OzSky 2016

OzSky is scheduled for April 1-9, 2016 at the Warrumbungles Mountain Motel, a few miles outside of Coonabarabran, NSW AUS. Lachlan MacDonald sent me an early registration request and I was the 3rd person to register with a confirmation dated April, 27, 2016.

Mike Roos, Greg Halac and I Left Denver about 5:20 pm on Monday 3/28/2016 and arrived at 7:20 am on Wednesday 3/30/2016 in Sydney. We got thru customs easily and stayed at the Rendezvous Hotel, on the corner of George and Quay streets, just across the street from the Sydney Central Train station.

Thursday Mike and I visited the zoo. That night, there was a meet and greet dinner at the Great Southern Hotel, about ½ mile from our hotel. Almost everyone that was attending the star party was there. We filled a long table and the food was delicious.

On Friday April 1, we took the train from Sydney Central Station to Dubbo. We rented a car and drove 2 hrs to the Motel and arrived about 3:30 pm. 9 scopes were already setup for that night. It was clear and calm when we arrived.

On returning to Sydney on Saturday April 9, about 8:30 PM, we stared at the Metro Hotel Marlow, about ½ mile from the train station. Both rooms were nice but the Rendezvous Hotel had free WiFi and the Metro did not.

Friday April 1, 2016

It was clear and calm at sunset. While the others finished dinner, I went out in the dark and looked up to see the LMC and SMC, the Southern Cross and Canopus. I used my 7x35 binoculars to look thru the clouds and down the southern Milky Way to see the knots of glowing gas.

LMC	8:06 PM	7x35 Binos – Large, linear glow that fills FOV. Bright bar down center and the glow of stars all around it.
SMC	8:07 PM	7x35 Binos – A small oval glow. Pretty uniformly lit.
NGC 2070	8:08 PM	7x35 Binos – Tarantula Nebula. A small, bright fuzz ball. Small, round brighter core and dim halo. Just above LMC.
Coal Sack	8:10 PM	7x35 Binos – A long (1/2 FOV) narrow void of stars in the heart of the Milky Way.
NGC 104	8:15 PM	7x35 Binos – A small, round, bright core and round halo with member stars seen on halo.

Used James Pierce's 16" f/4 Newtonian. His telescope focal length was 1625.6 mm and his eyepieces gave 21mm 65x, 13mm 125x, 8mm 203x and 4.7mm 361x.

Alpha Cen	8:33 PM	13mm – 2 bright yellow stars. Very close. Both approx. same magnitude.
NGC 2070	8:37 PM	13mm – A nice, twisted glow. Bright. Some of glow in loops. Quite Extended. Has star cluster in center. With UHC and O3 shows different views of it. Fills FOV nicely. 40 degrees high.
NGC 3372	8:42 PM	7x35 Binos – Eta Carina - A long oval glow with lots of stars. Parts of glow distinct from main part. 21mm – A large glow in 3 parts. Has dark lane down center and lots of stars in area. Fills FOV. Has orange star on right part of glow that has a tiny halo glow to the right of it what makes it look odd. 45 degrees high.
Homoculus	8:50 PM	8mm – Around an orange star is this tiny globe above star and tiny oval below. 4.7mm – Larger lobes and now can see holes in glow of both lobes. Still small.
NGC 3324	8:52 PM	8mm – Keyhole Nebula – A dark nebula that snakes below Homoculus into Eta Carina. 1/3 FOV long and wide and dark. Like a ? on its side with top of ? in nebula.

Seeing and Transparency Good.

Alpha Crux	8:58 PM	13mm – A nice bright double. Close. Both same magnitude.
NGC 5139	9:03 PM	13mm – Omega Centauri - Incredible. Fills FOV. Tons of stars. Best I've ever seen it.
LMC	9:08 PM	TAK 120 with 3 degree FOV – Slew thru LMC and see lots of knots of gas and clusters. See Tarantula Nebula.
Centaurus A	9:11 PM	13mm – A nice, oval, uniformly lit glow bisected with dust lane. Nice.
NGC 1549	9:15 PM	13mm – A small, long cigar glow with larger, brighter core.
NGC 1553	9:15 PM	13mm – Between 2 field stars in same FOV. To upper left and near. A small, dim, round glow with larger, bright bar core. 20 degrees high.
NGC 1566	9:17 PM	13mm – A larger, fat oval. Dim halo glow with small, brighter core. Maybe spiral arm on top with dust lane. Core is a little bar with hint of CCW arms on top (easier to see) and bottom (a hint of arm).
NGC 1533	9:23 PM	13mm – A small, very faint halo with larger, brighter core.
NGC 4755	9:27 PM	13mm – Jewell Box – 3 brighter stars form outside of an A and 3 dimmer blue white stars form cross of A. 45 degrees high. 7x35 Binos – See a triangle shape. Small.
IC 2039	9:33 PM	13mm – A small, oval, smudge of light above a brighter field star.
NGC 1769	9:34 PM	13mm – 10-15 very dim stars in a boxy line with nebulosity, long oval glow with them. 30 degrees high.
NGC 1763	9:37 PM	13mm – A small, tall oval shape. 15-20 faint stars.
NGC 1776	9:40 PM	13mm – Below N1763 is a brighter star with bright nebula around it.
NGC 1773	9:42 PM	13mm – To the right of N1776 are 2 close stars with bright nebula glow around them.
NGC 1850	9:45 PM	13mm – A nice round globular. Has bright core and dims slowly into halo with tons of member stars seen. 20 degree high.

