)AVIT Volume

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Symbols & Abbreviations EEcho - my te les cope (34 inch sell.) A- Aurora 0 - Sun gen. - General 7 - Mascury Const.-Constellation(s) Obs. Observation(s) 7 - Venus Sat - Satellite 9. C. - general constellation observations 0 - Easth P. power C- Moon R-Ranger - 5p. Rebroctor with tripod 2pp. - approximatel. 0-mors 0 - Ceres S-by a planet -Caboue, indicates 24 - Jugiter Shave observ h-Satyrn \* - Something 8 - Uran US "new" acco 1 - neptune ()- A "milestone" SS plus reached? SS pumber - part of "Suospo E - Plutog

Hyades, Capella, Aldebarran, g.c. Oct. 38E 4, h, C, g. c, Alberio, Mizar-Echo-69p. 3:40-9:40 mst Oct. 7 39E g.c. 7:25-7:55 act.8 Oct. 8- 4, k, C, Alberio, Mear, Capella, Pleiades. 8:35-9:30 Capella seen with baint star norby. 39E2 405 Oct 9-12:35-12:40- 110 spots seen. Echo - 60p, (projected on bancy presents ofen YOE Oct 9- 8: 37-9.26 - 9. c. (, 3, 2, Pleides, Alberio, Mizar, Capella-Echo-60p. Oct 10 - 8:22-8:25- 4spots seep. 60p Oct 10- 1:30-137-4seen spots seep. Echo-60p. Oct 10-6:10-6:50-7,63,295 Albert 415 4152 41E Oct 11. +91:35-1:40 - 4 spots. Echo-bp. 425 42E Oct. 11. 8:35-9:27 -Edbo, 60p, - 53,20-31, NEC-663 Pleiades Hyades Bl. Lebarron, alberio, Mizar, Capella. 435 Oct. 12 12:37-12:42-Echo-69. 5 spots. Oct. 12-9.6:05-6:159 c. + (Bill Earnshaw) 43E 43E2 Cct. 12 - g.c & Echo \_ 9:03-9:15:. 44E Oct. 13 - g.c. + 4,2, C, # Alberig Plei ades 1: 43-100 Oct. 14- 42 11: 23-11: 30-45pots Echolog 455 45E Oct 19- 9.0. 6.45-7.00. 465 Oct. 15- g 61:30-1:35-45, Echo-60p. 45 pots - noticed that 4 spots have moved

10-62 on the Sun like children on a merry-goround. 46E 6:35-6:40- 2 with Echo 60p. Dit 15 475 \$ 12:25-12:30 - No spors Lunder light cloud Det K 475 Oct. 16 - 6:3 5:35-6:10 - 3 for a lew Minutes, Par Echo-60p. Ha Mostly cloudy. 485 Oct. 17 1: 35-1:40 Echo60p. Ispotgow 4852 Oct. 17. 5:25-5:45/Clear/Echo 60p./1group 48E "Oct 17 5.50-7:00/Clear/Echo-60p/9,00 a slim croscont, 2, 7, alberio, M-3), arcturus: 48E2 Oct. 17 - 8.45 - 9:10 - Clear / Echo-60p/ 492 Oct 18-8: 25-8:30 I Clear / Echo-60p 495 Oct 18 12:3-1:30-1.35/Rlear/Echo-89 49E Oct 18 - 5:35-5:40/Bartly Cloudy/Echo-60p.14. 49E2 Oct. 18-\$:6:35-6:55 / Partly Cloudy / Echo-60p/4, Capella. 49E3Oct. 18, 855-2, 257 Partly Cloudy/ Echo-60p. / 4,74 (B:11 Earnshaw) Aurora in M. white

50x Oct. 20162 - 19:30-11:30/Ech 60p-/Lunar Observing-No #50EM Oct 20162 16:02-12:15/Maked eye, meteors; (27 seen by me); also Fleiades, Clear. / g.c. / Euro EClear 51SL Oct. 21/62/9:20-9:27/ Loro EClear Echo-60p/Lunar Obs / No spots 51E Oct. 21/62/16:10-6:20/act. clear gen. const. obs. (Bill Earnshard \* 52E Oct 23/62/6:08-6:55/Clean/Echo-60r 32 Alberio, arctures, Capellas mapped 59 ED Oct 23/62 / 2.50 -9:15/CharlEcho 60p-1 andremeda Galaxy - What a \*53E Dot 25162/7:10-8451 Clear 117-36 Mapped Pouble Cluster + region; Fantan 5362 Oct. 25/62 19:15-9:25/ Clear/g.c. 54E Oct. 26/62 / 24/2 Duston: 20:50-21:20 Observed 3, 2, M-31, M-45, Hydres, DGC - 869 + 884, Mizar, Alberiowith Echo-60p.

