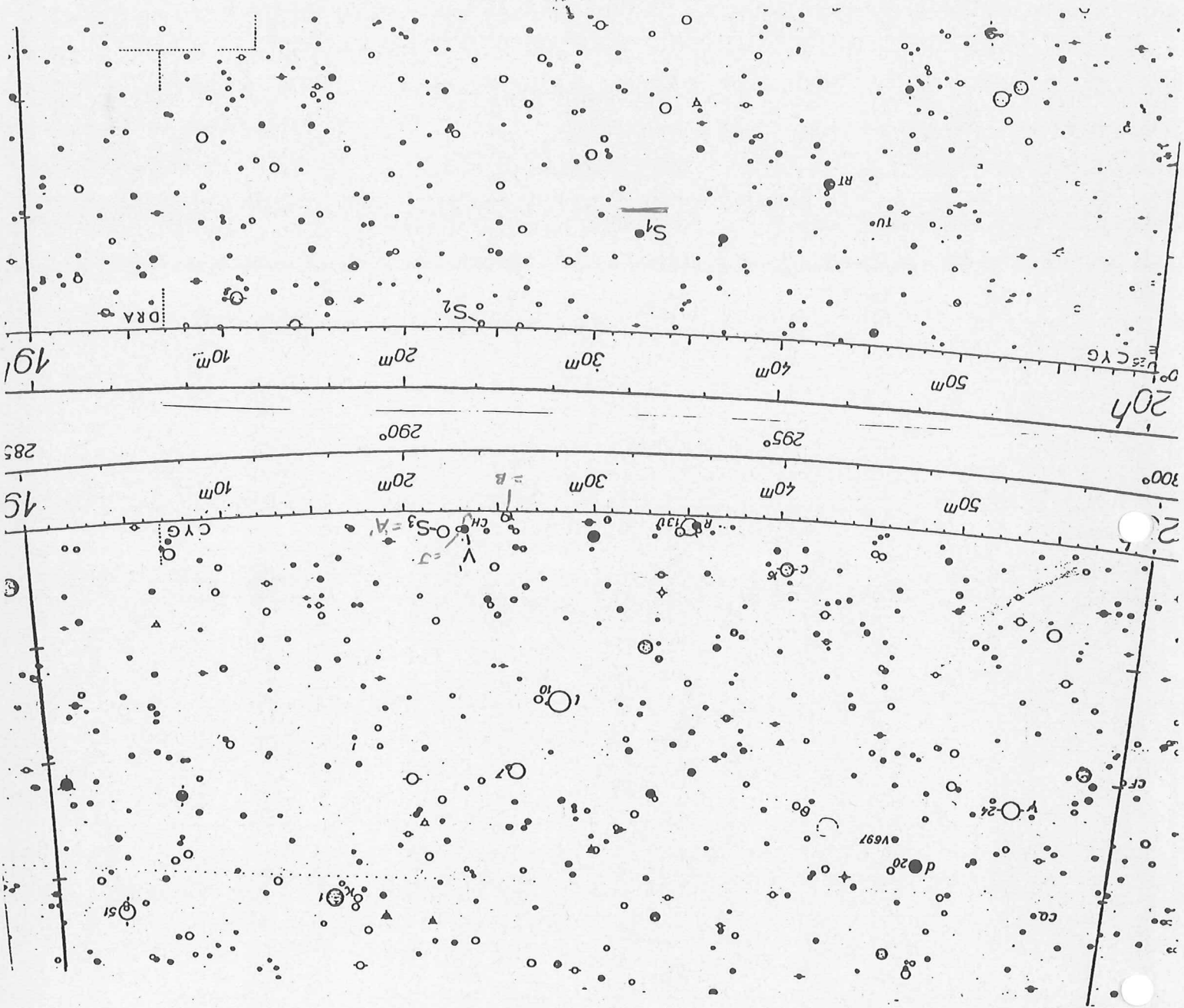


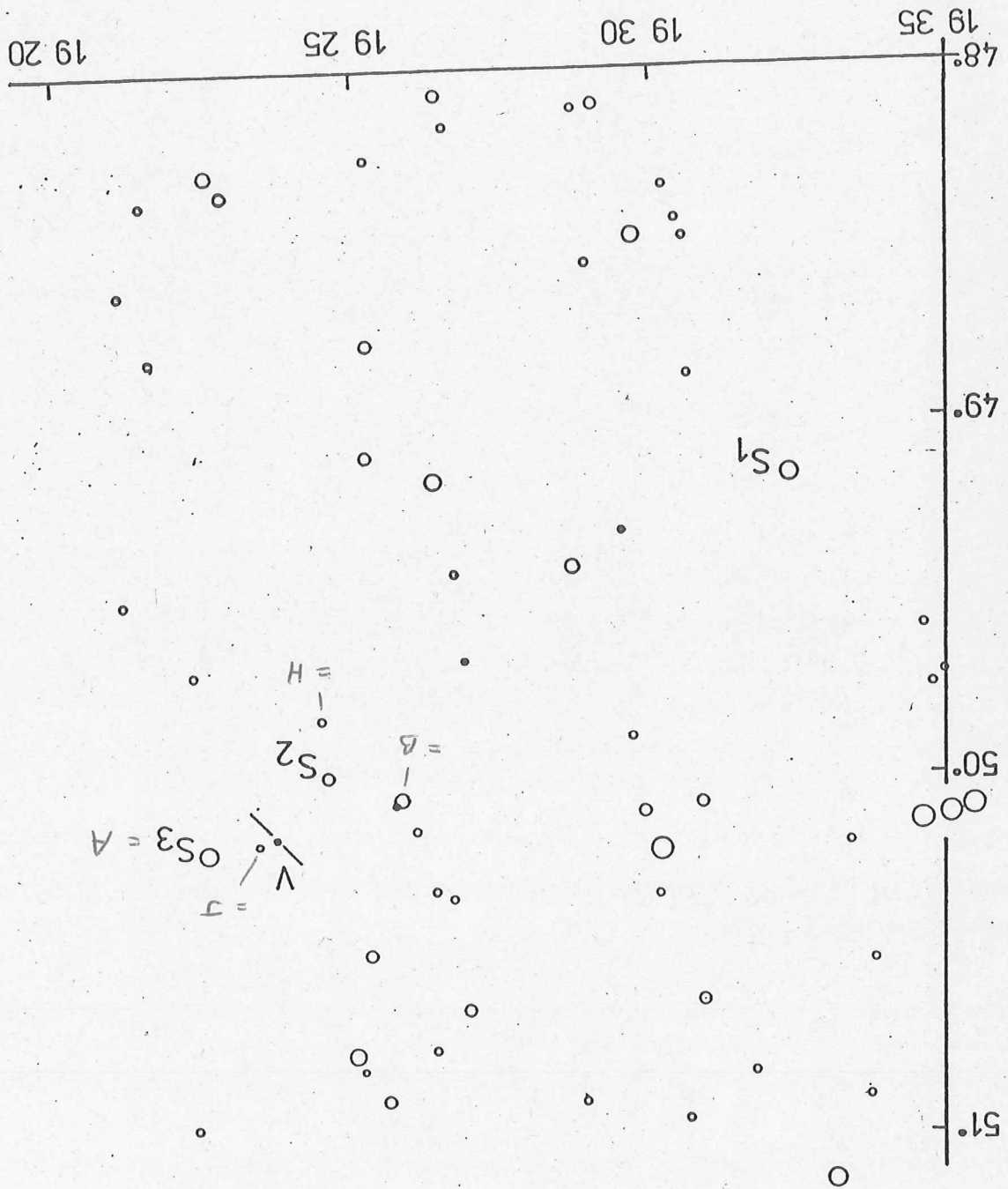
- N 5.4
- M 5.7
- L 5.8
- K 6.2
- A 6.5
- B 7.4
- D 8.0
- E 8.1
- F 8.5
- G 8.5
- H 9.2
- J 9.4
- C 7.8 var?

192150 CH Cyg: 6.4 - 8.7 Z And
 M7 III + B
 GRUPTUE N13
 (1950) 19^h 25^m 2 + 50° 08'

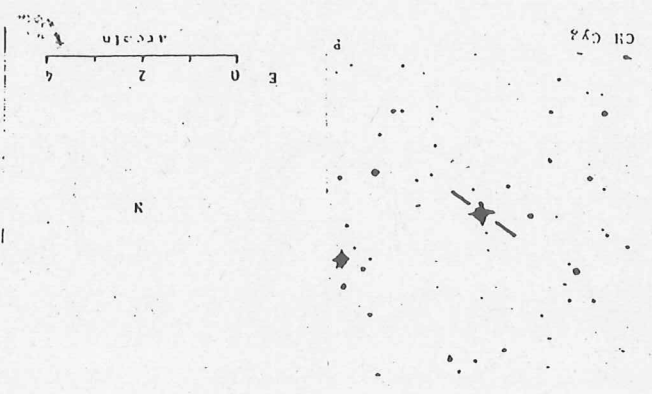
CH CYR

SP	U-B	B-V	V	$\alpha_{1950.0}$	$\delta_{1950.0}$	CH CYR
M6			7	19 23 14.2	50 08 31	V: CH CYR
S1	1.74	1.62	5.91	19 32 18.9	49 09 09.8	SAO 184786
M8						SAO 48589
F8		$m_{pg} = 8.6$	$m_V = 8.0$	19 24 10.5	49 58 14.4	S2: SAO 48428
B9			$m_V = 6.3$	19 22 05.1	50 10 21.9	S3: SAO 31623

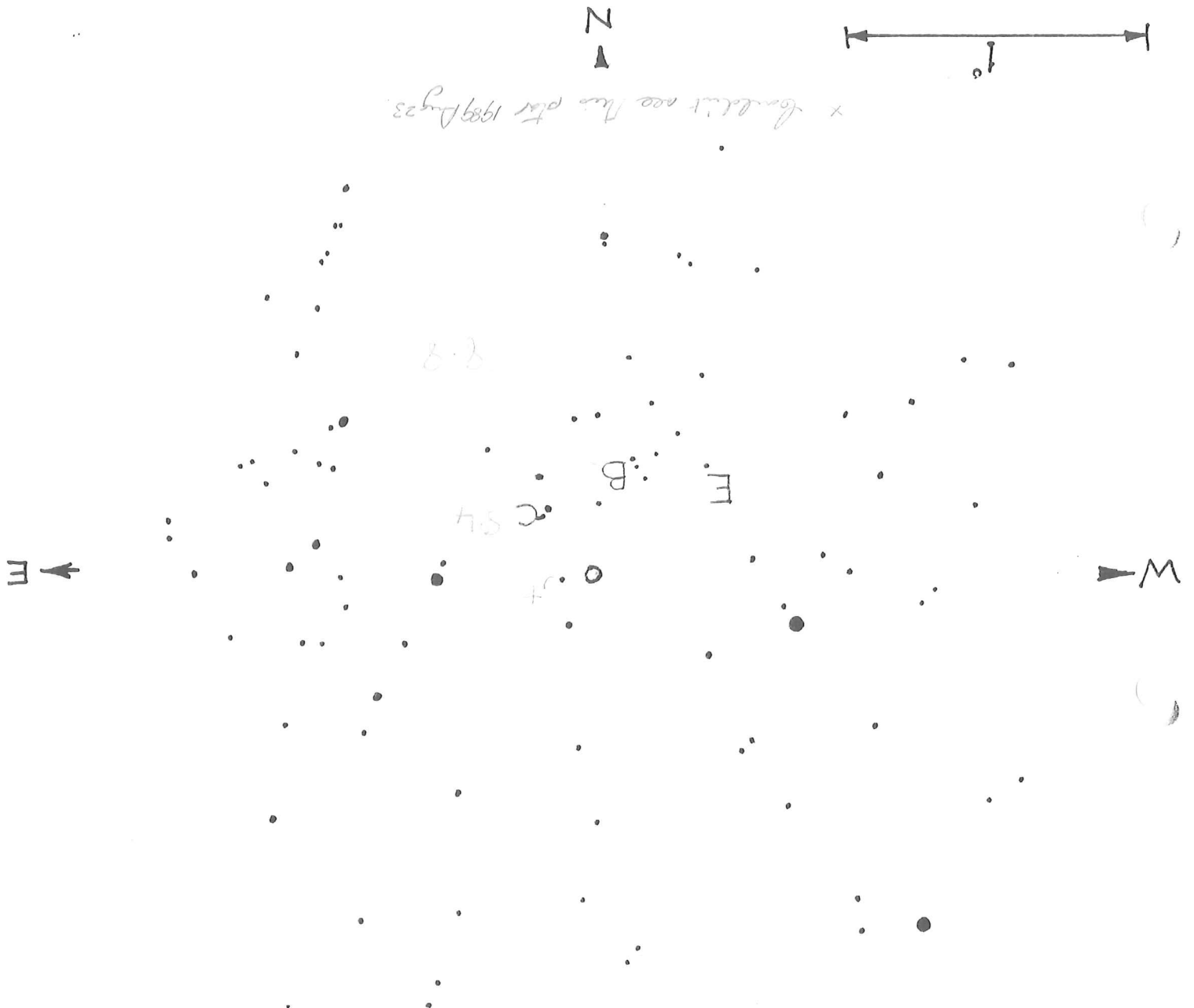




CH CY9



SAO	RA	Dec.	mv	Sp.
B	20 ^h 35 ^m	35° 38'	8.8	A2
C	20 ^h 36 ^m	35° 28'	8.4	A2
E	20 ^h 33 ^m	35° 36'	9.2	