NGC 1955 NGC 1972	9:49 PM	13mm – 6-10 stars. Dim. In long narrow shape. With UHC, see the N1972 nebula under it. 30 degrees high.
NGC 1968	9:49 PM	13mm – Above N1955 are 10 stars of 2 magnitudes in an arc and a bit away.
NGC 1962	9:53 PM	13mm – Below N1955 and very near are 10-15 very faint starts.
NGC 1965	9:53 PM	13mm - With UHC, see a nebulosity under N1962. Round, small glow.
NGC 2074	9:58 PM	13mm – Small. 3 brighter stars for a C shape with 2 dimmer in core with a nice nebula glow underneath. 20 degrees high.
NGC 2516	10:01 PM	13mm – A large circular group of 15-20 blue white stars of 3 magnitudes above a bright field star. 60 degrees high. 7x35 Binos – Can see lots of brighter stars in a tight knot.
NGC 2547	10:05 PM	13mm – Very loose. Fills center of FOV. 25-30 blue white stars of a brighter and 3 dimmer magnitudes. 75 degrees high.
IC 2391	10:09 PM	13mm – 4 bright blue white stars for an arc from one edge of FOV at 2 o'clock and 8 o'clock on other end. 80 degrees high. 7x35 Binos – Shows 4 stars in an arc nicely.
IC 2395	10:17 PM	13mm – A small, downward pointing triangle of 15-20 stars of 3 magnitudes. 80 degrees high.
NGC 2659	10:21 PM	13mm – 30+ dimmer starts of 3-4 magnitudes form this compact, roughly circular shape. 7x35 Binos – A small glow where this OC is.
NGC 2669	10:24 PM	13mm – A small, boxy OC of about 30 stars of a dim, dimmer and very faint magnitudes. Top is a double row of 15 stars. Middle is a line of 6 stars and bottom is 2 boxy groupings of rest. 70 degrees high.
IC 2448	10:32 PM	13mm – A very small, round, dim glow. Central star easily seen. O3 shows it brighter. 60 degrees high.

Now using the 18" f/4.5 Newtonian.
Seeing and Transparency still Good.

NGC 2808	10:42 PM	13mm – A nice, large globular. Bright core that dims slowly to edge. Tons of stars seen. Fills FOV nicely. 75 degrees high. 7x35 Binos – A small, dim, round glow with brighter core.

DY Crux	10:50 PM	13mm – A nice deep red star to left of Beta Crux and near.
NGC 3918	10:52 PM	13mm – A small, round bluish glow. With tiny, brighter central star. With O3, doesn't show it any better. 70 degrees high.
NGC 2867	10:56 PM	13mm – A very small, round, bluish, uniformly lit glow. No central star seen. O3 shows it the same. 80 degrees high.

Seeing and Transparency OK.

NGC 2899	11:00 PM	13mm – A very faint, large, round glow. With O3, stands out and shows a darker ring on right and left side.
IC 2501	11:08 PM	13mm – A tiny bluish colored out of focus looking star. O3 makes it stand out. 75 degrees high.
IC 2553	11:13 PM	13mm – A stellar, off white colored star. With O3, stands out. Tiny, round glow. 70 degrees high.
M104	11:16 PM	13mm – Totally awesome. Bright. Arms extend up and down. Core bright and small. Dust lane wide and then glow to left of lane. Nice.

Clouds moved in. Waited to midnight and then quit when no clearing was going to happen.

Saturday April 2, 2016

Clear and calm at sunset. Used the 18" f/4.5 Newtonian tonight. The 13mm we used on the 18" is Mike's 13mm Ethos with 100 degree apparent FOV. Gives great views of whatever we looked at. The 18", with the 1.15 ParCorr corrector inline, had a focal length of 2057.4 mm. This gave the eyepieces a magnification of 26mm 85x, 17mm 137x, 13mm 187x and 7.5mm 374x.

Seeing and Transparency Very Good.

NGC 104	8:12 PM	13mm – Nice. Fills FOV. Tight, bright core and rest of stars not so tight. Stars radiate out from core and circular in shape. Has become my favorite globular. 20 degrees high.
NGC 121	8:18 PM	13mm – A small, dim round glow. Mottling of stars on glow but not seeing member stars. 20 degrees high.
NGC 292	8:23 PM	7x35 Binos – A dim basic oval with 3 brighter knots to right and dim patch above separated from main glow.
Tarantula NGC 2070	8:26 PM	13mm – Nice. Clumps of nebula and star cluster in center of 10-15 faint stars in tight knot. Fills FOV nicely. DSF shows more nebula but still blotchy. O3 show less mottling. The loops of this nebula looks like the bio hazard symbol.
NGC 330	8:36 PM	13mm – A very tight grouping of dim stars. Can't count but see mottling of stars.
NGC 346	8:39 PM	13mm – 10-15 faint stars form radial lines of stars, circular in shape. Faint circular glow under this. DSF shows glow better. Radial lines basic plus shape with a couple of more lines.
NGC 362	8:45 PM	13mm – A medium round globular with small, bright core and dims slowly to halo. Tons of member stars seen. 20 degrees high. 7x35 Binos – A bright, out of focus star looking object.
NGC 371	8:47 PM	13mm – A small, roundish, very faint OC. Member stars easily seen yet so faint, hard to count. Maybe 10-15 stars or so.
NGC 346	8:56 PM	13mm – A small, dim, oval, uniformly lit glow.
NGC 419	8:58 PM	13mm – A small, round glow. Dim. Maybe a hare brighter core. But pretty uniformly lit. No member stars seen. 20 degrees high.

NGC 1261	9:06 PM	13mm – A medium sized, round, dim globular. Center large and uniformly lit and dims quickly at edge. Member stars easily seen. 30 degrees high. 7x35 Binos – A dim, out of focus looking star object.
NGC 1313 NGC 1313A	9:10 PM	13MM – A medium sized basic oval but not sharp edged. Mottled glow maybe some structure to core. Has arm going up on right hand side of oval and tiny bit turned down on left hand side of glow. 20 degrees high. N1313A is a small, oval, very faint to lower left of N1313 and approx. 1 FOV away.
NGC 3132	9:27 PM	13mm – A medium sized, dim, circular glow. Bright star at center. O3 shows a circular, thicker ring around edge.
Jewell Box NGC 4755	9:33 PM	13mm – Under the A are many dim, blue white stars of approx. the same magnitude in a larger, circular area. One of the stars of A bar is orange. Most of cluster to left side of A and A upside down. Fills center of FOV nicely. 50+ stars in compact OC.
NGC 3256 NGC 3256C 3256 ⇐ ° 3256C	9:40 PM	13mm – A small oval, dim, has brighter core and dim halo around it. Then below and to right and to right of a field star is N3256C, a very faint, circular, uniformly lit glow.
NGC 3261 NGC 3263 ⇐ 3261 3263 ⇐	9:44 PM	13mm – A very dim oval, thin, uniformly lit glow, 3:1 in size. Then above and to right and near is N3263 a brighter oval to circular glow with larger, brighter linear core.
NGC 3114	9:49 PM	7x35 Binos – A small, circular OC with 3 brighter stars and many dimmer stars. Easy to see. 13mm – Fills all FOV with lots of blue white stars and the 3 much brighter field stars. Rest of stars of many magnitudes with faintest very faint.
NGC 3195	9:54 PM	13mm – A small, dim, round uniformly lit glow. O3 shows it nicely. No central star seen. 30 degrees high.
NGC 3211	10:10 PM	17mm – A small, round blue glow. 13mm – With O3 see a small oval. With AV, see ring and maybe central star. Without O3, nice dim oval bluish glow.
IC 2621	10:24 PM	13mm – A small, brighter blue star with hint of halo around it. O3 shows it about the same. 60 degrees high.