10-62 54m Oct. 27/62/04:00-04:15/Clearly.c/m-42 555 Oct. 27/62/18:30-18:37/Mainly Lloudy/Echo-60p. / 2, Arctorus Vega. 55m Oct. 28/62/01:20-01:50 / Partly Cloudy/g.c. 565 Oct. 28/62/13:35-13:40/Clear/5P. 56E Oct. 28/62 / 1,30-18:50/ ECkar/ Echo-60p. 19. 3, 2, Mizar, Alberia, M31, NGC 869 + 884/9. C-20:45 / Devoted 562 Oct. 28/62 / 20:15 - 20:45 / Devoted entirely to general constellation 57E at 29/12/20:45-21:20-18:30/ 57E at 29/12/20:45-21:20/Clegr/ 57E at 29/12/20:45-21:20/Clegr/ Echo-200.13,2, Nec 269+884 M-35 M-45 Hiberio, Hitur/David Finn-1gen.constrate. 575 Oct 29/62/18:501-19:00/ q.c./Clas 571 Cat. 30/62 / 01:00-02:30 Tgen, const. obs. / Clear 5 2E Cat 30/62/17.35-13:35/clear/Ecbo-60p.- 17, n, MizAR, ALBERIO, FOMACHAUT,

58E2 18.55-14,001-gezignst obs. IC lear 58E3 2040-21,15/Clear / Echo-60p. 186 Mgc-580 Oct. 31 / 03:30-04. 00/Clearly 9.0 59E Oct31 / 17:35-17:40/Clearly 9.0 \$ Earthshipe, 59E2 Cct 31 1, 17:3 18:05-18:10 Mainly 5983 Out. 31 9. 20 \$5-1045/ PA Party 59E4 Oct. 3 / 22:35-22:40/ Mainly \$60E Get. Nov. 27-20:35-21.10/Glear/ \*61E gc/Echobop-13, 2, M-45, Alberio, \*61E Row. 3/17:30-21:30/Saw 2600 first time with Red Spots 23 (; follow Echo Sat. 60r8 min, with Echo-60p - m-3, Delta Cephei; g.c.; Mira /Echo-60p/Clean 62E Rou. 4/17 45-18:20/ Echo-60p. Clear / (: 4; 2, M-31/ Echo Saz. 62m Row 5/03:30-03:40/ Chearla.c. 62E 63E Nov. 5/10:55-19.00/ Hazy-1g.c. BM Row. 6/05:20-05:30/Clearlgen.

11-62 const. obs. Saw Regulus for first time. Leo, Leo Minor. 64E lov, 6 17; 35-17; 45 -gen. constobs. (Brike Peak) Clear 64E2 Rov. 6 18:45-18:50-gen. const. obs. 6453 Rov. 6 20:50-21:30-1Clear/Echo-(Op/ 3; h; C; Capella; Fomalhaut; M-45; Hyades; A Hebarran; Vega, Deneb, Altair; Alberio /g.c. 64 M 1200, 7/02: 45-02:55/ Clear/gen. 65E Row, 7/2 21:23-21:33/Clearlgen. 65 m Row. 8/06:00-06:10/g.c. - Sirius and part of Orion Dave the only opportunity for unaided observation Clear. 66E Rouis 20:45-9:30 - 1 Clear Mul gen. const. ops. 1 Ain HE Mul 67E Dov. 9. 120.40-20:50 gen. const.obs. Ain NW. bright-white 67 m Nov. 10/04:20-04:30 9 gréckar +68E Plow: 10/17:30-21:30/Clear/g.e./

Echo- 60N Made an attempt to chart the Milky Uky - bailed - (Moon too bright) 2, 2, (mapped region around 4); M: 42 (mapped M42 region); Pollur; Castor ( To double seen). 19-369-81 Castor ( To double seen). 19-369-81 680 Nov. 11 (04:00 - 04:05) [Clear] 69E nov. 11/17:30-18:45/Clear/ 9.C. (B.11 Earnshaw ) Bigos usual 69E2 Dov. 11 (20:25-20:50) Chear Ranger - K; (slight detail); B, with I moon; Pleiades Hyades; Capella, Saturn Mizar; 1:30-1:45 AC leart Ranger / Ispot 705 70 E nov. 12 11:30-11:35 - g.c. - (was in Hyades; Quas very close to 71E Nov, 13 - 20: 50-21:30 - nated eye \* 71m Dou 14 - 0 2:45- 04:00 [ Cloudy but Cwas visible through Cloud M

11-62 Observed for first time ( with a halo - Radius about 15; thickness of baloabout 2 lengths 06, gibbous Moons. A Beaution 72E Phow. 14 20:50-21:10-(Partly Cloudy textremely hazy / plotted to bright stars and constellations in preparation for Milky Way II - 2nd attempt to chart Miky Way 732 Nov. 18 19:30-2020 Milky 745 Nov. 19 # 20:45-21:05-745 Nov. 19 # 20:45-21:05-Milky Way Observation. 1552 Nov. 20 - # 19:30-19:40-9.c # 1552 Nov. 20 - # 29:21:05-21:25-Milky Way 96s. & Platting-Observed for first time DGC 869+884 (very very faintly) and M-31 (restreme 1y faintly) with the NAKED ETE (Usion 20-20/Imistake in each eye) 76E Rov 21 - 20.58-21:10 - Milley Way Plotting + Observation,

776 Bou. 22 - Milky Way 20.50-786 Plotting + Observation 20.50-786 Dou. 23 De Clean- 20:55-921:15-9.4 Milky Uby Plotting + Observation 7800 Dou. 24- Clear- 04:05-04:10-\* 79E Dou 24, 1, 7:45-22:00-Successfully charted Milley Way from Aquila to Gemini with Echo-GOp Saw an est. 1,00 stars; 1,100 stars. ¥80E DECEMBER 2 - 17 18:30-20:40-Suc See 79E - HAD TO BE RECHARTED BECAUSE PAPERS WERE STOLED. Saw Est. 1.250 Stors, 1,380 stors. Deneb DECEMBER 5-118:30-18:35/90/0000 pright DECEMBER 8/06:19-00:15/venus pright DECEMBER 189 - 121:30-21:35/ SLE 820 83E Clear 1 g.c. DECEMBER 14/07.05-07:10/7.05. 24M 85E DECEMBER 15/18:25-20:09 Clear/ Hazy(shightly) at first) BEMERTOS - OBSERVED