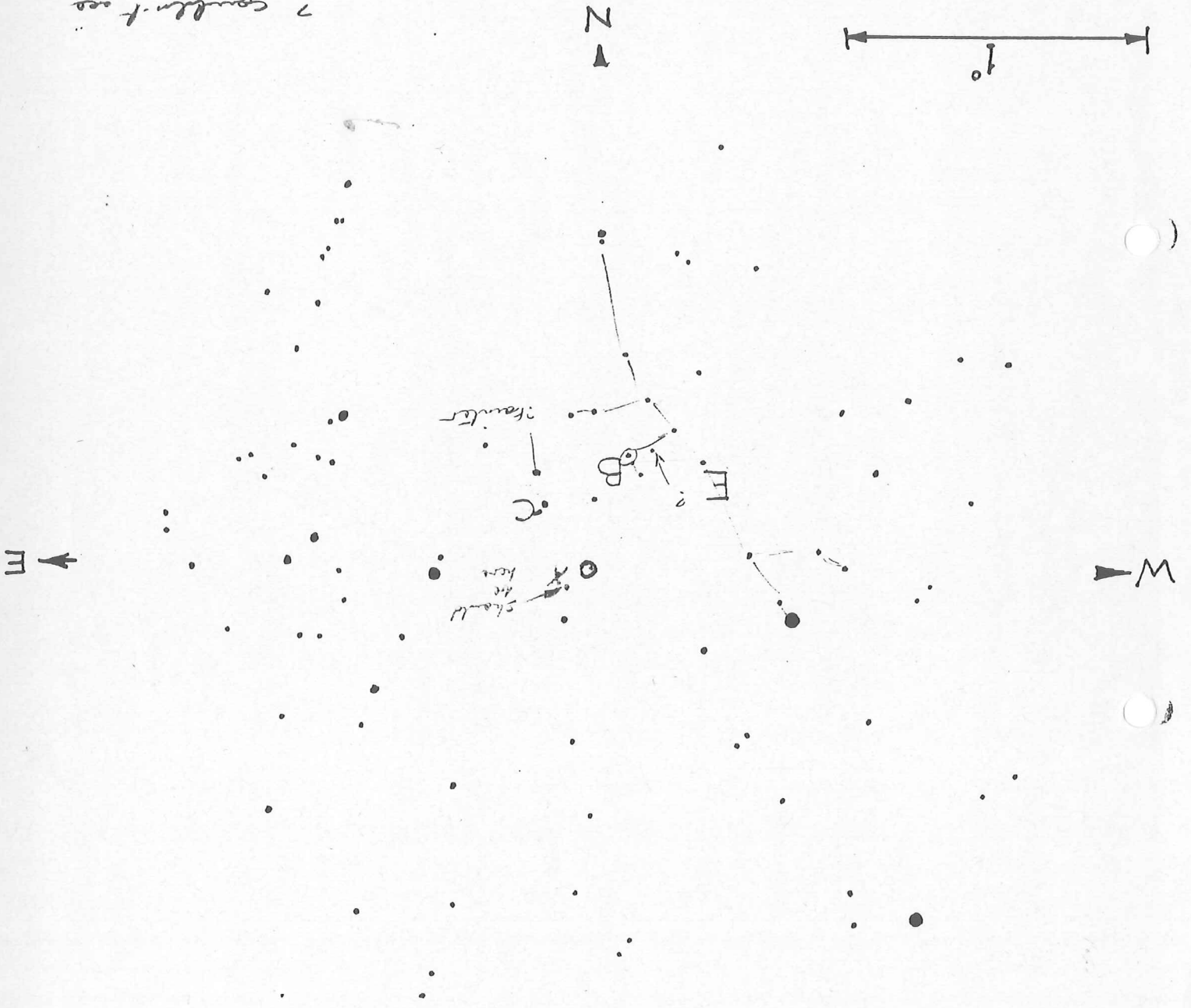


Star	RA	Dec.	mv	Sp.
GO	20 ^h 35 ^m 4	35° 16'	0.72 ^d	
Cy9	8.3 - 8.9		8.5	
EB	8.3 - 8.9		9.1	

1950. S

SAO	RA	Dec.	mv	Sp.
070239	20 ^h 33 ^m	35° 36'	9.2	
070314	20 ^h 36 ^m	35° 28'	8.4	A2
070263	20 ^h 35 ^m	35° 38'	8.8	A2

? could be from the star 1729/1/23
7ms.

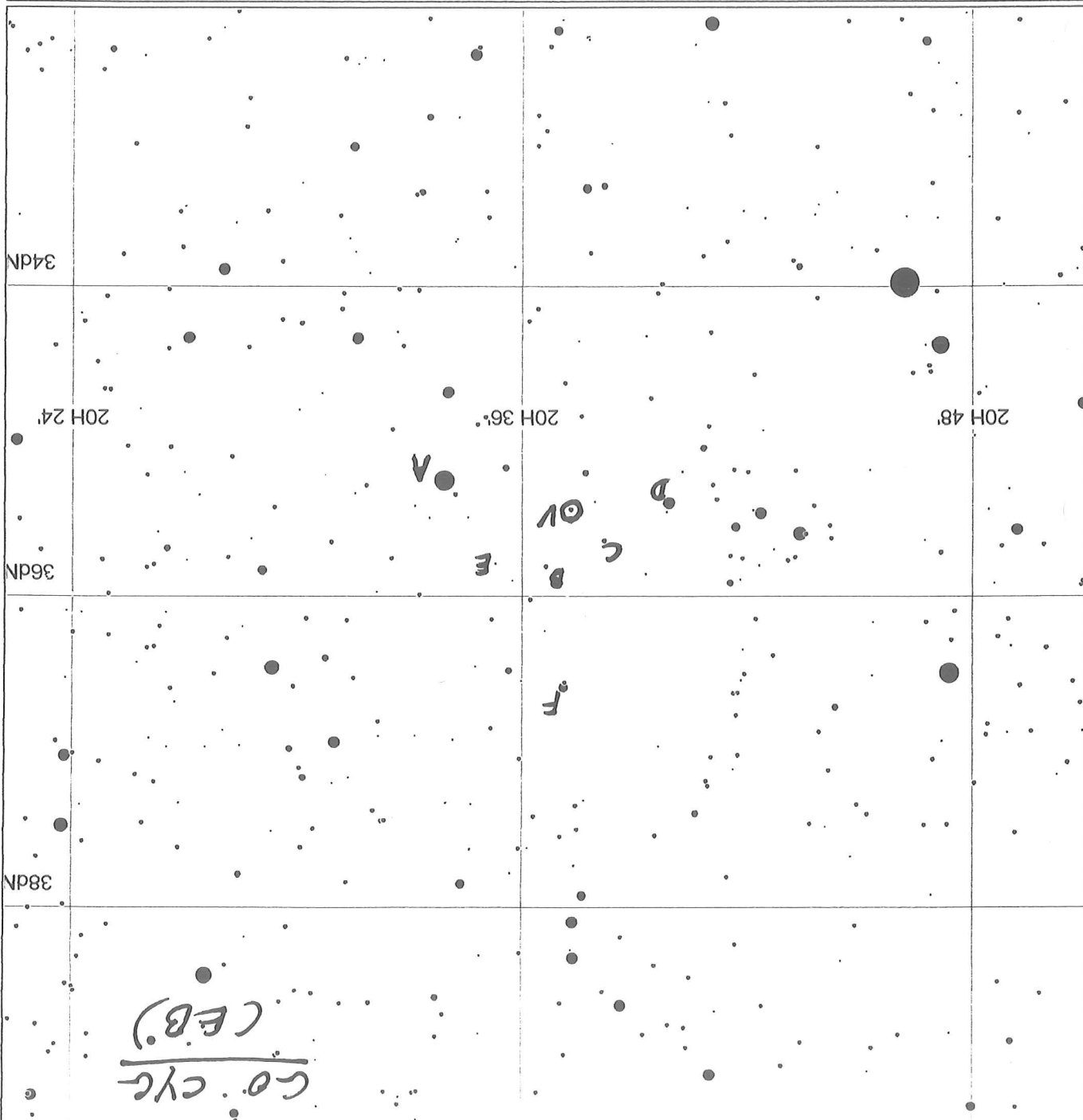


DBI
 GO Cyg
 EB 8.5-9.1
 8.3-8.9
 20^h 35^m 4
 35° 16'
 1950
 0.72^d

Center at RA: 20h36m38s Dec: +35d48'15" Date: 19-11-96, Time: 09:08 pm

- | | | |
|-------|-------|----------------------|
| ● 5.3 | ● 1.0 | ○ Other NGC Objects |
| ● 5.6 | ● 2.0 | ○ Star |
| ● 6.0 | ● 2.5 | ≡ Cluster+Nebulosity |
| ● 7.0 | ● 2.8 | ○ Nebula |
| ● 7.5 | ● 3.1 | □ Planetary Nebula |
| ● 8.0 | ● 3.8 | ⊖ Globular Cluster |
| ● 9.0 | ● 4.5 | ⊖ Open Cluster |
| ● 9.5 | ● 5.0 | ≡ Galaxy |
-
- | | |
|------------|-------------------------|
| ☉ Sun | ● Solar System Objects: |
| ◆ Mercury | |
| ♃ Venus | |
| ♂ Mars | |
| ♃ Jupiter | |
| ♄ Saturn | |
| ♅ Uranus | |
| ♆ Neptune | |
| ♇ Pluto | |
| ☾ Moon | |
| ☄ Comet | |
| ♁ Asteroid | |