NGC 3247	10:27 PM	13mm – 12 stars in 1 line and 7 in another form an X sitting on top of 2 knots of nebulosity with bigger knot to right of X. DSF doesn't show nebula any better. 60 degrees high.
NGC 3293	10:36 PM	26mm – A small, roundish, 25-30 brighter blue white stars with 1 red star amongst them. Of 3 magnitudes and under stars is a definite dim glow of nebula. 13mm shows it fills center of FOV nicely. 7x35 Binos – A small, tight knot of stars and can see member stars.
NGC 2910	10:43 PM	13mm – A nice roundish OC that has 50 or so stars of 3-4 magnitudes that fills FOV nicely.
IC 2602	10:49 PM	26mm – 20-25 bright blue white stars. Over 2 FOVs in size. Very scattered. 70 degrees high. 7x35 Binos – 23 stars easy to see. 1 bright and rest bit dimmer. Together and appear to be in two bunches. Boxy and rectangular shaped and scattered (not compact).
NGC 3532	10:55 PM	26mm – A ton of blue white stars of approx. the same magnitude. Oval in shape with brighter stars to right. Goes 10 – 4 o'clock and fills FOV almost side to side. 7x35 Binos – Can see its oval shape with lots of the brighter stars seen. Large, 2:1 oval.
NGC 3572	11:00 PM	13mm – A medium sized rhombus shape with 45 stars of several magnitudes with 1 bright star in upper left corner. 60 degrees high.
NGC 3699	11:05 PM	13mm – A small, almost circular, very dim, uniformly lit glow with thick dust lane bisecting right hand side of it. ¾ to left of lane and ¼ of it to right. O3 shows it nicely and the same. 70 degrees high.
Fleming 1	11:08 PM	13mm – A small, roundish, uniformly lit, dim glow. See central star pop into view now and then. O3 shows uniformly lit glow better but no central star.
IC 2944	11:15 PM	17mm – A ladder shaped OC with 50+ stars of 4 magnitudes in 2 lines. Top line straight and bottom line double lines of stars. Has 8 bright blue white stars and rest dimmer. Has 3 ladder rungs between lines. 70 degrees high.

NGC 3766	11:19 PM	17mm – Cool. Tons of blue white stars of 5 magnitudes. Fills center of FOV nicely with a roughly circular shape. Tight grouping. Has 2 pale white bright stars in upper left and lower right of cluster. 7x35 Binos – A small oval glow with many of the brighter stars easily seen on glow.
NGC 4071	11:26 PM	13mm – Only seen with O3. A small, very dim, circular, uniformly lit glow. No central star seen.

Seeing and Transparency Very Good.

NGC 4372	11:28 PM	13mm – To upper left of bright field star and touching is this large, dim globular. Central part uniformly lit and has lots of member stars. Very diffused. Almost fills whole FOV with this. Center has glow of many stars under it. Very loose.
NGC 4609	11:34 PM	13mm – A boxy cluster with 20-30 stars of 3-4 magnitudes. A bright field star is to right and shows nebulosity around it. Not obvious under cluster. The DSF shows a faint nebula glow from brighter field star to OC and under it nicely. 7x35 Binos – Above bright field star, see this tiny knot of very dim stars.
Coalsack	11:40 PM	26mm – A dark void 1 FOV wide and about 3 FOVs long. Has a few stars on it, in a star rich field. Right hand side has twin tail shape.
NGC 4833	11:44 PM	13mm – A nice, large, loose globular. Has larger core that dims slowly to edge. Has bright field star on edge at 7 o'clock on outer side of it. 7x35 Binos – A small, dim, circular glow.
NGC 4945 NGC 4976	11:50 PM	13mm – A long, thin, dim glow. Center is fatter and has blotchiness on glow. Goes 11:30 – 4:30 o'clock. 2/3 FOV long and ends tapered to a point. 80 degrees high. N4976 is to right of N4945 and is a nice, dim, tilted oval with larger, brighter core.
IC 4191	12:03 AM	13mm – A stellar star. Pale white in color. O3 makes it bright.
He 2-90	12:10 AM	13mm – With O3, see a bright star with large halo around it. AV shows the halo nicely. Without filter, bright star with faint halo around it.

NGC 5189	12:14 AM	13mm – With O3, a large, dim, circular glow with brighter arc from 1 o'clock thru center (bit brighter) then to 4 o'clock. Then at 9 o'clock is another hare brighter glow. Without O3, dimmer, but can see all the detail I did with O3 and a bright and dim field stars on glow but not in center.

Seeing and Transparency Good.

NGC 5286	12:20 AM	13mm – A medium sized, dim globular to lower left of a bright field star. Can see hint of member stars. A large, bright core that seems to favor left hand side of globular and flat cutoff on right hand side. 60 degrees high.
NGC 5281	12:23 AM	13mm – 20-25 stars surround a bright field star in center. Above the field star and to left of a field star, the stars form an X in 2 lines. Below and to right they form an arc. Fills center of FOV and somewhat compact. 45 degrees high.
NGC 5316	12:27 AM	26mm – 40+ dimmer, blue white stars of 3-4 magnitudes make an arrow head shape pointing at 3:30 o'clock. Small and compact. 7x35 Binos – Small, faint glow with hints of pinpoints on glow.
NGC 5315	12:34 AM	13mm – A tiny, bluish circle with tiny central star. O3 shows it brighter and maybe central star seen.
NGC 5844	12:38 AM	13mm – With O3, see a medium sized, circular, uniformly lit glow. Without O3, much fainter and harder to see.
NGC 5823	12:41 AM	13mm – A nice, tight, 50+ star OC with dimmer stars of 4 magnitudes with 4th very faint. Fills center of FOV. 7x35 Binos – A larger, oval glow with hint of stars on glow.
NGC 5927	12:45 AM	13mm – A medium sized, dimmer globular. Core area larger, uniformly lit, then dims quickly to edge. See mottling of member stars but not pinpoints. 60 degrees high.
NGC 5946	12:48 AM	13mm – A very small, dim, pretty much uniformly lit glow. No stars seen. A field star is near it at 10 o'clock.
HE 2-131	12:54 AM	13mm – A brighter white star with hint of a small halo around it. With O3, see halo better and central star brighter.