12-62 8522 DEC. 15 121:50-21:55/ Chearly C. \*0651 DEC: 21 107:50-08:00/ Observed Sun, Moon & Venus together 605, birst time. Too if 811 06:35-06:40- Klear/ DEC:23/ Photo-graphed Venus + Lunale Pictures 875 DEC. 23/Slight Haze in Observing Areal Where I should be 11:55-12:187 Attemp ted to Spot f. Fgiled (Venus, I) 88E PEC. 25/Clear/\$9:40-19:50/g.C. from 2 car window - beautiful noticed Taurus, Auriga, & Orion. 88E2 Dec. 25/H229/22:30-22:40/g.C. +89E Dec. 26/ Partly Cloudy 198.00-19:15/. Successfully charted the Pleizdes (M-45) Star Eluster. App. 15stars 100 Jec 27/17:15-17:25/Observedbor first time Mercury (2), Fairly Tominous. Ad debinite milestone in my life.

\$90E2 Dec. 27/12:10-19:3015/ Cheer Charted Hyzdes-ilear Charted Hyzdes-ilear Clear- Wie wet ingress of a \* 9/E star behind the moon (at 18:44:15) An Thom set before egress, Observer Luna, 3, mapped M-35 in Service Castor, Pollox, M-42, Sirius + Procyon; M-45. Dec 30-1017. 30-18:30-1 Charl \*92E Observed 7 with Bcho-60p.gave laint impression as being between Call. also saw 2, k, & Dec 36 117 22.30-22.401 Clear Ober of Regiolus through a closed window Dec.31 - End of year & symmary Session - observed To Clear 14620.03-9262 93E 20:40/ Observed 6,2 Deneb M-45. Hyades, Capelle, Sirius, Procyon x Orion Mebula, Dauble Clister in Perecus, and inally, the Andromeda Jelaxywith M-32. 56 sessions so far 1962-

1-63 1963 43 MJan 17 00; 15-00; 20 / g.c. [Clear. 94E January & (17:30-18:30/Clear/ Echo-Op/Observed & 2,2 G. Czpella, 174 M-42, Veza Mizar, Albereo, 19C 869+884, 95E JANUARY 9717-25-18:207 Clear / Echo- 60 pl.5+ 60p for M-45) Observed 4, 2,3°, C, M-42, M-3, M-45. (Louis Thomas, Terry Baker) 96E JANUARY 5 / 18:00-18:00-Clear / 9652 JANUA RYS 23, 01(L. Thomas, T. Baks) 9652 JANUA RYS 23: 15-23: 20/9. C. [Clear 915 JANUARYS 18:00-18:30 Clear (Echo-600. 1 C. Daw 5 craters. (L. Thomas) 98E JANUARY 8/17:30-18:55/ Clear (Echo-Op-/C/Sau e 2 craters (new to ne) ta mount-cio range (T. Bekar Hums) January 9/17:30-18.15/Cter January 9/17:30-18.15/Cter asting artly Cloudy / Echo-60 p/Lunar Deer vations,... Carater (new to mel. 1. B2ker, E. Thomas) ODE JANUARY 14/62 [18:35-18:40]-

g. C- 200- 19 Ftemperature P Here by we adopt a new system of me nombering sessions No nomber will be repeated twice. 165 Sessions so bar 100E2 HAZY/ & Echo- 2001 Lunar Observing Temp. - 190F. [ T. Baker, L. Thomas / Note. Lettering & additional numbering (165 ER) will will will continue to follow the same procedure 166E JANNARY 12/62/18:30-18:45-Temp. \_ 10 ~ F. M-42, 4, Castor, Echo-60p. [T. Baker; C. 1 homas /

1-63 16/EL JANYARY 12/62/19:45-20:00/ Elegr G. abor 15 minutes For A Few minutes - obs. of heta Orsae Minoria from inside, Juas outside for about 12 minutes JANUARY 13/18:50-16:10/Mainly 46855 Cloudy but Clear as a bell where Sol was, Observed 2 spots in Apparant "top" of Sun. Thus I started several years work on "spot collecting", in "Sunspot I". The way that the Sun peeped out after hiding itself for two "touch- + - go" hours 169E JANUARY 14/17:30-18. [Clear-Sold - /Echa-60p. - 13, M-42, Procyon. / Maked Eye - EchoT. 170E JANUERY 15/1 8:00 - 18:207 Alerry Baker - Louis Thomas-Pay 1 Miller: JANUARY 15/18:35-18:40/Ckad 17/E2 Ranger 13, Sirius, Vega.