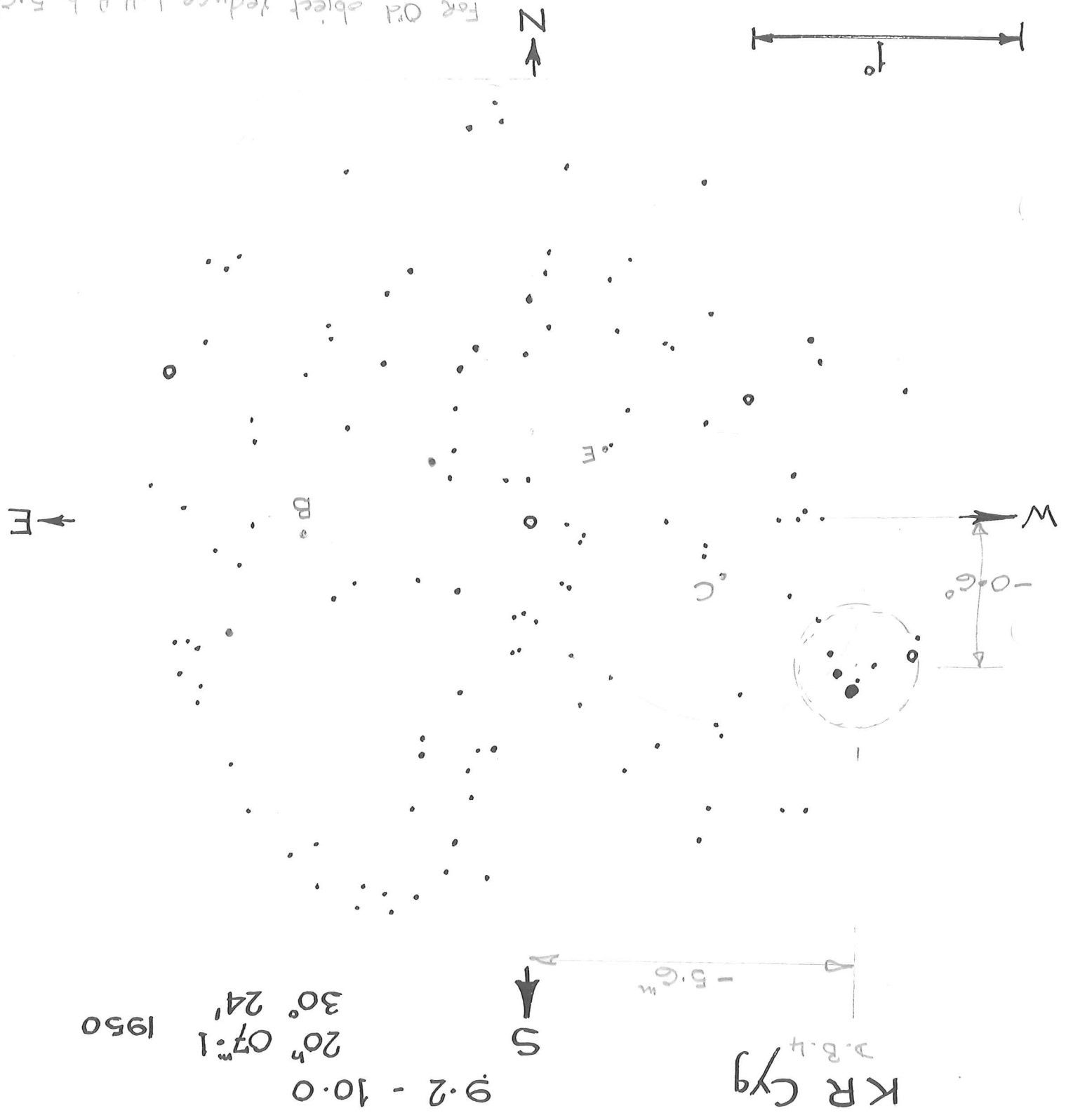
TheSky Astronomy Software © 1992



JWF

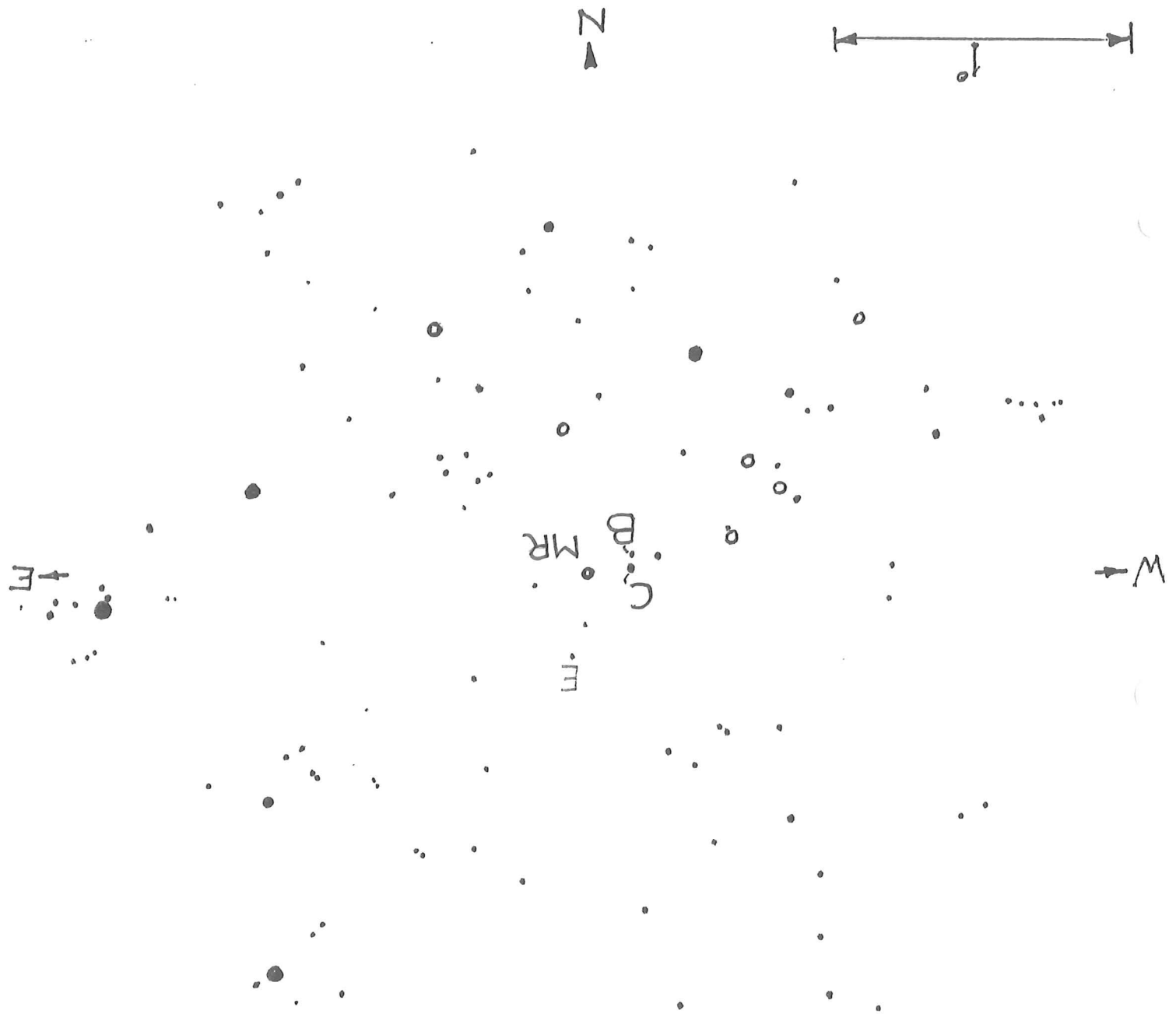
SAO	RA	Dec	m _v	Sp.
E 069463	20 ^h 06 ^m	38 ^o 41'	8.3	K0
C 069387	20 ^h 04 ^m	38 ^o 11'	8.1	F8
B 069615	20 ^h 11 ^m	38 ^o 20'	8.3	G5

For old object reduce L.H.A by 5.6^m
 " Dec by 0.6^o



9.2 - 10.0
 20^h 07^m 1
 30^o 24'
 1950

SAO	RA	Dec	mv	Sp.
E 051517	21 57	47° 26'	9.0	
C 051494	21 56	47° 45'	9.0	
B 051497	21 56	47° 48'	9.1	

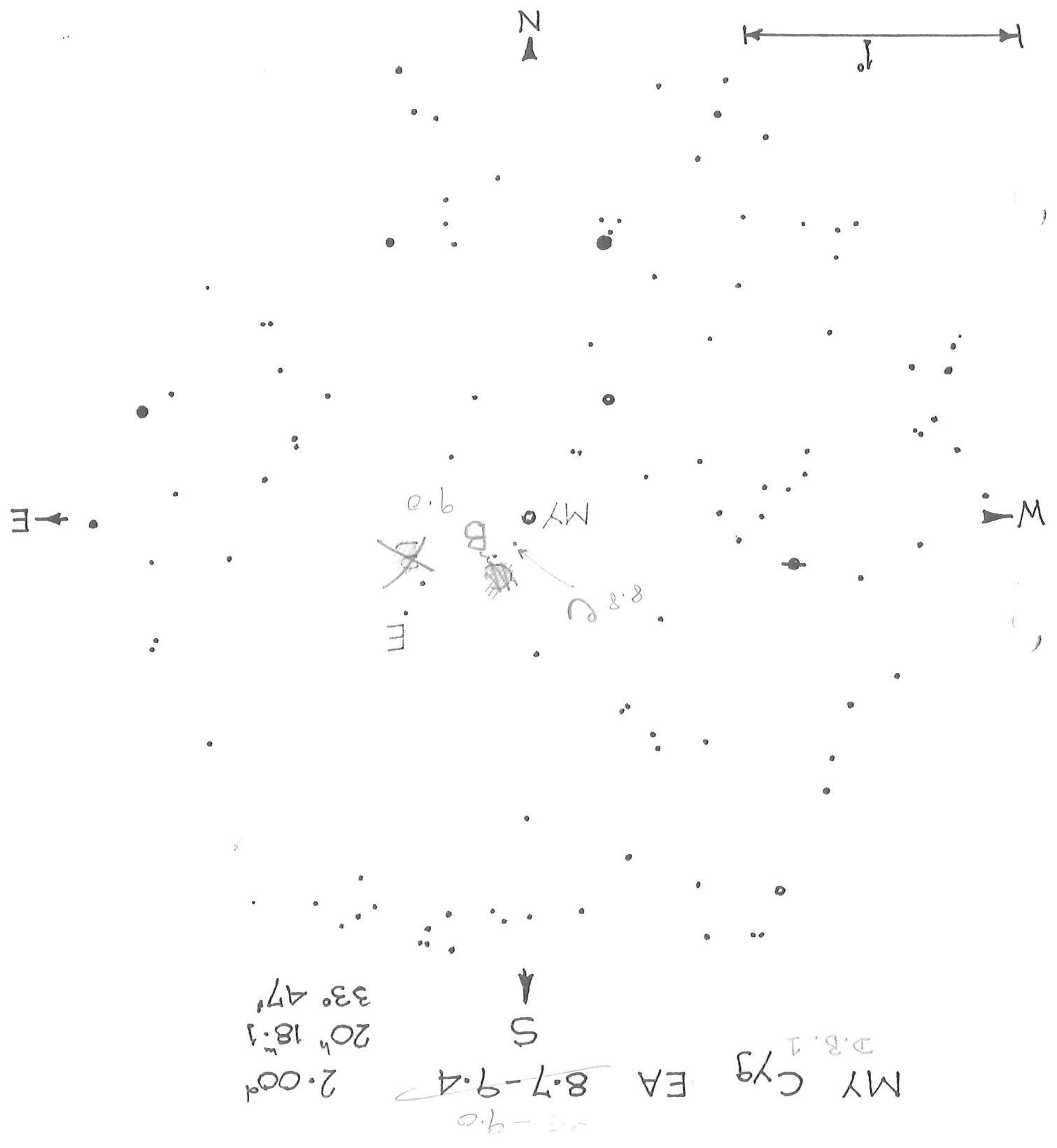


MR Cyg D.B.1
 EA 8.8-9.7
 S
 1^d 68
 21^h 57^m 0
 47° 45'
 1950

Greg's chosen B had a relatively bright companion with about 30"

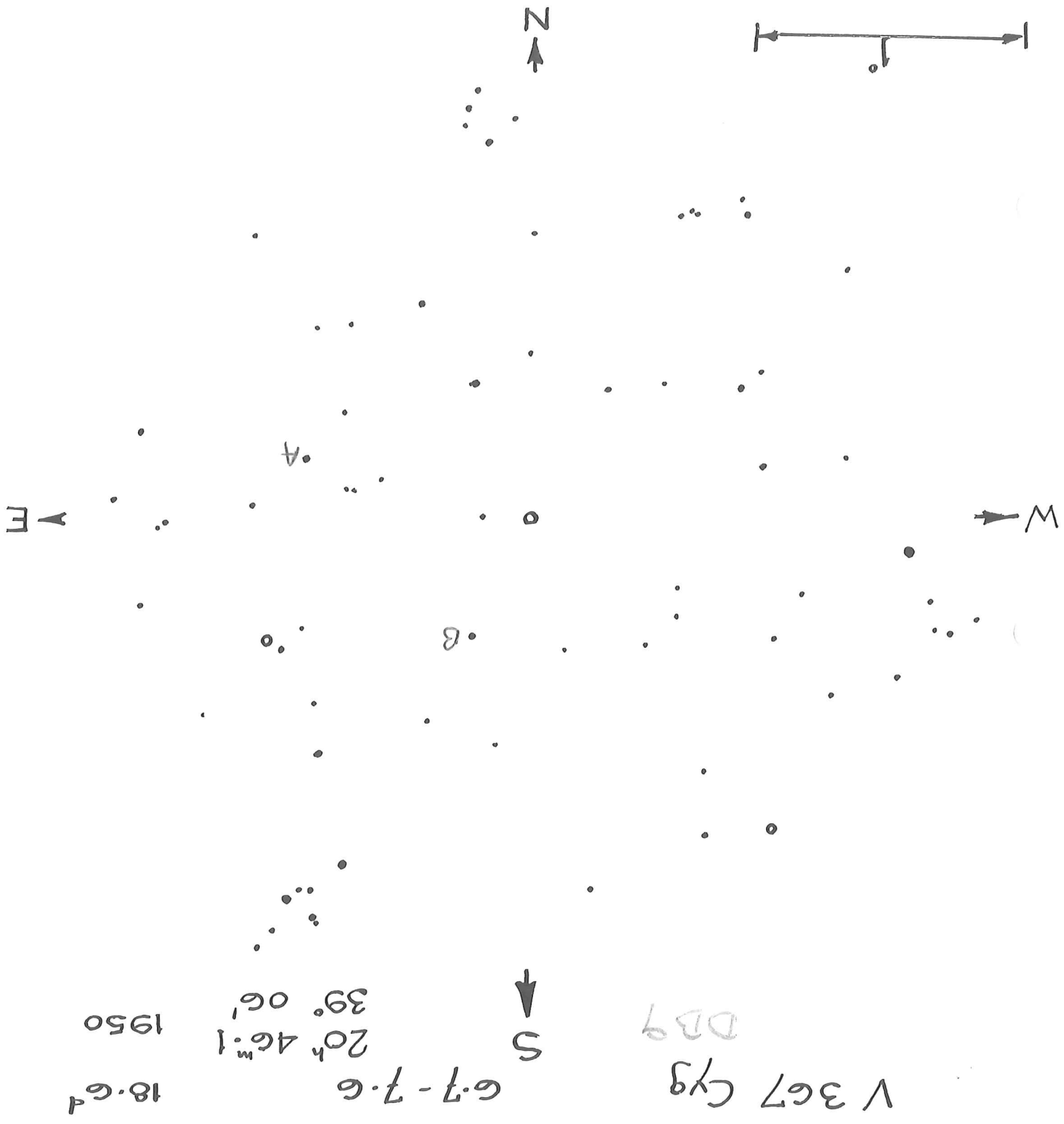
SAO	RA	Dec.	mv	Sp.
B	20^h 20^m	33° 31'	9.1	
B	20 ^h 19 ^m	33° 36'	9.0	Comparison
C	20 ^h 19 ^m	33° 40'	8.8	Check. - G5
E	20 ^h 21 ^m	33° 23'	9.0	