NGC 5979	12:57 AM	13mm – A very small, circular, uniformly lit glow. O3 doesn't show central star.

Seeing and Transparency Fair this low in the south.

Shapely 1	1:01 AM	13mm – With O3, a medium sized, faint circle. With AV see a fat ring around edge.
He 2-138	1:06 AM	13mm – With O3, see a bright star with hint of small halo around it. Without O3, much fainter hint of a halo around white star.
He 2-141	1:09 AM	13mm – With O3, see a tiny circle with maybe central star seen. Without O3, a tiny bluish, uniformly lit circle.
NGC 6025	1:11 AM	13mm – A ½ FOV tall and ¼ FOV wide shaped fire hydrant. 20-30 bright blue white stars of 3 magnitudes. Vertical in FOV. 40 degrees high. 7x35 Binos – Can see a tall, thin glow of stars with brightest seen.
NGC 6067	1:14 AM	13mm – A tight, compact, roughly circular glow with 50+ blue white stars of 3-4 magnitudes. Stands out in star rich field. 7x35 Binos – A small circular glow with brighter members easily seen.
NGC 6087	1:18 AM	13mm – 20+ stars form a thick block V with a much brighter stars on left hand side of V. Maybe 10 more stars to left of similar magnitude are part of this also. 30 degrees high. 7x35 Binos – A very small, very faint circular glow.
NGC 6101	1:22 AM	13mm – Seeing is poor here. A larger, very dim glow. Has approx. 10 stars on glow I don't think are part of globular. Very hard to see any members.
NGC 6193 	1:26 AM	17mm – 50+ stars of a dimmer magnitude form an arc above 2 brighter double field stars. Arc fatter in middle and tapers off at each end. 60 degrees high.
NGC 6352	1:28 AM	13mm – A medium sized, dim, uniformly lit globular. Has mottling on glow of member stars. Several bright stars radiate out around edge which are probably not part of globular.
NGC 6362	1:32 AM	13mm – A larger, dim globular, pretty uniformly lit. See tons of member stars. A vertical chain of brighter member stars on center of globular. Nice. 7x35 Binos – With AV, see a very faint circular glow.

NGC 6397	1:34 AM	13mm – A large, fills FOV nicely. Has small brighter core that stops at diffused halo of member stars. Lots of members seen. 7x35 Binos – See a small, round glow with brighter core.
NGC 6752	1:40 AM	13mm – A large globular with small, bright core on larger, dimmer halo. Faint members seen. 8-10 brighter members form curvy chains of stars that radiate from core. 7x35 Binos – A small, bright fuzzy ball with brighter core and dimmer halo. Has bright field star at 2 o'clock and near.
NGC 6744	1:45 AM	13mm – A large (1/2 FOV long) tilted oval. Halo faint with larger, brighter core. Dim, but nice.
NGC 6545	1:50 AM	13mm – A very small, thin edge on. Has hint of a hare brighter core.
NGC 6326	1:53 AM	13mm – A very small, uniformly lit circular glow. O3 shows it better and maybe saw central star.
He 2-172	1:58 AM	13mm – A tiny pale white circle. O3 shows it bright.
He 2-182	2:03 AM	13mm – A tiny pale white circle. O3 sees it good.
He 2-185	2:07 AM	13mm – A pale white bright star with tiny halo around it. Responds well to O3 and it shows the halo also.
He 2-434	2:12 AM	13mm – A pale white bright star that responds well to the O3 filter.
M83	2:15 AM	13mm – A large circular galaxy with hint of CCW arms. Never saw these before. Bright core.

Sketched a few constellations tonight also. A nice night ended by moonrise.

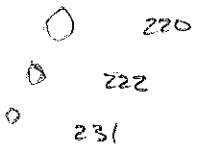
Sunday April 3, 2016

High clouds at sunset. Warm. Light breeze from west.

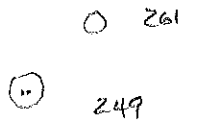
Beta Tuc	6:55 PM	17mm – Left star brighter and yellow orange. Right star ½ as bright and bluish in color. Just above trees and very mucky there. They are a bit apart from each other.
NGC 121	7:07 PM	13mm – A small globular. Dim. Member stars seen. Pretty Uniformly lit.

Seeing and Transparency Fair. N121 was better last night. Warm. Breeze fro NE now.

NGC 152	7:13 PM	13mm – To upper left of brighter field star is this tiny, very faint knot of stars. Very compact. With AV see member stars but can't easily count them. Maybe 10 seen.
NGC 220 NGC 222 NGC 231	7:16 PM	13mm – A small, roundish, very faint glow with very faint stars speckled on it. N222 is a bit smaller, roundish glow with very faint stars seen on glow. N231 is a tiny glow with stars sprinkled on it.



NGC 248 NGC 256	7:20 PM	13mm – A small, thin very faint glow. 2 knots seen with DSF. Goes 10-4 o'clock. Upper left is larger with 5 very faint stars on top and a bit away is a smaller, very faint glow with 3-4 very faint stars on glow of N256.
NGC 249 NGC 261	7:27 PM	13mm – With DSF see a small, very faint round glow with few stars on it. To upper left and near and in same FOV is N261, a bit smaller, roundish, very faint glow.



Omega Cen	7:47 PM	13mm – Awesome.
NGC 1566	7:50 PM	13mm – A fat, dim oval. Medium sized. Has larger, bright core and dim halo.