172 E 18:25-18:35 1Dan. 16/ Partly 1736 Jan. 19/16317:30-17:55 Clear / Echo-60p. 70bs. 06 17462 JAN 19/1963 / 19:00- 19:35/ JAN 19/1963 / 19:00- 19:35/ PARTLY CLOUDY, Echo-60p/ Dbs. (Procyon +3 Carately about 1mn. total) +3. O-what I saw - Compare with picture (10 october Ohours etc) p. 203 1755 1/10/9:50-20:00/- Observed with Echo-60p through a closed window, L. Thomas, 176E4 - 1719/63/20:35-20:50/Partly Chousy-Echo-60plotage, 177562 1/20/ 20:08:20-08:35-104 Spot seen in limb. 17851 JAN. 21/07:25-87:30/ Naked eye/ Observed O, C, + 7. Ohad just risen at the time. 1795 Jan: 21/13:25-13:50/ Attempted to \$2 see F. Failed ~ (lenus II)

1-63 180E-I Jon. 21 14: 17:55-18:50/ Cery clear-lEcho-60p./ Launcher Supiter I"-anattempt to pick up the motions of the Moons of 3. I might have spotted the g.R.S. ta shadow of ope of the moons but as the wind was to grant in velocity 9 cannot confirm these, assession marked with an Inonber 18/FD Jan, 23/ 17:45-18:10/Clear/Echo-18/FD Jan, 23/ 17:45-18:10/Clear/Echo-182EJ3 JAN. 24/17:40-17:55/got record on 3. Saw 4 moons the Chaimber Jayn Observatory through the some of the

1845-54 Observed Jon. 25/18:10:00 Cloudy with Hazy periods Echo- 60 pt ... 00/ ton Session - very cold of JA 185E-J5 JAN. 26 - 18:00 - 18:15/ Observed C + 2. (saw all It moons. ), 186 ST-Jan, 27 - 08:20-08:25/ Clear, Tried on the Sun for Sunsports put the telescope was so loose & the mirrors t eyepiece so dirty I 188553 JAR, 27/11:00-11:15/ Clear / Echo 60p / Cleaned Tepse & mirrors withalens 188E-J6 Jan 28 / 18:00-18:25/Echo-60p. / 189E-J1 Jan 28 / 18:00-18:25/Echo-60p. / 189E-J1 Jan 28 / 17:40-17:55/Ckar/

2-63 190E-J8/17:55 18:15 \_ 1JAN, 29 / Artly Cloudy / Eabordop, 1 Saw 3 With 19/E2 Jan. 29/18:20-18:30/ Partly 192E-9Jon. 30/ 17:55 17:40-18:15/ 193E2 Jm. 30/ # 21:20-2135/ Clear/ DEcho-60p+ Ranger / Observed & ( through a closed window. Appeared hazy but I made out 194E-510 Some major Cunar features 194E-510 Jon. 31/17:50-18:45/Partly Cloudy tuery windy/ the Echo-Op/C, 3, Sirius, 8. (Lithomos, T. Beker, J. Klop-Arthy Chily 195E-JIPEr JAAR FEB, 1/17:45-18.05/3, Chi, Saw only 3 moops / Echo-60pl. 1965 FEB, 1/19:50-20:25/06 Clerclear/Eq hor-60p 10b served M42, C, Regulus, Mizar J. February, 2/2016:30-16:35/Clear / Echo-197L 60p+80p, 1 Test session for an 80p, eyepiece. Observed C.

¥198E-JA 17:30-20:45-/Clear/ Echo-60+80p Ranger, 2-in 80p Reflector 3 (saw 4 moons) G, +p: Saw 7 in opposition fog the birst time. Most Mars. 199554 30 10:55-11:12/ Partly 2005 L316:00-16:15 / Partly Cloudy Daked Eye/ Observed O behind Clouds & Cost behind chuds. Observed through a closed 201 E 1730- 1217 12.45/-TPartly Gloudy / Echa-60 102 EL7:45-B108, Fab. 3. (+) / 1/2 to fal loydy /Ech (DE2-38] LIN Feb 3/ 18: 30-12: 47 #204EJ14/4/2/63/18:25-19:05/Clear (Verg)/Echo-60p/2-4 moons; 8 F.C. Saw the Straight Wall on Char first time?

2-63 205E-515/2/18:06-18:35-1 Mainly Echobopt 2 fe (4 moons) (& 1star near by ) (tan other gear that) ( recorded one powerse/ See 2's record), Deneb, Igu Cygni 206ETA Jose 6/63 / Very Clear -High Gibbous Moon 14-High Gibbous Moon 14-4 moons, God of 100 m 14-TE-JD Feb. 7/63/Hazy 13(14(3 moons)) Goom Feb. 8/63/01:15-01:20/Partly to Mainly Cloudy / Dakedeyet Orion, & Cwith a halo. This is a Star \* session, " 2095-181, - Sperved 18.00-18:09/ccholop 10E2 Feb, 8 / 19:55-20:30/ Clear/ 2017, Repractor of - (at Chaim berlain 211E-JA Teb. 127 18:02-18:18 / Clear Echo-600.72 (4 moons); & First 5 minutes -

212555 Feb. 12762 & closed window 212555 Feb. 12762 & 13:44-13:49/ 213E-520 Feb. 12 / 17.50-18.00 / Clear feb. 12 / 17.50-18.00 / Clear feb. 60 p / 3(4 214E-521 Febris / 17:5568:05/ Elear/Eab-60p13 (with) 215E Febria / 18:30-18:50/-2-Very hazy/Echo-60p/3-NOmoons Feb. 16/16:10-16:15/Rockerf. Ranger/O. Nospots Seen, 2165 217E-3227 Feb. 16/ # 18:05-18:20 [Clear/ Ranger (First five minutes through a closed window) + Echo- 60p P 3 (No moons or markings With Ranger- but 4 moons + markings with Echo. &