JWF



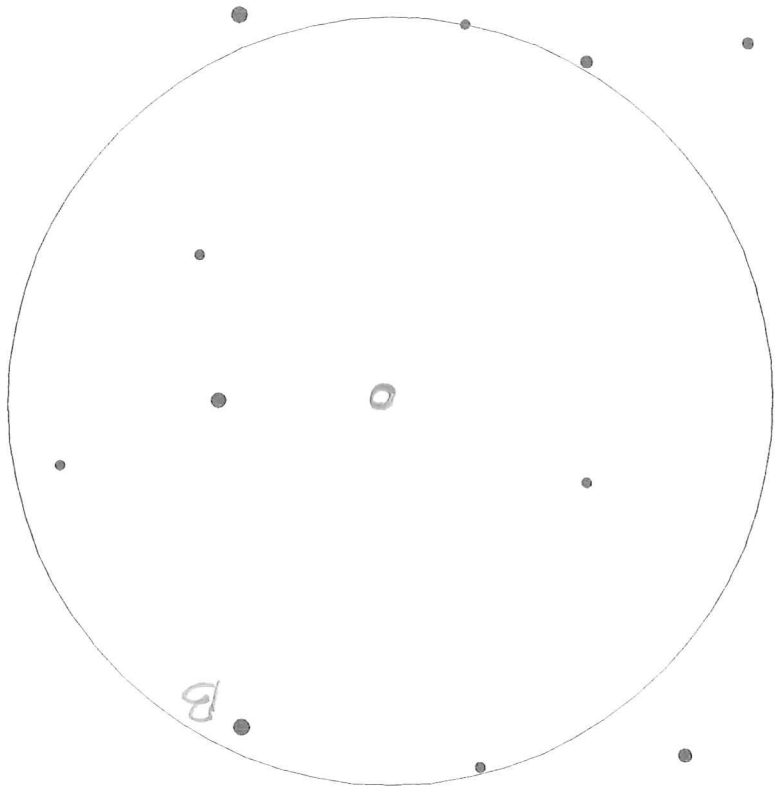
SAO	RA	Dec	mv	Sp.
V 70517	20 48	39 17	(G-95)	A5
B 70539	20 49	38 52	7.5	A0
A 70612	20 52	39 30	7-3	A2

sky atlas
2000
epoch



20h46.1066m J1950.0
 +39.1022 deg Cyg
 Alt 72.166 Az 236.420
 Level 7: 2 degrees
 19 Oct 1999 20:13:31
 TU Cam
 5.12-5.29
 A=6.0, B=7.0

5	●
4	●
3	●
2	●
9	●
8	●
7	●
6	●



A

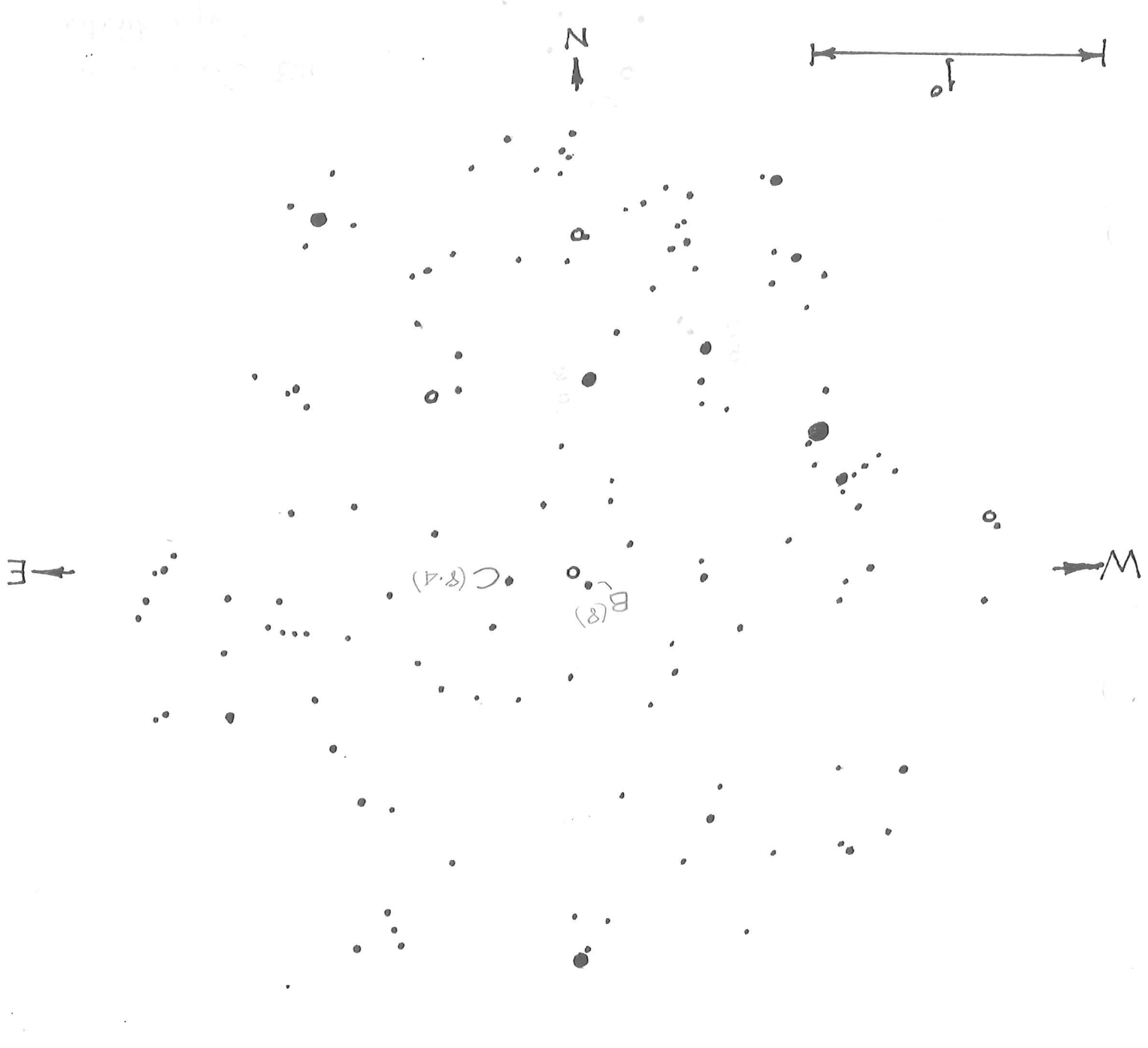
B

V367 Cyg

DB9

JWF

SAO	RA	Dec.	mv	Sp.
B	069799	25° 17'	36 06'	8.0
C	069847	20° 18'	36 07'	8.4



V 382 Cγ 2.8.3
 EB S 8.29-9.2
 9.0-9.8 1950
 20h 16m 9 36° 11'
 1989 1988 Hubble

1115 1985 Jan

SAO RA Dec. mv Sp.



N ↑

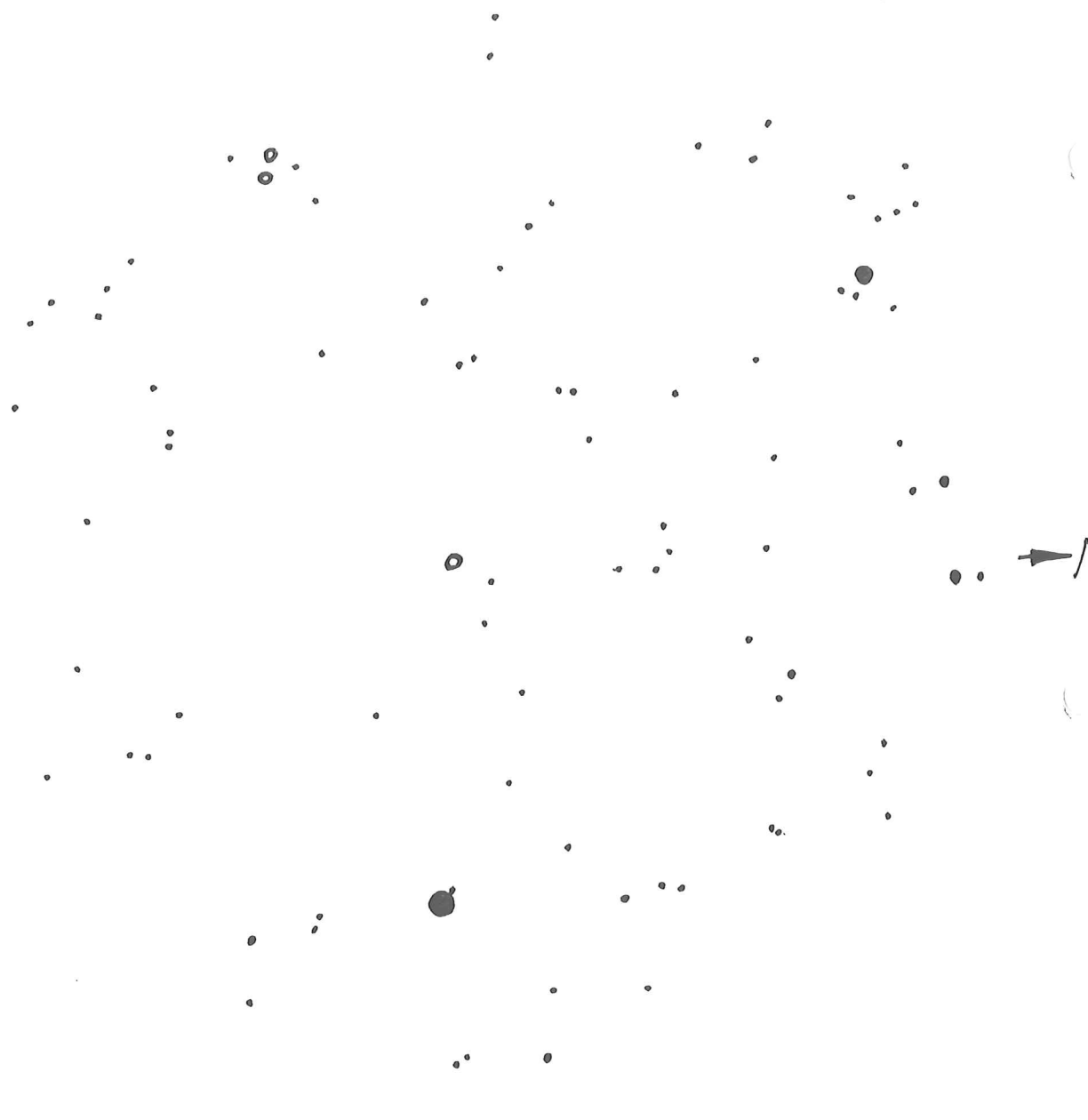
← E

← W

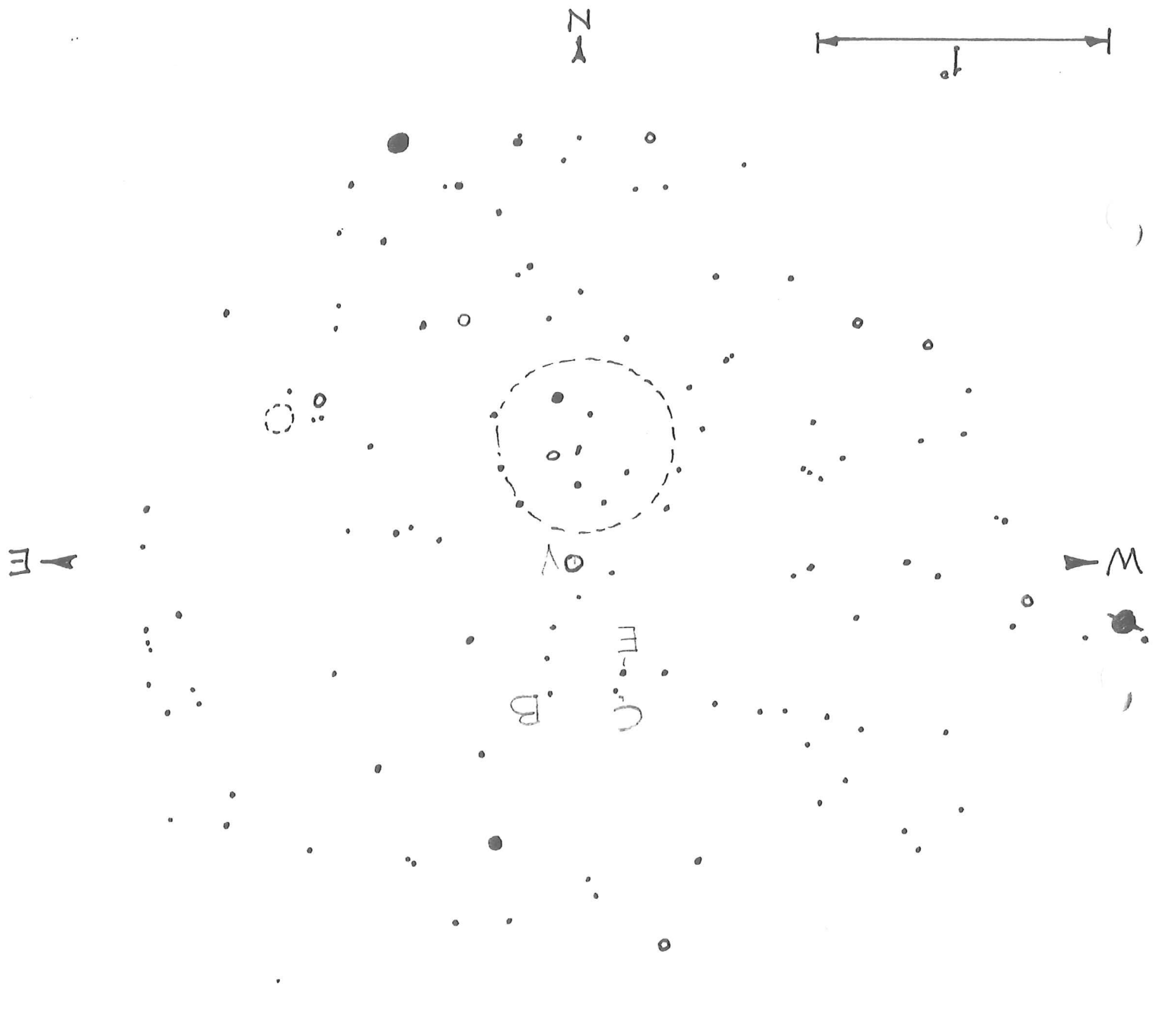
↓ S

V 388 Cyg

0.86^d 1950
8.9-9.6 20^h 27^m 2 31° 13'