Sky soft now.

NGC 2910	7:50 PM	7x35 Binos – A small round glow with speckling of stars on glow.

Sky is very soft now and not usable.

Homoculus	8:29 PM	7.5mm – A nice large globe above orange star. Easier to see holes thru nebula at this power. Awesome view.
Calisto	8:51 PM	13mm – Calisto moon transit Jupiter's upper disk. Bands on Jupiter showing lots of details.

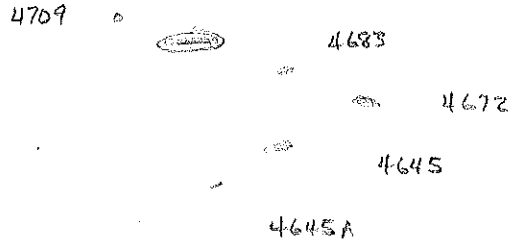
Seeing and Transparency OK around LMC.

NGC 2257	10:03 PM	13mm – A medium sized circular, uniformly lit, very dim glow. Can see member stars on glow.
NGC 2249	10:05 PM	13mm – A small, round dim glow. Can see speckling of stars on uniformly lit glow.
NGC 2231	10:07 PM	13mm – A small, very dim glow with hare brighter core area. See speckling of stars on glow.
NGC 2210	10:09 PM	13mm – A very small, circular, dim glow with brighter core area. Speckling of stars seen on glow.
NGC 2193	10:11 PM	13mm – A very faint, round, uniformly lit glow. Best seen with AV. Hint of stars speckled on glow.
NGC 2162	10:13 PM	13mm – 5-8 stars in a wedge shape and possible extremely faint glow underneath them.
NGC 2155	10:16 PM	13mm – An extremely faint, roundish, ghostly glow. Seen with AV.
NGC 2154	10:17 PM	13mm – A very dim, round glow. Brighter in center and dims slowly to edge. With AV see texture on glow.
NGC 2157	10:21 PM	13mm – A very small, extremely faint, roundish smudge of light that catches my eye. Watching it see 4-5 very faint stars in a tight, little arc.
NGC 2136	10:23 PM	13mm – A very small, very faint tight knot of stars seen with AV. A glow catches your eye and is drawn to it.

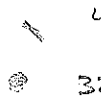
Seeing and Transparency OK.

NGC 2120	10:25 PM	13mm – 5-6 very faint stars in a tight knot with maybe a few unseen ones to add to glow. Seen with AV and DV shows a glow.
NGC 2108	10:28 PM	13mm – A faint, very small tight knot of stars. Brighter center and dimmer edge. Can see few brightest stars on glow.
NGC 2100	10:34 PM	13mm – A small, dim oval shaped, uniformly lit glow. With AV think it is stars and not nebula.
NGC 2082	10:37 PM	13mm – A small oval, dim, uniformly lit glow.
NGC 2080	10:39 PM	13mm – A small arc of 8-10 very dim stars. The glow underneath these appears to be a nebula.
NGC 2086	10:40 PM	13mm – 10-15 very faint stars in a loose, circular association.
NGC 2069	10:42 PM	13mm – A small, roundish, uniformly lit glow. To left of Tarantula Nebula with 3 field stars on glow.
NGC 2052	10:44 PM	13mm – A small, roundish glow to upper right of Trantula Nebula and near. Has 1 brighter field star to right side of glow. Glow whispy and not uniformly lit.
NGC 2055	10:46 PM	13mm – 6-8 stars on top of a boxy glow underneath them.
NGC 2041	10:49 PM	13mm – A small, thin knot of very faint stars seen with AV.
NGC 2055	10:50 PM	13mm – A small, roughly circular, uniformly lit glow.
NGC 2027	10:53 PM	13mm – An extremely faint glow under 5-8 brighter stars.
NGC 5266	11:10 PM	13mm – A small fat oval, dim. Has larger, brighter core.
NGC 5189	11:17 PM	13mm – A nice, large, fills FOV globular. Has mottled glow and several member stars on top of glow. Very loose and extended.
Alpha Cen	11:19 PM	13mm – 2 nice bright yellow stars. See separation between them but they are very close together. Upper right star 2x brighter than lower left.

NGC 4696 NGC 4709 NGC 4683 NGC 4672 NGC 4645 NGC 4645A	11:23 PM	13mm – A small tilted oval. Pretty uniformly lit. To lower right and near is N4683, a very small, very faint oval of uniformly lit light. To right and down is N4672, a small, uniformly lit oval glow. To lower left is N4645, a very small, very faint oval glow. Then to lower left is N4645A, a tiny, linear, uniformly lit glow. To upper right of N4696 and at end of chain of stars is N4709, a very small, oval, dim glow with brighter core.



NGC 3918	11:31 PM	13mm – A very small, round glow. See ring around edge and thinner middle. Maybe see central star.
NGC 5307	11:35 PM	13mm – A very small oval, uniformly lit glow. Dim. Easy to see. O3 shows it as a tear drop shape. Bright. Uniformly lit.
NGC 4945A	11:45 PM	13mm – A bright orange field star sits on lower part of halo glow. Galaxy glow is uniformly lit, very faint and extends to the 2 o'clock side of star. It is long and fat.
NGC 4373 NGC 3290	11:51 PM	13mm – A small edge on. Has larger bulge with brighter core and extremely faint tapered arms that goes from 9:30 – 3:30 o'clock. Pretty dim overall. Below and away is N3290, a small, round, faint glow with hare brighter core.
Doodad Nebula	11:59 PM	13mm – To left of globular 4372 is this 5-6 FOV long, narrow void of stars in a star rich field. Very dark. 26mm shows it is really long also with a bit of a curve to the right as you move down the nebula.
NGC 4038 NGC 4039	12:07 AM	13mm – 2 galaxies. Upper one (N4038) is like a 9 in round part. See CCW arms. Bottom (N4039) is like a 6. Fairly dim yet lots of details seen on glows.



Seeing and Transparency Good.

NGC 6584	12:16 AM	13mm – A medium sized, roundish, dim globular. Has brighter core that dims quickly to edge. Many member stars seen. Glow is rest of them.