2-63 218E2 Feb. 16/18:30-1835/C. lear) Echo-60p/3 through a 21956 Feb. 17/08:30-98:40/Clear/ 220E Feb. 17/08:30-98:40/Clear/ 220E Feb. 17/19:60-20:00 / Partly Cloudy / Echo-60 p. 10 beerved M-42, of attempted to M-42, of attempted to see Crap Debula bailed. 22E-525 Feb. 19/10 18:30-18:45/ Partly Cloudy / Echo-60 p. 9 with 222E- Feb. 21/22:55:23: B 1Partly Glody 223E Feb. 20/22:55:23: B 1Partly Glody 223E Feb. 21/18:45:19:08/ Por Clear) Sky to get any moons sky to get any moons 224E2 Feb. 21/22:10-22:15/ Cloar/ 225E3 Feb. 21/22:35 -22:39 Clear / \*226EJ24 Feb 23463/17:53-20:45/Ct Rs-Sing Clouds/Echo-60p / Hog Saw 2 moons on 3 - FEa Strives failed to spot 600 M-1 - Mapped M-41 failed to

22755 SPOT 6 29 6 8:05-08:18/ CTcarl Echobop 180 spots +228E-125 Feb. 24/ 12:08:18:30/ Echo-60/ Partly Cloudy 1 22 with Two moons. Spiter I's cuccessful 25/18:00-18:30/ 221E-J20 Feb, 25/13;00-18.30/ Clear / Echo-60p. /Saw 2 with 3 mps \$ 7/ 18:10-18:32/ \$ 20EDD Clear & wabt windy - / Echo-60 pil 3 with alt with a fliculty one moon. This is the last session for Success for mission March \$108.10-08,20/Charten \* 231558 Sot a reading + mapping March 5 13.25-18.40/ Partly Cloudy / Echo-60p/ C, Sirius (S Taked Eye) 232E

3-63 +2335. March 6/ 18:29-19:00/Clear/ Echo-600/ Observed C, O Castor Pollon, Sirius Procyon, Lambda Opionis Saiph, Capella Nath Rigel Betelgeose, Bellatrix, + mapped Urse Major + Minor Region Which includes, Alkaid Mizar, Aleor, Alloth Checda, Merak Dobhe Megrez Polaris Pherkol thochaff. Also Observed De Ha Orionis Epsilon Orionis, and Zéta Orionis. E March 7/20:35-21:08/ Partly Cloudy /Echobop/ mappe, I Orion Region includes Saiph, Algal, Betalgeuse Belletrik Batars KEpsilon, Velta, +Zeta Prionis Jand Lambda Orians 235E March 9/20:30-20:50/ - Clear Echobop Mizart Fless,

236559 March 10763 - 110:40-10:50/Echo-60p/Clear /100 \*23750 March 10/63//18:40-18:45/ 238E Morch 10/63/21:00-21:05/ Clear/Maked Ege through a 239550 March 17/63 / 10:35701047 Clear / Echo - 60p / Observed 240E March 20/63/2:30-2225 Lear / Naked Eye / Echo 4.C. - Milky Way Pletting \* 24/E March 21/63 - 1 19.00-19:05 242E March 21/63 - 1 19.00-19:05 242E March 21/63 - 1 19.05 243S March 21-A +921:05 243S March 21-A +921:05 243S March 23 - 1 13:30-243S March 23 - 1 13:30-15:38/JSy noom- 80 p / Soli -Loote een. \$244E = 1500 there h 23/19:00-21:40/

25152 Mapoh 31-63 1911.16-11:22 Elear where & a Guag/ Egho- 60p/ Observed & chartal two sports \$250SL March 30/ 19,35-15:40/ Clear/Echo-60p-Syncom 80per, Compared, Of Cin \$252E March 3/20:30-2430/8/ELS Stand Failed at M-67. 21:35 Mary + Parth Chuch Marson Beautiful Tiple 10 9 to 114 \$253E 25483 april 5 - 12:12:10 18:15/ 255553 April 6 / 10:05-10:10/ Parely Cloud y/ Echo-60p/ 2 sports 256E April 8:19:00-10:00/Ckear/ 257E April 8:19:00-10:00/Ckear/ 257E April 8:19:00-10:00/Ckear/ 257E April 9:00-10:00/cc-/ 25 8E April 10 - 19:00-10:00 Char? 25 8E April 10 - 19:00-10:00 Char? S& Maked Eyel Serry Dad

April 11/13:30-13:40/ 2595 Clear/Kit Peak Solar Telescope/ Sou Solon Secondary mirror April 19,30-DD19.C./ Clear/ Serry IPop April 12/20:25-20:35/Clear 260B 261E 9 Gorill2/ 8: 50-9:08-/Clast 019F9 263E gc/ Sprig 8.21.10-21.42 21:10-21:40/ Clear (very)/ David Schreiper - Gerry 18.C. Echo I sat Tobserved for first time "mysdory object - star cluster 264E Shape T4/222109-22:15/ Clear/ Daked eye 19.0.-265514] ~ mystery 9 bject 39 2m. Clear/ Echo - 60p/ 2 spots in one 26E April 19. 12: 45-20:30/Clear Echo-60, Examined mystory cluster Beautiful!