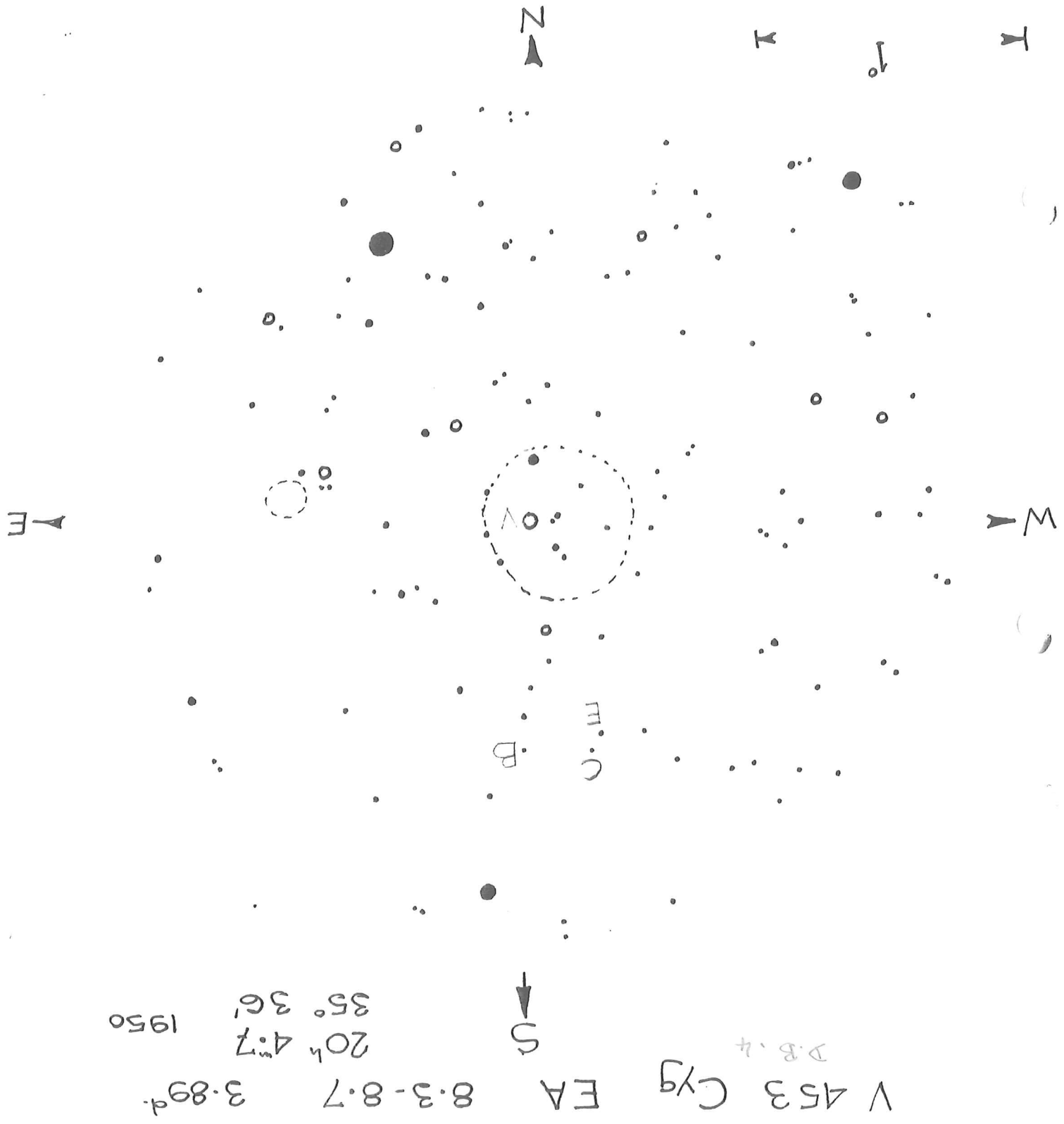
SAO	RA	Dec.	m _v	Sp.	N.B.
069382	20 ^h 04 ^m	34° 50'	8.3	A0	V453 Cyg.
069388	20 ^h 04 ^m	34° 46'	8.7	F5	As for
069424	20 ^h 05 ^m	34° 46'	8.5		COMPARISONS
					SAHE



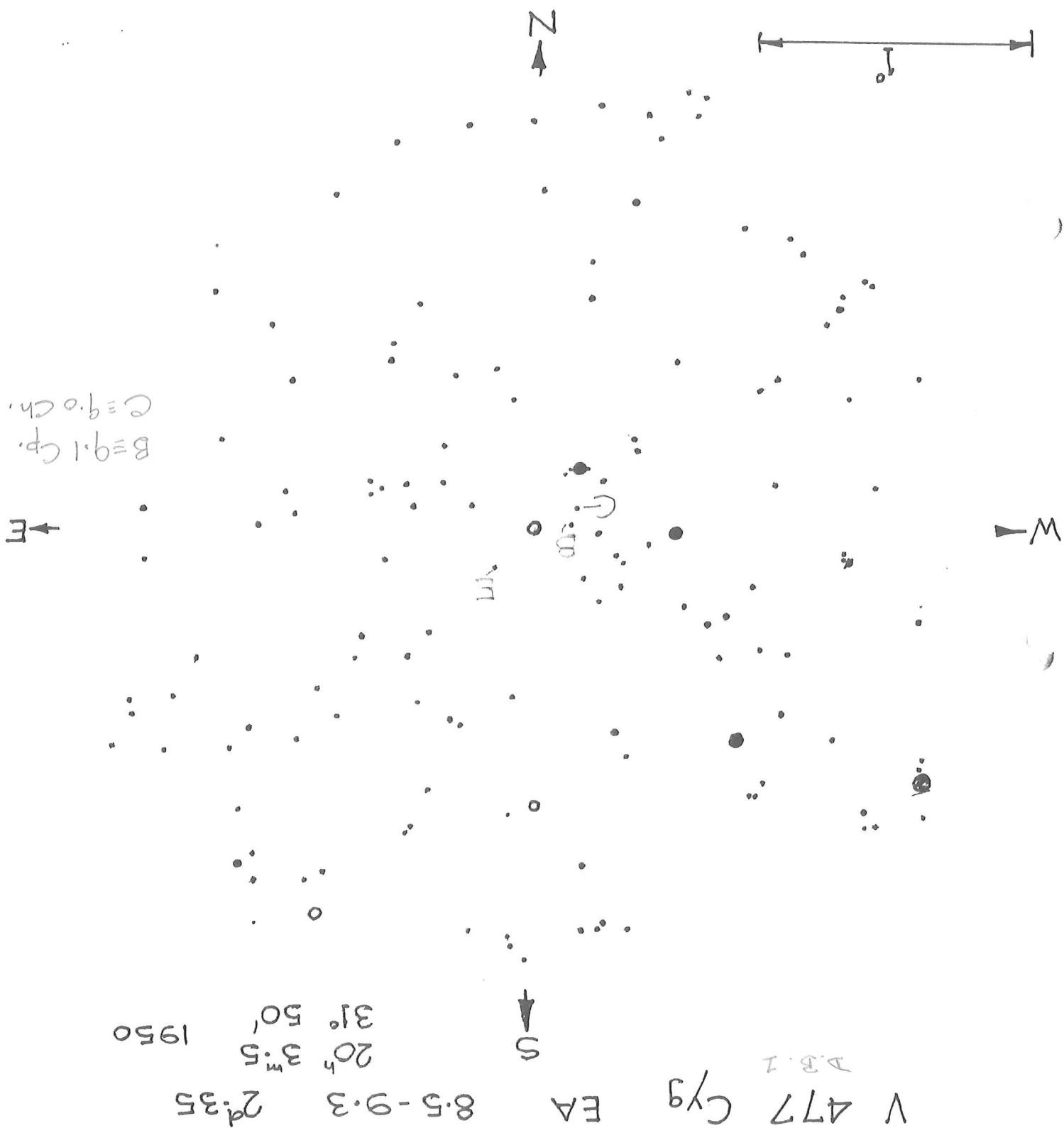
V 448 Cyg D.B.S.
 EB 8.0 - 8.8
 20^h 4^m 3
 35° 14'
 1950
 G.52^d

SAO	RA	Dec.	mv	Sp.	N.B.
069382	20° 04'	34° 50'	8.3	A0	
069388	20° 04'	34° 46'	8.7	F5	AS FOR
069424	20° 05'	34° 46'	8.5		COMPARISONS

VAAB CY9.

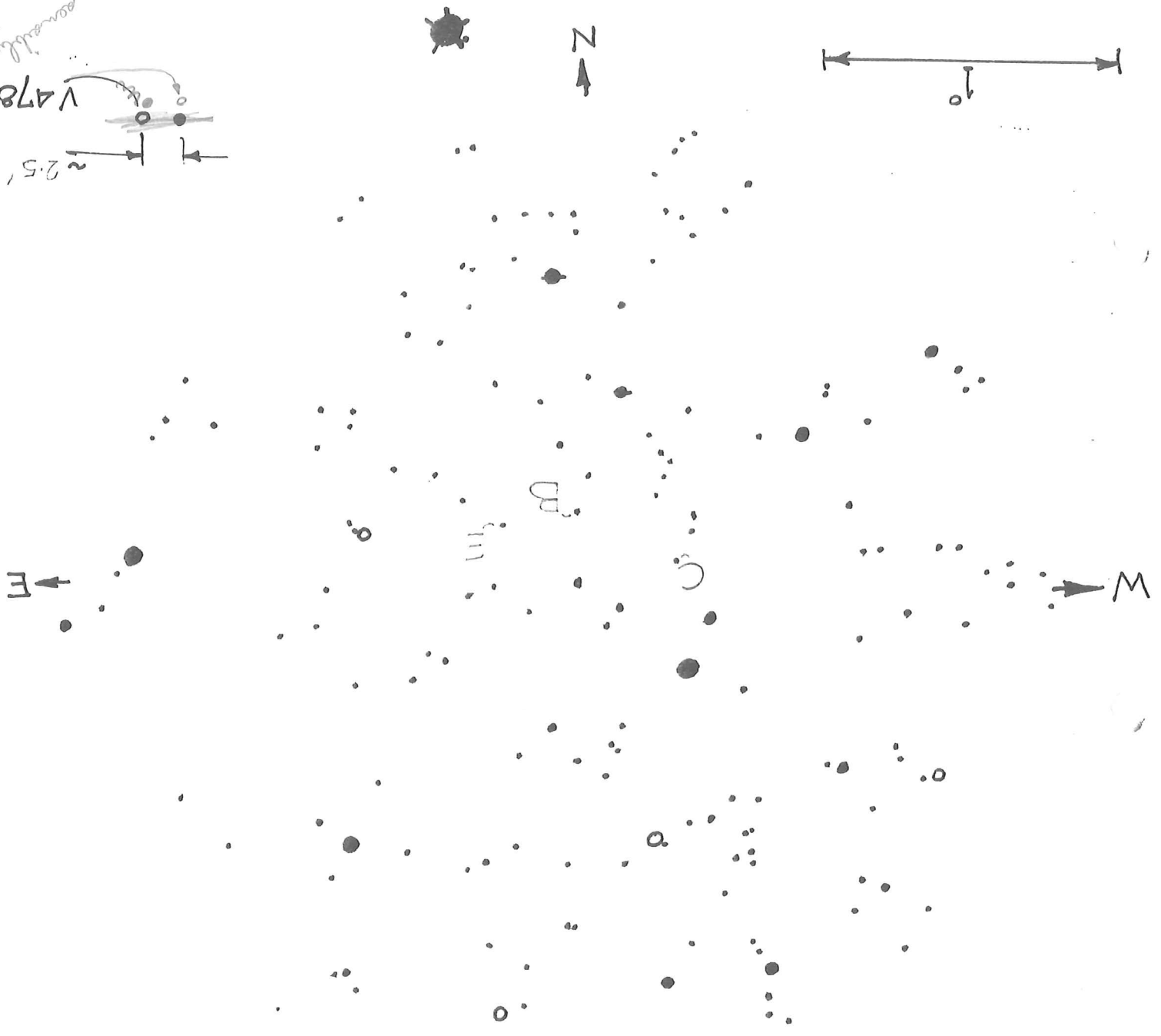
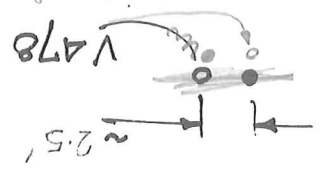