NGC 5286	12:16 AM	13mm – To left of bright field star is this large, dim, compact globular. Bright core dims slowly to edge. Lots of member stars seen.
NGC 5138	12:20 AM	13mm – 35-40 dim, blue white stars of approx. same magnitude form a large, 5 point GI star shape.
NGC 5307	12:23 AM	13mm – An oval shape. Small. Central star now easily seen in center.
NGC 5316	12:27 AM	13mm – 20-25 brighter and several fainter stars form a wedge shape pointing at 3:30 o'clock. 7x35 Binos – An oval shaped, small glow with some stars seen sprinkled on glow.
NGC 5460 NGC 5516	12:31 AM	13mm – 20-25 bright blue white stars form a chain and hook. Then below and 1 FOV away is N5516, a brighter, small tilted oval galaxy with large, bright core. Halo bright and easy to see.

NGC 5606	12:37 AM	13mm – 12 dim blue white stars of 3 magnitudes form a horn shape.
NGC 5617	12:40 AM	13mm – A larger, ½ FOV long and narrow bullet shaped OC. 50+ dim blue white stars of 3-4 magnitudes. Stars fill in and outline the bullet. 7x35 Binos – A long, 2:1 glow. Dim. Stars sprinkled on glow.
NGC 5662	12:44 AM	13mm – 30 blue white dim stars of 3-4 magnitudes make up this large, boxy cluster. Fills center of FOV nicely. 7x35 Binos – A small knot of easily seen stars. Member stars easily seen.
IC 4499	12:50 AM	13mm – A larger, round, <u>very faint</u>, uniformly lit glow. Has bright field star in center of glow which makes it look weird.
NGC 5822	12:52 AM	7x35 Binos – A larger, boxy glow. 26mm – Lots of brighter blue white stars almost fills FOV with a butterfly shaped OC. Many magnitudes seen. Very loose association.
NGC 5925	12:58 AM	13mm – 1 ½ FOVs long and ½ FOV wide. A thick arc of dim, blue white stars of many magnitudes with brighter ones of same magnitude. 7x35 Binos – An <u>extremely faint</u> oval glow.

NGC 5927	1:06 AM	13mm – A larger, dim glow. Brighter core that dims slowly to edge. More globular to 4 o'clock direction from core than on left. Many member stars easily seen.
NGC 5946	1:10 AM	13mm – Small, dim, round. Has larger, brighter core and bit of dim halo around it. Brighter field star at 10 o'clock and on glow and near edge. No member stars, just the glow.
NGC 6208	1:14 AM	13mm – Fills FOV. A loose OC with lots of dimmer blue white stars of 2-3 magnitudes. Has streamers of stars coming off center. Looks cool. Has bright field star in center that probably is not part of it. 7x35 Binos – A small, extremely faint, boxy glow.
NGC 6302	1:17 AM	13mm – Bug Nebula. A small, 2:1 glow with brighter, elongated core. 7.5 mm – See it nicely. Has horn shape above bright oval core and tapers off to left below core that is uniformly lit.

Seeing and Transparency Good.

Rup 106	1:26 AM	30" f/5 with 26mm (147x) eyepiece – Above and to left of a bright, orangish field star is this loose association of 20-25 dim stars of approx. same magnitude in a fat oval shape. Maybe 2 magnitudes involved.
NGC 6250	1:35 AM	13mm – 12 dim stars of 3 magnitudes form a small teapot shape.
Lynga 7	1:42 AM	30" f/5 with 26mm (147x) eyepiece – A very small, dim, circular glow.
M22	1:43 AM	13mm – Nice.
NGC 6352	1:47 AM	13mm – A medium sized, dim, circular globular. Has hare brighter core that dims quickly. Member stars seen with many bright field stars to upper left and on glow of globular.
M20 M8	1:48 AM	13mm – Trifid Nebula – Nice. Fills FOV. 3 dust lanes show a lot of detail as the cut thru nebula. Nice. Never seen it like this before. Lagoon Nebula (M8) nice. Lots of details in that nebula also.
NGC 6388	1:52 AM	13mm – A medium sized, bright globular. Bright core dims slowly to edge. Glow speckled but no member stars seen.
NGC 6496	1:54 AM	13mm – 8 bright field stars on a medium sized, uniformly lit glow. No member stars seen.

NGC 6541	1:56 AM	13mm – Nice. Larger oval shape, loose. Member stars seen. Bright core and dims quickly to large, extended halo of stars.
M104	2:00 AM	13mm – Incredible. Best I've seen.
NGC 6584	2:02 AM	13mm – A small, very dim circular glow. Uniformly lit. Speckling on glow of member stars.
NGC 6723	2:03 AM	13mm – A medium sized circular globular. Has large, brighter, uniformly lit core and tiny bit of dim halo around it. Lots of member stars seen.
NGC 6744	2:06 AM	13mm – A large tilted oval. Extends all the way across FOV. Has large, oval, bright core.

Notebook damp for it is hard to write on it now.

Jupiter	2:33 AM	13mm – Calisto's shadow now on Jupiter's disk where moon went across. Eurpoa shadow on upper red band.
Saturn	2:43 AM	13mm – Incredible. See lots of detail on disk. Cassini's division nice and black. 7.5mm shows it nicely. Wait for seeing to settle and saw Encke gap on right and left sides of ring. A first for me. Then the dark band inside and closest to planet is the C ring. First I've seen this also. 4 moons on right hand side of planet.

Clouds moving in from West.

Mars	2:55 AM	7.5mm – Nice. Large disk. Large polar cap on left hand side. Not much detail on surface seen.

The planets sure took a lot of power nicely. Never seen such details on the planets' surface before.

Australia fell back from DST this morning while we were observing. I kept my observations of tonight all on DST time.

Monday April 4, 2016

Clear and calm at sunset.

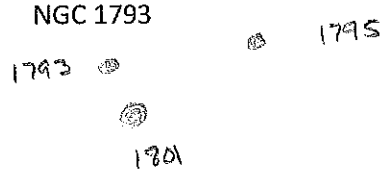
Omega Centauri is Awesome!
NGC 104 is totally Awesome!!
NGC 121 is a nice globular but faint.
NGC 362 is bright.

NGC 265 NGC 269	7:12 PM	13mm – N269 is the upper one and is a very small, round, very dim glow. Hare brighter tiny core and is speckled. N265 is the lower one and is a round, very dim, uniformly lit glow with a hint of speckling on it also.