26.15 April 20 - 179:55-2:000/C/ear 26855 April 2/15: 35-13:50/ Part 269504 April 297 13.10-18.15/P 270E April 22/19,31-19:36 /Clear Naped eyel gen, const gbs - concentrated on Bluish-white Rigel. Here, another session, 12,5E, is Found to exist, For accuracy's Sabe, therefore, there is no April 22/14:30 20:45-21.15 272E2 Mainly cloudy (see diary). haked eyel saw one independent mateor, jastempted to April 24/20115-20,30/s. 273E Apr of Ptoempted to observe Lyrids, Dottesseen Ppril 27/19:15-20-20/ 牧746 Partly Cloudy Syncom-80p+113p/ Observed Luna, Figer Betekjevser

Siries Robert Rubipowitz ... Robert 275E2 April 27, 21:38-21:43/Portly 276E3 Foril 27/22.03-22:10/Clear/ 276E3 Foril 27/22.03-22:10/Clear/ Gener Syncom-80+115p/Luna/ Louis Thomas + Leonard Reed/ Brooks Johnson - Doug Dnith-27756 April 28, 14: 15-14: 20/ Partly 2785L April 23/14:35-16-00/Partly Cloudy / Syncom-80+115p/ 279E Epril 30/2/:00-21:23/Clear/ y noom- 80x 115 pt G, Mizzrt Plears of (very clase to 6) 1 26 bi Bob Kristo FG Leonard Rad JB 1 Earnshow. 280 E May 2/2 18: 50-18:55/Cleor/ 28/E2 May 2/20:30-21:35/Cleor/ 28/E2 May 2/20:30-21:35/Cleor/ Syncom-80+1/5/6, 8, Mizart Abor

282E May 3119:30-20:25/0/ear/Syne 80+15p/ Observed. 3, G. Castor, Minzer-Aleon May 4/19:30-21:50/Partlyto Mainly Cloudy/Syncom-80p/ C. 3/19tempted to spot Uranus Failed - "" " " Crab Debula 283E 2845517 May 5/11:20-11:33/Clear/ Echo-285505 May 5/11:20-11:33/Clear/ Echo-285505 May 5/18: M-18: 19:30 Shortest Servicor ded session so Far 286 May 9-121.00-21:35/clear/ Syncom-115p/ it thempted to spot CRAB NEGULA €287E May 11/20:00-21,30/clear/ Syncom HISP/ Observed 288 May 12/01210-02140/Hazydy Syncom = 115pi/CI-Maked Eye Obsa of Antares 289512 May 12/2132-11-37/Clear/

5 63 10-60 spotseen 120:45-20:50/ 10 id y/ naked 12. 520:00-20:45/ Main 1/ Ect Syncom - 0 Al Postp' DEPTUDE 19/16,25-16:35/Portly /Echo-60p/6spots 18:31-18:32/Clear/ May 201 May 26/08:12-2817/Partly Cloudy 945520 Echo-( Spot LOPI Har Jone 1/ 20:00 - 31:30/ tomainly Cloudy / Synco 2950 Dyncom etal aked Eyenson Mars mean Regulus, Lovie homas David Fim, Mr. Crooks, 2/18:35-18:55/ Part 296E 4 scom- 11570-Proctice, session to 02:20-03:05/ Partly 31 297M JUNE Cloudy -/Syncom-100p/ Nothing 216th Postponent d

Repture \_ ) - Norkege 2985521 June 3108:16-03:17/ 299502 Lune 3108:16-03:17/ 299502 Lune 31019:04, 30-19:657 29950 Clear / speam= H5 h 3/ ession. Lune 3 [18: 30-18:50/ Clear / Syncomy /13pl June 3/ 20, 10-21, 30/Clear E2 Syncom - Hop 115p / Found Depture 1/ 20120-21,30/clear/ Renger- Echo-6 Oplaribinder parate / Syncom- (20 + 115p) Sou for first time the Stane 1/20:30-22,00/Cles/ 303EAJ Stregm-BO& 165pl Gen const. als (NG)\_ 4552 Lung & 9 / 10145-04.59 Clesr/Echo-60p / 75pots 305E Segin. 10 18:20:30-20:35/

Clear /gen. const. obs. June 11/20.25-20:30 Amost Clear / gen const. do. Jare 13 /02,55-03;04/Clear/ Banger - 5p / Arcturos - Mizag Alcor / Clased Vidow Session ROGE Solma gune 13 03:15-03:27/clear Alioth, Pheeda, Merak, Dube Megrez, - Oberial archine setting 3095 June 13/20.5 21.15-21.50/ Clear/Syncom Op - Rong Dere bold with Rang s June 14/1020-11:00/ Brity Joury & Bright Sy noom - 800 10 through JZC . 318523 June 17/18:13-18:23 Both 312508 June 17 18:59 - 600775 pati 313E June 17 18:59 - 19:07/Party 313E June 17/21:00-21:15/H---enim

Brake Syncom's main miz ren 3/ 146 June 10, 12. 145 dia iene Tares yn ca weeping at the ynco nea, ean 0-17:1351 6/ 17 4 \$ 1 dr/ 22 line 2rty c 3 27 T 41! 081 Part L con Reja ene linto 318E 3 28/ 20, 35-21:50/Cter, 0 Syncom - 30 p/Sweeping Hunst Marst Antores - 1Steve Peles Syncom:

395 Sune 29/2015521:55/Gest Syncom - 80p/NEPTONE 1002022 Juna Palaria Sweepind 3055 Sune 30/08.18-98.20/Code/ Syncom Echo-60p/Opto. 3259 June 30/07 18 52-1858 Fles 322E June 30/ 520:15-20:39-1 Clear / Syncom - 80p/3 523E NEGTUME / 20: 40-21:25/ Gleard Syncom - 8 0p78, C, 324E 10 - 44 4/ 20: 40-21:00/Marky S25E Party Cloud y Syncom - 80p/C, 8/Bb 325E Party Cloud y Syncom - 84p/ 3255B Jacky Blill. 03-11:05 Clear/Echo-Op/Am Jacky Blill. 04-11:05

siled } 32452 Luly 3/1930. 11:00 Syncom- 30p/ Ot C. 14 13/20,35-21:351 Syncom - 80 17 5, Antares ity 1972 ea cho-SPOT 1/3:3 1002 4 4 1 Jeho-60 5- hade 110 SF oralada 5 + 99,09 O. 50-18:50,101 Claudy, 4 約3 -21: 15/ Main/o 4/20:20 Isy neom 14 8. Regulus, Ms 3 4 16/20:35-20:45 onst Jen. July 17 Clear / Beho-60p) SPC Ear / Maked Egg get,

17 63 FSI 5385 July 20/Partly to Maiply Cloudy 114:00- # 17:35 Binged Banger Total Eclipse ob the Sun. / Patched clouds until totality; then clouded a Thirds Contacts Recorded, Clouds prevented obtaining of Fourth contact. Bost of program Filtiles / Bost of program Filtiles / Deday Mother, Papt Astrof / Observed at Lake William, 339E July 21/Clear/# 20:00-20:05/9.C. 340E July 22/Clear/Ranger/Albir = 34/m Joly 26/ Clear 102,00 EDT 94. 15/Ranger - 2, 2, Fomalhut Mared Eye - Observed Delta Aquarida. H grand 3 meteors seen. Session 3425 hour 28 I changer (Lunator) -A 20120-2 22:00-23:22:55

20 0 Numbering Mistoke sæ Alstaget FDT EDT Poul Astrof. 343592 B Hug 12/20+ 2455-22:05/ 6 in febroator - RASCTLUND. 344E2A guly 27/22:30-23:08/ 545 EA Joly 24/22:30-23:08/ 3455928 A Joly 24/22:30-23:09/ 3429300 A Job 20:30-3429300 A Job 20:30-3429300 A Job 20:30-3429300 A Job 20:30-3435478 A Job 20:30-10/20:00-21:20) 8344E B Aug 10/20:00-21:20) 8344E B Aug 10/20:00-21:20) 8345928 A Job 20:00-21:20) 8345928 A Job 20:00-21:200 8345928 A Job 20:00-20:200 8 343ER Laly 27/20+ 21,55-22:05/

20:21:50-M-8+ MB Saturn. By noom- 80 profisaw 2 Perseids: Arcturus Antra 13/14:35-14:40 Bainly Gloudy / Syncom-Change in telescope J Ospis SAN See AU Clear Syncom-80p + Binoquist Perseids, 54 meteor Me: M-18, M-222, m-24, M-25 1, M-18, M-222, m-24, M-25 1, M-18, M-222, m-24, M-25 1, M-13, M-222, M-24, M-25 1, M-13, M-222, M-24, M-25 1, M-13, M-222, M-24, M-25 1, M-25, M-25, M-25, M-25 1, M-25, M-25, M-25, M-25, M-25 1, M-25, Mme. 1A date: squet 1,4 119:55-20:10/ ear 1 Syncom - 80p/ 61 Clear Binocolars/ 10-13, 11-5. 351E Flog 16 62055-21:09 ABrthy Cloudy / April Eve / Arcturus

#3525 Aug. 18/2019.50-21.05/Charl Syncom SOP/Birocularst Way in MILL E UNAY Saorpius. 0 All Am Porthern M. 16y Univ is mapped snow. 354E Aug. 20/20. 35-20:40/Partly Chudy 355E Aug. ust 21/9.19.40-20.00/ Mainly Cloudy Binocs Symme 356E Aug. ust 21/9.19.40-20.00/ Mainly Cloudy Binocs Symme 356E Aug. ust 2.2/20.05-20.15) 357E Aug. 23/20.15-20:35446 358E Aug. 23/20.15-20:35446 358E Bug. ust 2.4/20:20-20.50/ Softy-Mainly Cloudy Jac-Treat 358E Bug. ust 2.4/20:20-20.50/ Softy-Mainly Cloudy -759/men-800/Altair Luna /Test 357E 35950 August 15/2008:15-08:35/Sypern 2001 Ospots Lastwood we obviously 2001 Ospots Lastwood we obviously 61 Essame other forgotto 61 Essame other forgotto 2001 Processing other the session,

8 63 3618 August 27/21:05-21,10/ 360 Z Clear Binocs- 5 noom-80/ r/9.C. \*3628 Aug 25-17-24 gen consto bs Ring Debola (m-5) )-Luna August 28/16:40-16:50/ Mainly Cloudy / Ispot (sæ359 36450B Aug 29/18:00/-365E A houst Partly Cloudy Hogust 29/19: 20+20:25/ Sterr Syncom- 20p/Lund, (1) Saturn, (2), Arcturus Agogust, 3,0/18:39-21:08/ Mainty Cloudy / Echo-Bopf Syntom - 20p/ Long Long Argugust 3/19: 10-20:39 Biffy to Mainly Cloudy 1 5:33