SAO	RA	Dec	mv	Sp.
B	20 ^h 03 ^m	31° 51'	9.1	
C	20 ^h 03 ^m	31° 54'	9.0	
E	20 ^h 04 ^m	31° 39'	8.7	



SAO	RA	Dec.	mv	Sp.
B 069842	20 ^h 18 ^m	38° 26'	8.8	
C 069782	20 ^h 16 ^m	38° 16'	8.7	
E 069875	20 ^h 19 ^m	38° 24'	8.7	

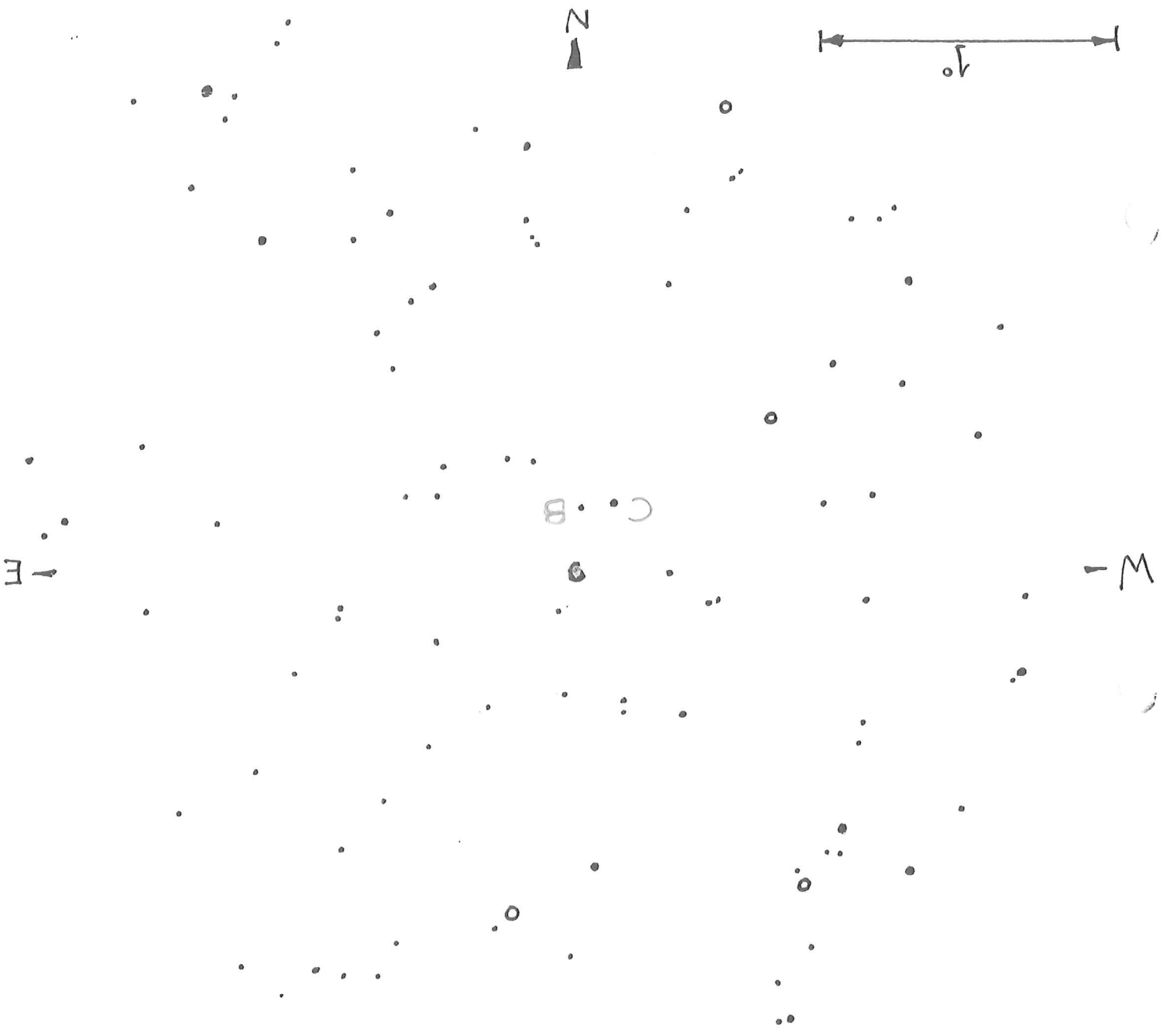
V478 is considerably fainter than nearby companions



V 478 D.B.1
 EA 8.9-9.3
 20^h 17^m 8
 38° 11'
 1950
 S

Diff B & C stars chosen 1988 Oct 5. size

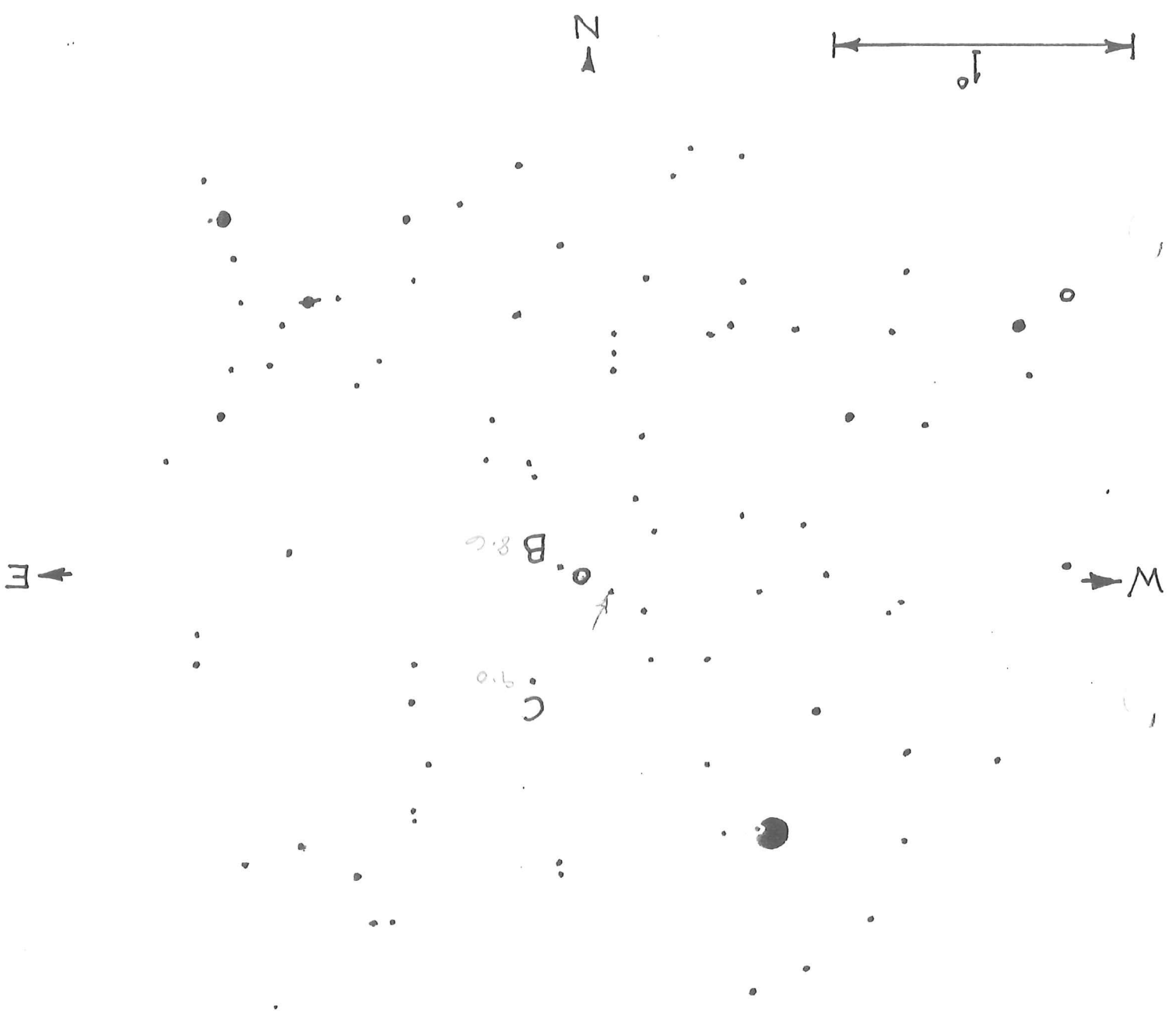
SAO	RA	Dec	m_v	Sp.
B 032136	19° 56'	54° 53'	8.4	A3
C 032125	19° 55'	54° 53'	8.4	A3



V 548
 d.B.4
 DD2
 Cyg.
 EA
 S
 8.9-9.7
 19° 56.8'
 54° 40.1'
 1950
 1.81^d

The above
 magnitude
 at all times
 (see Appendix)

SAO	RA	Dec.	mv	Sp.
C 071247	21 20"	35° 12'	9.0	
B 071246	21 20"	35° 35'	8.6	

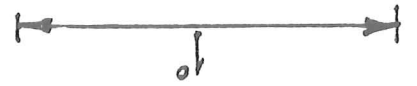


SAO	RA	Dec.	mv	Sp.
V836	21 20"	35° 31'	19.4	
Cy9	21 20"	35° 31'	19.4	
EB	21 20"	35° 31'	19.4	
			9.2	
			8.6	
			0.65	

D.B.I

1950

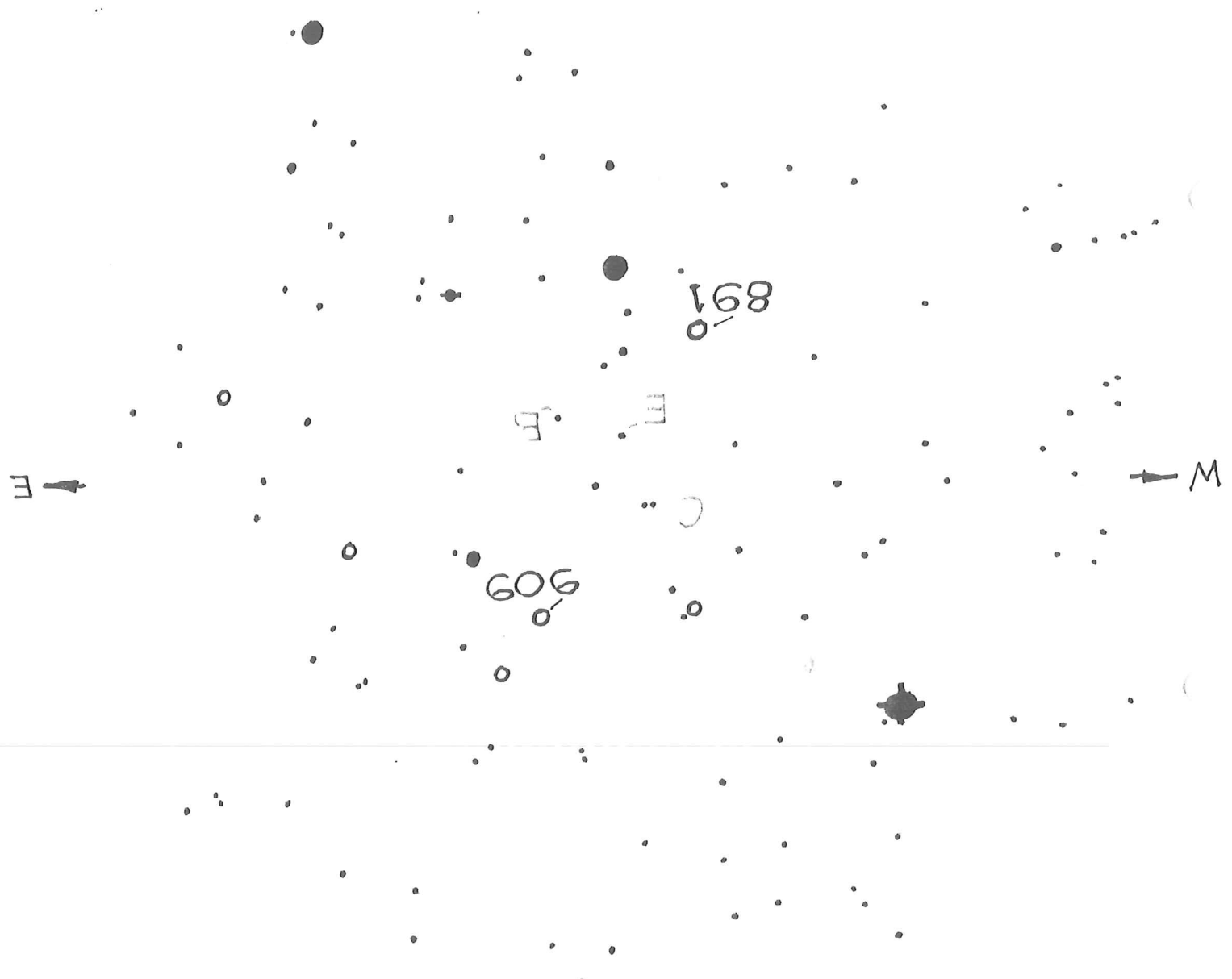
SAO	RA	Dec.	MV	Sp.
B	19 ^h 37 ^m	28° 55'	5.3	AE
C	19 ^h 37 ^m	28° 32'	5.1	FC