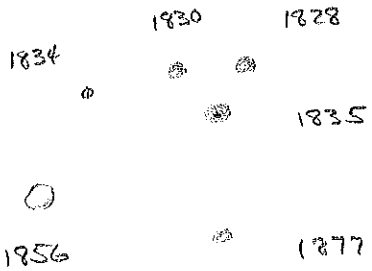
Seeing and Transparency Very Good.

NGC 294	7:14 PM	13mm – A faint, round, uniformly lit glow.
NGC 299 NGC 306	7:16 PM	13mm – A very small, dim glow with stars sprinkled on it. Then below it and near is N306, a tiny OC.
NGC 339	7:20 PM	13mm – A medium sized, extremely faint, round, uniformly lit glow.
NGC 361	7:24 PM	13mm – A small, round, very dim glow. Has brighter, larger core that dims quickly. See speckling of stars.
NGC 376 NGC 121	7:26 PM	13mm – A very small, bright globular. See 10-12 faint stars on area of globular. N121 is to lower left in same FOV.
NGC 406	7:28 PM	13mm – A small tilted oval. Dim. Pretty uniformly lit with maybe hare brighter core.
NGC 411	7:31 PM	13mm – A very small, very faint roundish glow. Has mottling on glow.
NGC 416	7:33 PM	13mm – A very small, dim, uniformly lit glow. See speckling on glow. With AV, see hare brighter core.
NGC 456	7:49 PM	13mm – An extremely faint, linear, small glow with hint of very faint stars on it seen once I a while.
NGC 458	7:51 PM	13mm – A small, dim, round glow. A larger, uniformly lit core and bit of dim halo around it.

Cr 232	7:52 PM	13mm – 20 stars of 3 magnitudes. Dim. Compact.
Tr 16		8-10 very faint stars in an oval shape.
Tr 14		A small handful of faint stars.
Tr 15		A nice, 50+ faint blue white stars OC with 2-3 brighter stars with them.
Cr 228		15-20 brighter and many fainter stars in a close association.
		This was the area around Eta Carina from Volume 3 of NSOG.
Bo 11	7:58 PM	13mm – 15-20 very faint stars in a small chain loop.
Vdb-Ha 9		5-8 stars in a thin oval chain.
Bo 10	8:03 PM	13mm – 20-30 dim, blue white stars of 3 magnitudes in compact, circular shape.
NGC 1644	8:05 PM	13mm – A very small, very dim, round, uniformly lit glow. Speckling of stars on glow.
NGC 1786	8:08 PM	13mm – A small, dim, round glow. Tiny member stars seen on glow. Brighter field star on glow at 10 o'clock.
NGC 1783	8:11 PM	13mm – A medium sized, dim, round, uniformly lit glow. See speckling on glow.
NGC 1795	8:12 PM	13mm – N1801 is a small, dim, round glow, uniformly lit. Then to upper left is N1793, a very small, very dim, round, uniformly lit glow. Then to right and a bit away is N1795, a very faint, round, uniformly lit glow.
NGC 1801		
NGC 1793		

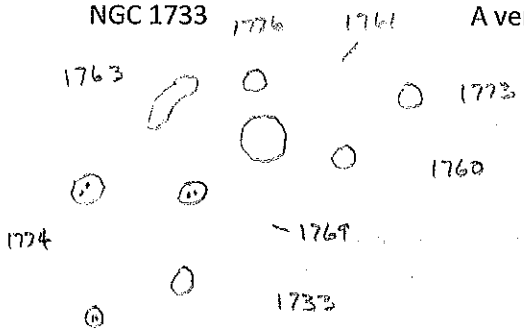


NGC 1835	8:16 PM	13mm – A very small, bright globular with member stars seen. To right and a bit away is N1830, a small, round, uniformly lit glow. To right of this and near is N1828, an identical, small, round, uniformly lit glow. Then below these two is N1834, a dim, round glow with tiny, bright core and dims slowly to edge. Has speckling on it. Then below and to left and a bit away is N1877, a tiny, round, uniformly lit glow. Below N1835 and to left and a bit away is N1856, a small OC with 10-15 very faint stars in a loose association.
NGC 1834		
NGC 1830		
NGC 1828		
NGC 1877		
NGC 1856		

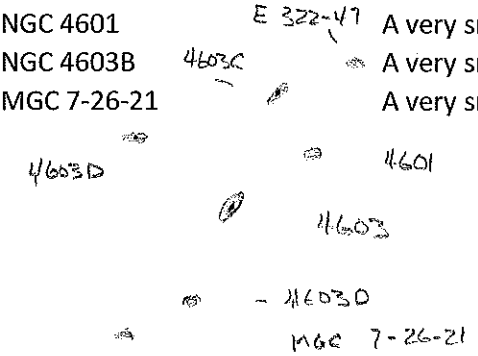


NGC 1855	8:22 PM	13mm – Top globular is N1855, a small, bright, roundish with some stars
NGC 1850		torn out left and right. Lots of member stars seen. Then below and to
NGC 1839		right is N1850, a very small, round, bright globular with member stars
NGC 1836		seen. Then below and to right is N1839 and N1836, 2 OCs together with
		nebula under it. 20+ very faint stars of 2-3 magnitudes.

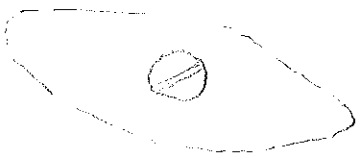
NGC 1763	8:30 PM	13mm – 8-10 stars with nebula in a small, kidney bean shape.
NGC 1776		10 stars in a tight, circular group.
NGC 1761		20+ fainter stars in a small, circular group.
NGC 1773		A very small, very dim roundish glow.
NGC 1760		A very small, very dim round glow.
NGC 1769		4 stars over a very small, dim nebula glow.
NGC 1774		2 stars over a small, dim nebula glow.
NGC 1733		A very faint, very small OC with speckling of stars.