#368# September 1/102: 0-03: Joicker/ Syncom-890/Crab Nebylai (Spotto dit for First time) M-30 (misped) - in h, Castor, Binors M-34, Pleisdes, Hyades M-42 Kapping Ase Davble Clist. bec 2244 31955 Echo - 60p/ 05pots seen. 31955 Echo - 60p/ 05pots seen. 370E Sept. 1, 100 - 19.15/2 Clear 1, 500 - 60p/6/2 371E Sept. 1, 100 20:00 - 20! 10-Clear 1, 100 20:00 - 20! 10-Clear 1, 100 20:00 - 20:05/ 372 E Soptem Les 2/20:00 - 20:05/ Brity Cloudy 19. c. John 373E September 3/19, 15-19.20/ Clesr/gc. / Pat Bats 374E2 Sept. 3/ 19, p-20:35/Clear/ Syncom- 80pf Echo-60p/ 375E: Sept. 3/ 20:55-21.00 (lear) 374E2 3765 Sept. 4 1 90 15.40-15,50 Clear/Test Session / Sol. 1Syncom-Echer (10+800)1.

63 1-9 lont. 4/16:05-16:10/Clear 37252 Echo-60pt Syncom-20p/Soll lest Jession 378E Sept. 4/21.08-21:05/ Main Cloudy/g.c. /Pst Pst /2 1379M Sent. 5 02:15=03: 45/qlearf yncom -80p-tcho-60 iries, Docyon, Pollur, Castory Mapped Deneb Region Masi - mapped area Dopning, stray mete brightred - may, - NE-Fast ept. 5/013: 30-13: 45/C/earl SOP/tcho-lop/sett. heom-Test Session. 19:50-19:551 13,45 Sept. 5 Dainly loudy/a-30-20:35/ + Painly cloudy / Vega / Syncom - 20 10 Echo-60pt. Pat Patla. \*38311 Sept. 81 102:00-92:20 Mainly Joud y/ Binoculars/ Moppes follow Region; 5 Sept 08/08:15-08:35 / Clear

354 Sept State on BOP/ Sol Lyna with DEL finder Bassold Sept 10:05-10:15/ Sol Lyna with DEL finder Bassold Sept 8/ 40 17:30 17:54 Mainly Cloudy / Sunset/My First distinct double rambou seen 387E Sept 8/20.00-2020/Partly to Mainly Cloudy / Vega-Endors 600/Milshout) sessions this summer-Sull 4 star sessions-one of them circled/. 387E 388 Sent 14/20: 0-20 30/ Phillip (wily/ Synapon ph). 389E Sent 14/20: 0 2030/ 10:40-11:15/ 3905367 Sept 15/20: 10:40-11:15/ Gluar/ Echol 60p/ 14 spots Pgroup -1separate, Here 2 new recording system is 2 dopted experimentally

5) \$4 2 Session Ro Date Times Metter Observations themask 3915 9/16 0550-0855 Clear - Sunrise (very ##1) 3923925 9/18 05.50-080 Clear - Sunrise 3935537 9/22 Nr. 50 120 Clear 580 8 spots Sunrise (at 05:50)-Fantaste) +3945 9/23 05:45-06:00 Clear -Here we officially adapt the new recording system. 3955015 9/23 1734-125 Birthy ED-580 C, 2, 2- Bients 396 E 9/25 10:00-20:30 clear 397E 9/27 19 45-1955 Clasr - 9.C. 39355389/29 08:05-0820 Clear - 05 pots 399551 10/5 10,10-2130 Clear 5% B.C. 24. 5. Bike Bite 7 5 Sessions men "Saturn I"sessions 4005016 10/6 1223472310 Clear -401E-SE210/12 1936-2000 clear 580 2spot 102539 19/6 10:02-pit Clear 580 2500+51 4035540 10/13 08:00815 Clear Ela 6'spots -043341 10/26 1208-1301 Partichady 4 spots 4055542 1927 08150816 Clear 20 4065017 1927 16,500000 Clasr 4075018 11/11 403-403,0 Clear -4085543 12/29 2:05-2:15 their mole. Ospots. +409 m 12/30 03:10-07.40 Clear Tetr. Lunar Eatipse lery successful 2.5. 4105544 12/30 14:45-14 50 Clear Tetr Ospots. 415 sessions so for 2 59 sessions in 1963

1964 MCMIXIV Times Weather Inst. Observations + Ferrer Sess. No. De te 135-140PM Manday 2. Single Osports. 4:20-22:45 Clean Steff. Osports. 4 115595 1/4 7 175546 116 22.45 clear 6 refr. Orion liebla #18E 1/11 4: 12-3 Ph Clear 25h. Horsehead Hel 4195917 1/12 Session starting at 10. 41/5545 are recorded in the new observations diary 1 a numbering mistake was discovered in Sessions 342-, 30. They are similared twice 5 spannere humbergol again So starting 411 - Fare skipped 411 becomes 416.)

+ Abbreviations Symbols SO-NOMBER - BRTOF SOLIT" S-Syncom-my B Binocu las telescope, (E60-Echo-60p) (S80-Syncom-89) (5, n. reb.1. Ratgetty - Partly Cloudy and may city - mainty cloudy Mandy Clr Mainly Clear. Can be used