N

E

W



1950 19^h 33^m.9 28° 10'

1950 19^h 31^m.6 29° 10'

S

9.3-9.7

9.3-9.9

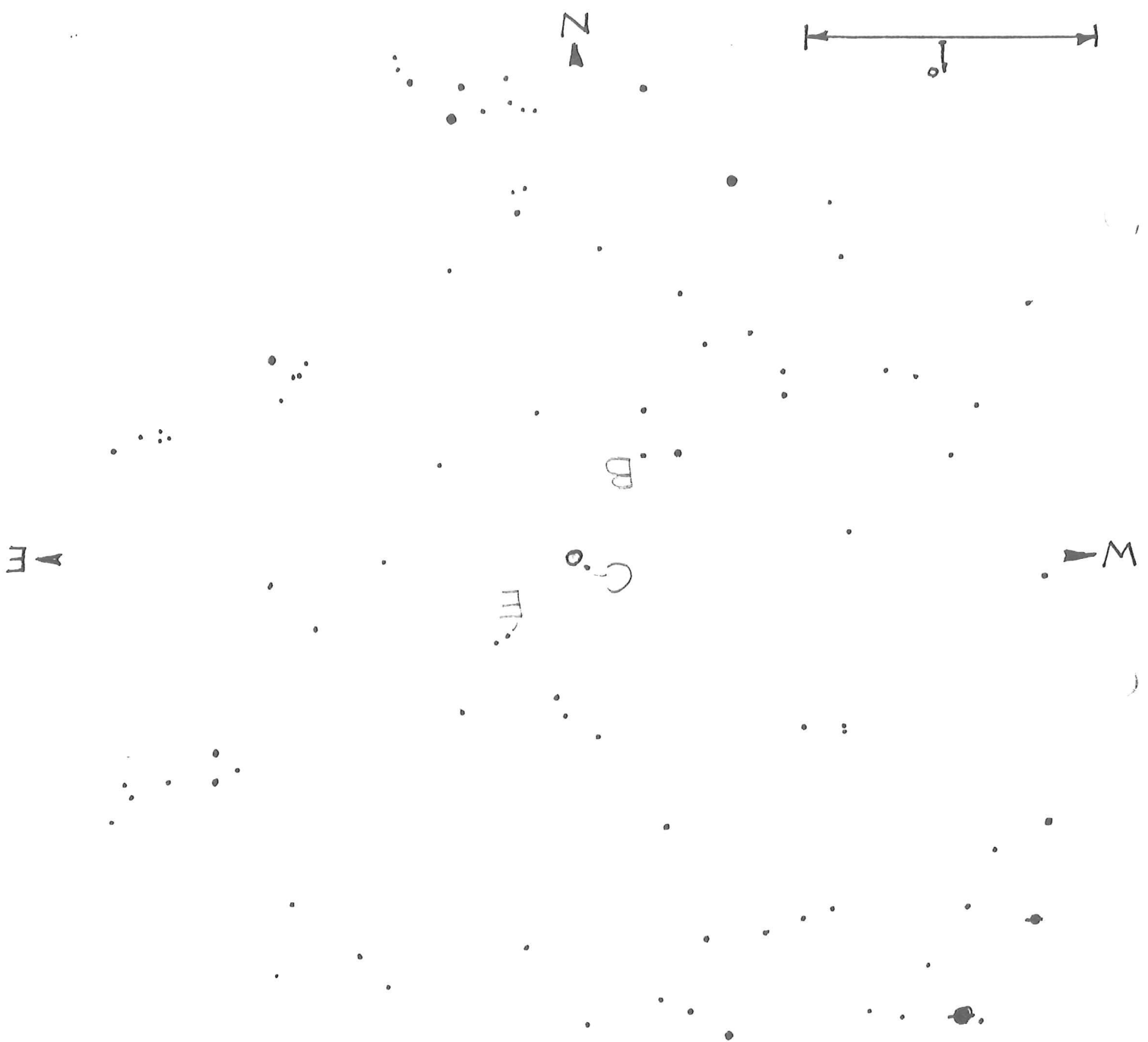
V 909 Cyg EA D.B.S

V 891 Cyg E D.B.S

1^d.40

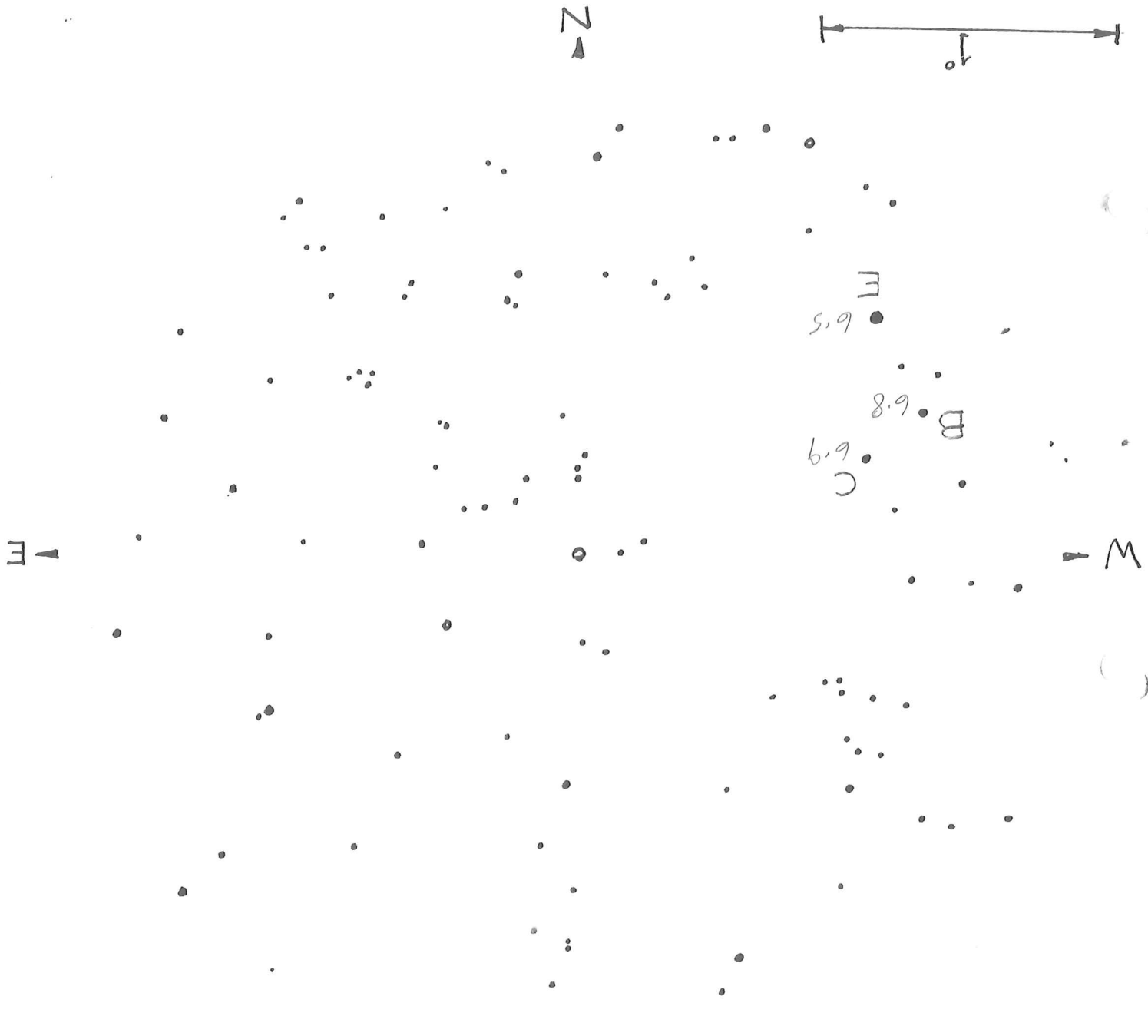
1^d.91

SAO	RA	Dec.	mv	Sp.
033126	21 ^h 04 ^m	52° 11'	9.3	F2
033141	21 ^h 05 ^m	51° 48'	9.0	B5
033169	21 ^h 07 ^m	51° 36'	9.0	K0



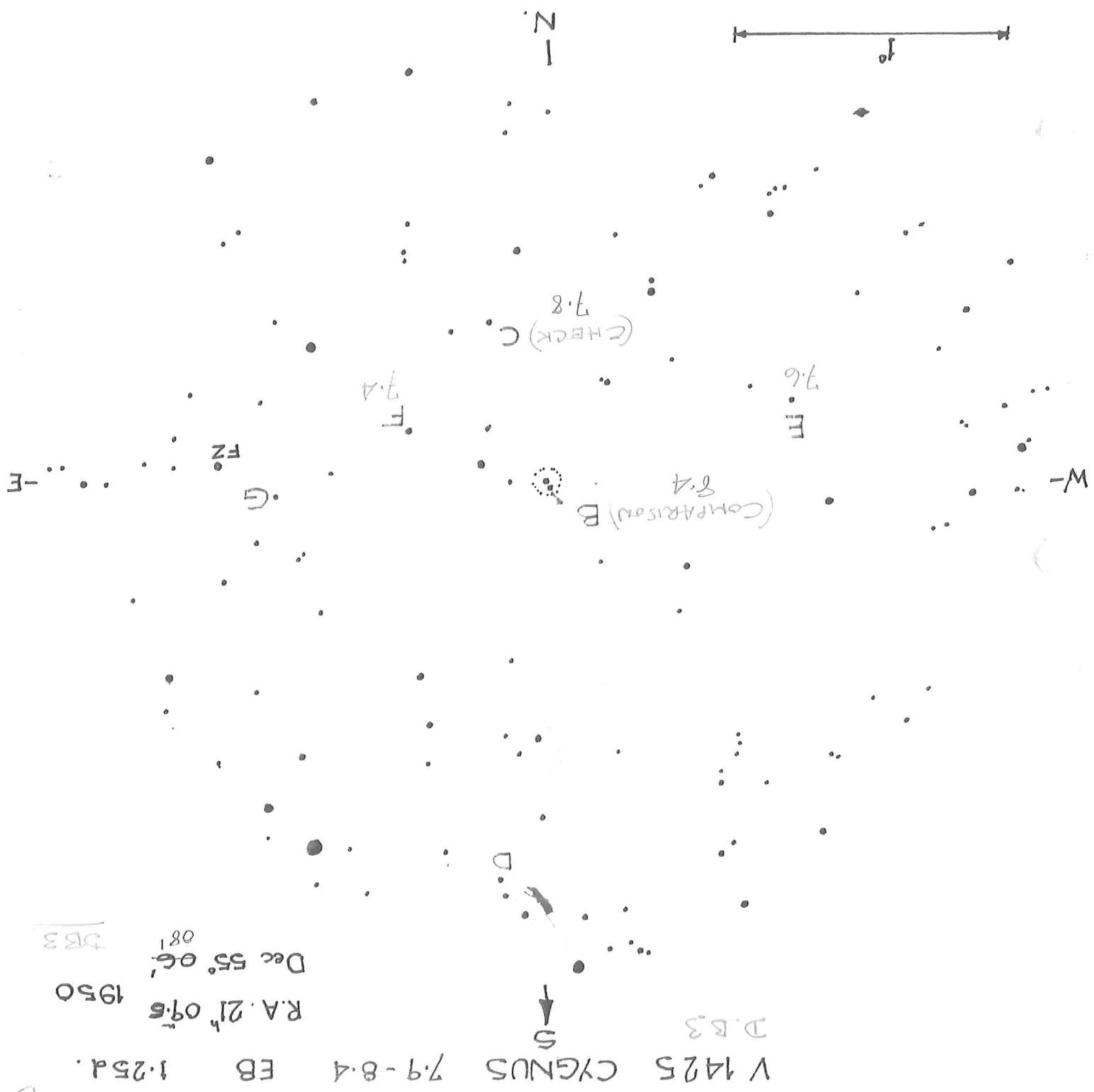
V1061 Cyg
 D.B. 6
 EA 9.3-9.9
 21^h 5^m 8
 51° 51'
 2.37^d
 1950

SAO	RA	Dec.	m _v	Sp.
B	19° 29'	55° 19'	6.8	K0
C	19° 30'	55° 09'	6.9	K2
E	19° 30'	55° 37'	6.5	+++ Peculiar !!!

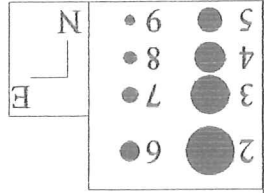


V1143 Cyg
 D.B.3
 S
 EA 5.9-6.4
 19° 37' 6
 54° 51'
 1950.
 7.64^d

B	21 ^h 09 ^m 5	55° 04'	SP B9	mv 8.4	STO. 032193
C	21 ^h 10 ^m 9	55° 45'	A8	mv 7.8	033223
D	21 ^h 10 ^m 9	53° 42'	A0	8.2	033224
E	21 ^h 03 ^m 5	55° 23'	A0	7.6	033117
F	21 ^h 13 ^m 7	55° 18'	A0	7.4	033263
G	21 ^h 16 ^m 6	55° 04'	A0	8.4	033297



12 Sep 1999 13:16:45
5.000
+46 19.83' Cyg
21h03m53.7s J2000.0



Note V1931 = EB
5-33-5-48

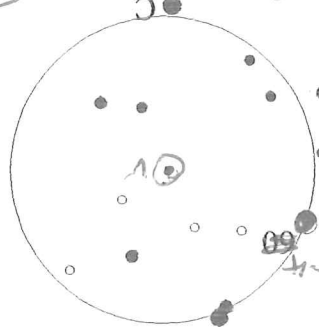
V1500 Cyg

4-53-63

4-76-59

5-72

7-7
7-5



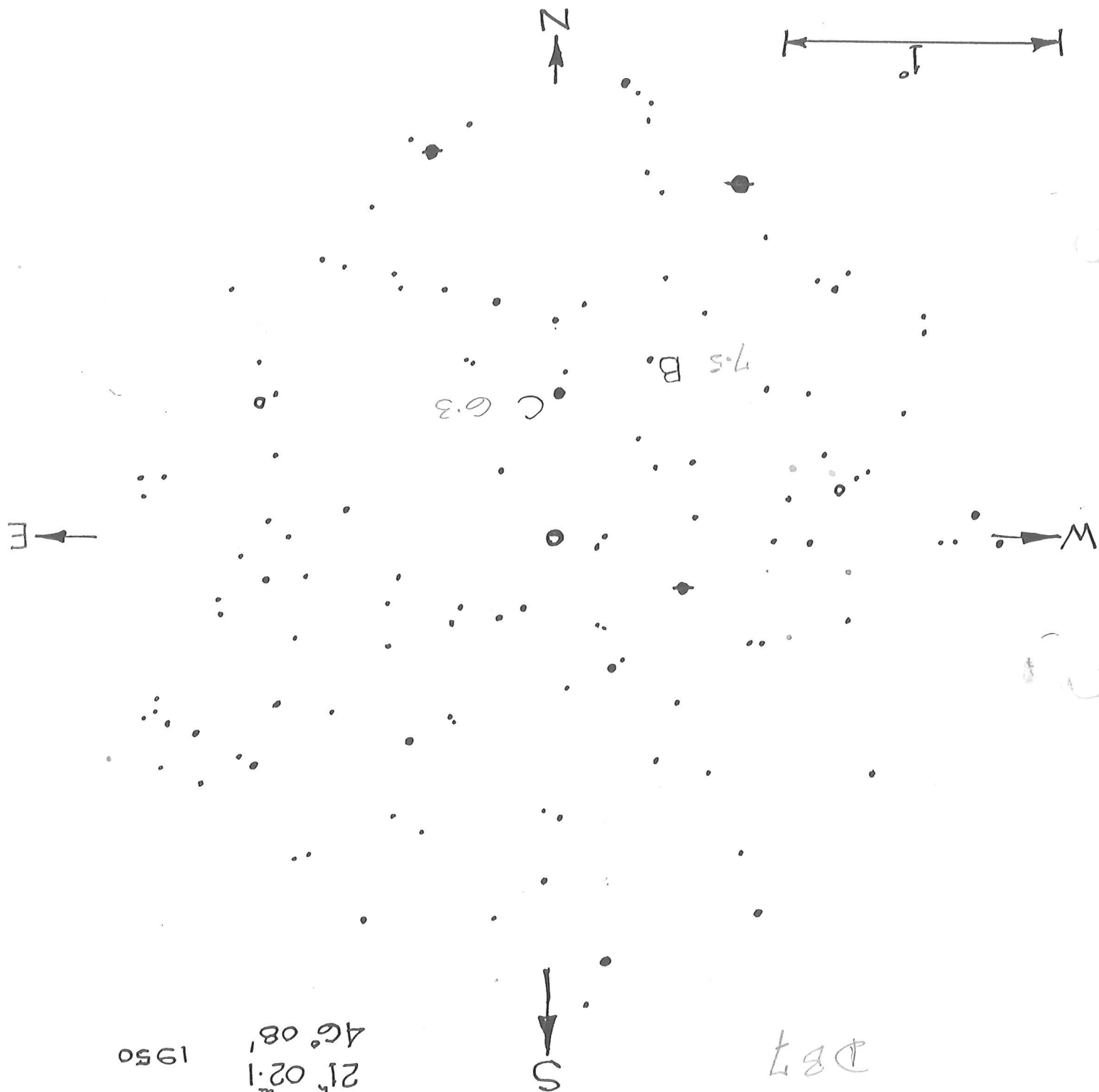
V407 Cyg

V1931 Cyg

V1898 Cyg

Time

SAO	RA	Dec.	mv	Sp.
C 050408	21 ^h 02 ^m	46° 40'	6.3	A5
B 050373	21 ^h 00 ^m	46° 49'	7.5	A0



21^h 02^m 1
46° 08'

1950

3.02^d

7.7 - 8.1

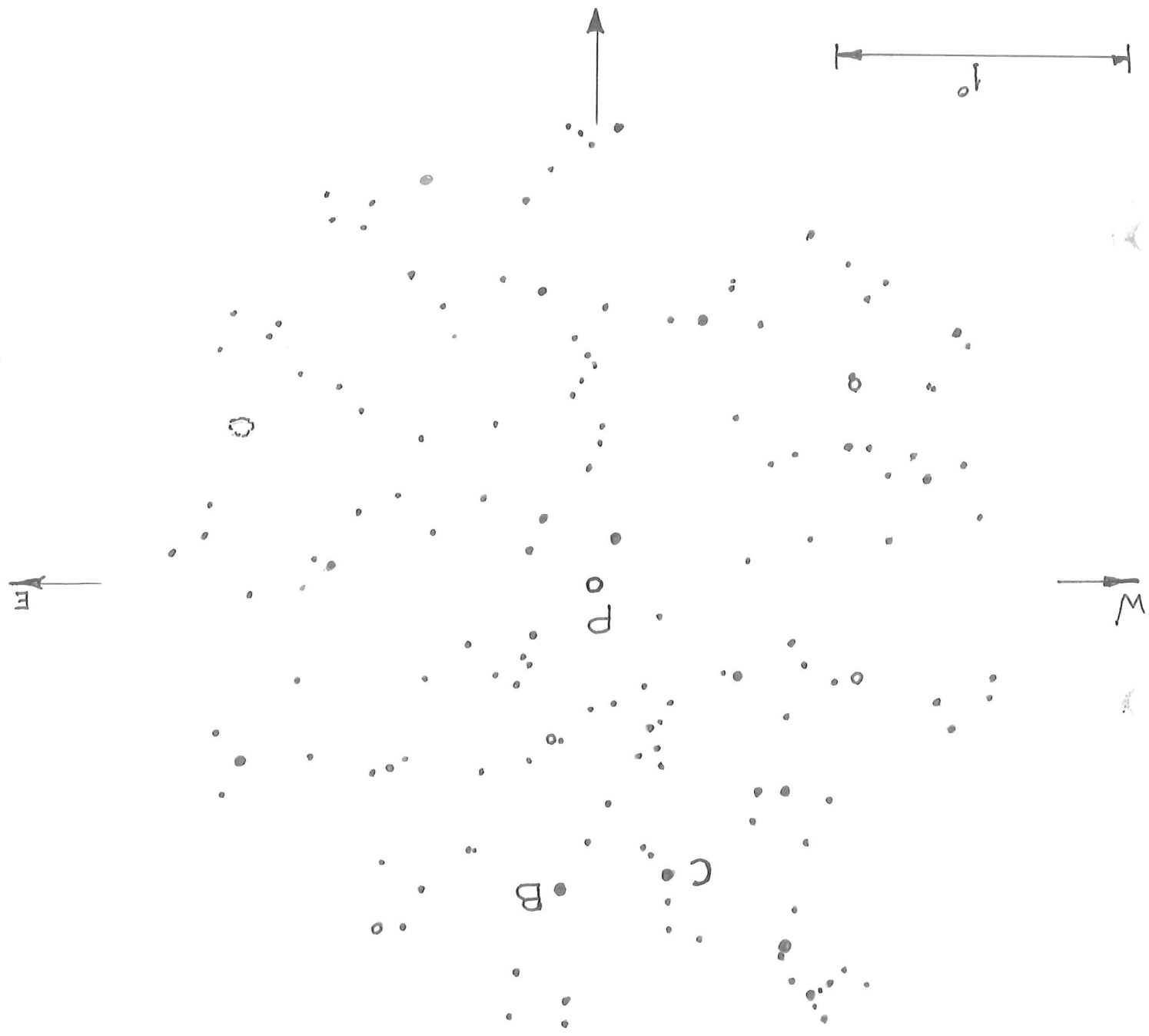
V 1898 Cyg ?

DB7

N.B. Not given in Finding chart for Interstellar Binary Stars

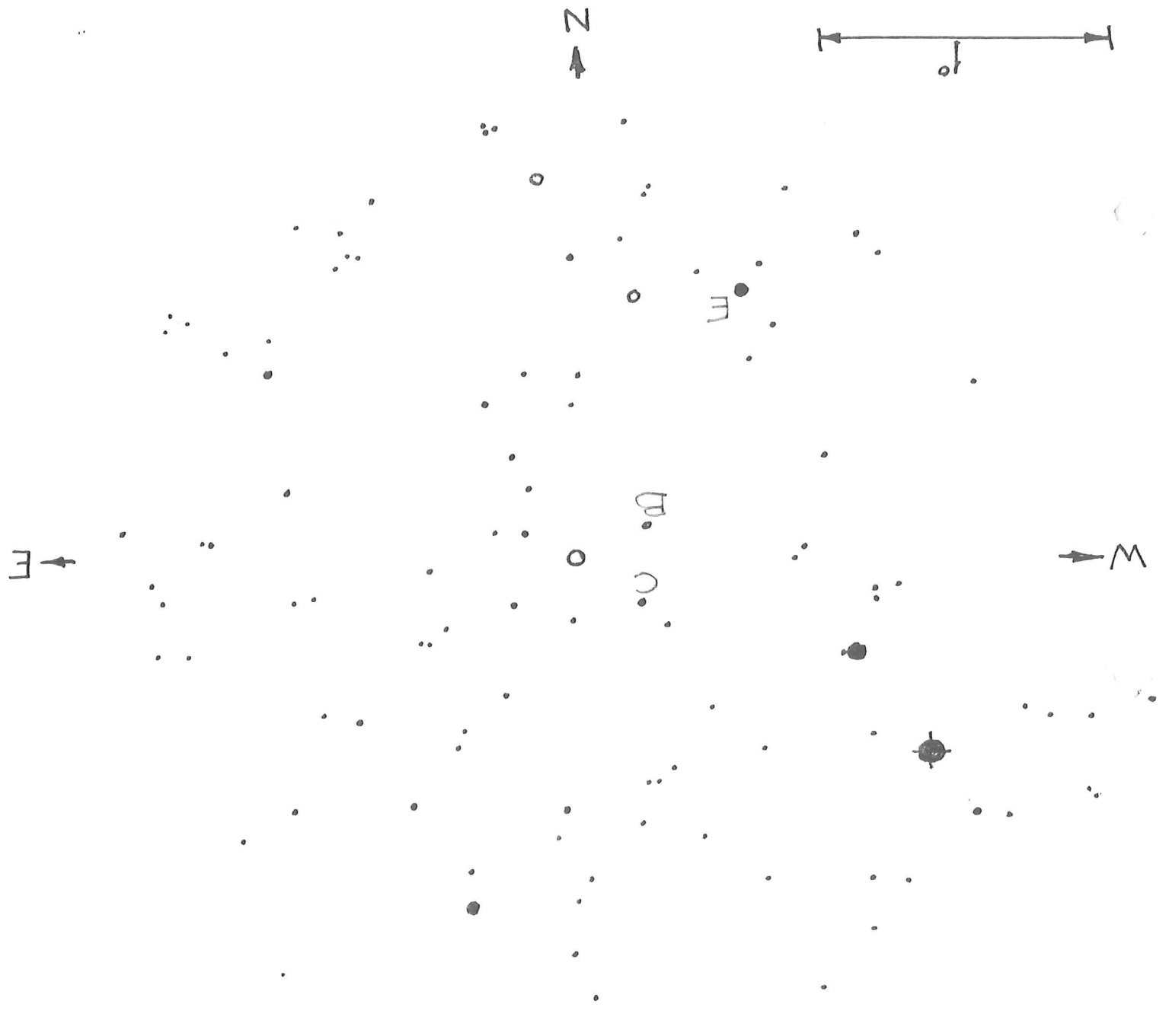
June

C	HR 7757	RA	20 ^h 15 ^m	Dec.	36° 54'	Vmag	6.48
B	36 Cyg	RA	20 ^h 17 ^m	Dec.	36° 51'	"	5.58



P Cyg. (not an EB.)
 DBG
 20^h 15^m 56.5^s
 37° 52' 36"
 1950
 Observations registered with
 1989 Aug 17th

SAO	RA	Dec.	m _v	Sp.
070544	20° 47'	35° 23'	6.7	K5
070579	20° 49'	34° 18'	8.4	
070575	20° 49'	34° 34'	6.7	K0



Y Cyg D.R. 6
 EA 7.3-7.9
 3.00^d
 20° 50' 1
 34° 28'
 1950