Abell 3526	8:42 PM	26mm
E 322-47		A very small, very faint oval, uniformly lit glow.
NGC 4603C		a very small, very faint oval, uniformly lit glow.
NGC 4603D		A very small, faint thin oval, uniformly lit glow.
NGC 4603		A small, dim oval glow with a small, brighter core.
NGC 4601		A very small, very dim fat oval, uniformly lit glow.
NGC 4603B		A very small, round, dim glow with a tiny, star core.
MGC 7-26-21		A very small, very faint oval glow with a tiny, hare brighter core.

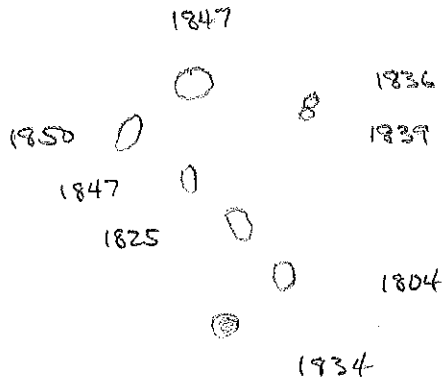


Centaurus A	8:50 PM	26mm – See extended halo left and right from galaxy itself. 3 FOVs long.



Centaurus A's extended halo

M104	8:53 PM	13mm – Simply Awesome.
NGC 5189	9:02 PM	13mm – An irregular glow with darker glow ¾ ring near top of glow. Nice. In a star rich field.
NGC 4945	9:07 PM	13mm – A nice, long, brighter galaxy.
NGC 4945A	9:07 PM	13mm – It is on left hand side of N4945 where the tapered arm is fatter and extends N4945 a bit.
NGC 1855	9:16 PM	13mm – A bright globular. Small. With lots of member stars. Has ears of stars streaming out each side.
NGC 1847		A small, round, dim glow with sprinkling of stars on glow.
NGC 1850		A small, round, dim glow with sprinkling of stars on glow.
NGC 1836		A very small, very faint round glow.
NGC 1839		A very small, very faint round glow just under N1836.
NGC 1847		A very small, dim OC.
NGC 1825		A small oval glow with tiny stars speckled on glow.
NGC 1804		A very small, dim little glow of tiny OC.
NGC 1834		A small, round, dim glow.



NGC 1868	9:24 PM	13mm – A small, round glow. With AV see has brighter core that dims slowly to edge. Speckling on glow.

NGC 1898 NGC 1913	9:26 PM	13mm – A small, round, dim glow. Has hare brighter core. Speckling on glow. Then below and near is N1913, a very small, round, uniformly lit glow. Easy to see.
NGC 1910	9:29 PM	13mm – A medium sized, round, very faint, uniformly lit glow.
NGC 1917	9:34 PM	13mm – A very small, dim, round glow with tiny, brighter core.
NGC 1953	9:37 PM	13mm – A very small, dim, round glow. With AV, see it has a tiny, hare brighter core.
NGC 1978	9:41 PM	13mm – A medium sized, round, very dim, uniformly lit glow.
IC 2488	9:46 PM	13mm – 50+ stars of 3-4 magnitudes make a rectangular shape. 7x35 Binos – A small, oval glow with stars seen on glow.
NGC 2925	9:50 PM	13mm – 50+ stars. Brighter blue white color of 2 magnitudes in a loose, roughly circular area. 7x35 Binos – A small, tight knot of stars.

Seeing and Transparency Good.

NGC 1903	9:56 PM	13mm – A small, dim, round glow with brighter, small core.
NGC 1916	9:56 PM	13mm – A small, dim, roundish, uniformly lit glow.
NGC 1850 NGC 1854 NGC 1855 NGC 1858	10:02 PM	13mm – A very small, dim, has hare brighter core area. A very small knot of stars. A small, very dim, uniformly lit round glow. With N1858.
NGC 4372	10:23 PM	13mm – A large, loose oval shape. Very disperse. Lots of member stars seen. Has brighter field star to left of it. Oval shaped.
NGC 4833	10:27 PM	13mm – A larger globular. Has small, uniformly lit central core and lots of stars in extended halo. Lots of member stars. Bright field star below globular and on outer halo stars.

NGC 2613	10:34 PM	13mm – A nice, large, tilted oval. Has larger, brighter core. ¼ FOV long. Dim halo. Bright core dims quickly to halo.
NGC 3115	10:38 PM	13mm – A thin, long tilted oval. Has bright core and has central dimmer core down center. Dim halo. See a bright stellar point in center of core. Very faint halo extends a bit beyond bottom right of galaxy a bit. Nice.
NGC 3228	10:41 PM	13mm – 12-15 bright blue white stars in a loose association. Fills center of FOV nicely. 7x35 Binos – A tight knot of bright stars.
NGC 3199	10:46 PM	13mm – A brighter, thick arc glow. The brightest part is mottled. See very faint end of it on each side where arc dims to it at end of each side of arc. In a star rich field.

Seeing and Transparency Good.

NGC 3201	10:50 PM	13mm – A roundish, uniformly lit globular. Central part of it is lopsided and concentrated on left hand side. Lots of member stars seen. Loose.
NGC 2818	10:54 PM	13mm – A small, planetary nebula inside an OC (N2181).
NGC 4052	10:58 PM	26mm – A smaller, boxy, rectangular shape. 40-50 brighter blue white starts of 2-3 magnitudes. 7x35 Binos – A tight little glow with speckling of stars on it.
Harvard 5	11:07 PM	13mm – 10-15 brighter blue white stars. Looks like a candle with large base.

NGC 4071	11:14 PM	13mm – Without O3, hint of circular glow. With O3, see circular, uniformly lit glow.
Menzel 3	11:24 PM	13mm – With O3, under several dim field stars is this medium sized, extremely faint, roundish glow. Sweep scope back and forth and my eye follows glow.

Shapley 1	11:38 PM	13mm – A dim, medium sized, round shape. Has thick ring around edge and dim glow across center. Central star pops in while watching.

Clouds from west made sky soft.

NGC 6072	11:50 PM	13mm – With O3, see a small, round, uniformly lit glow. No central star seen.
Mel 101	11:55 PM	13mm – 50+ stars of 4-5 dim to very faint magnitudes forms a tight, compact oval shaped OC. 7x35 Binos – A small dim glow.
Mel 105	11:59 PM	13mm – 30 or so dim stars of 2-3 magnitudes form a tight, compact, roughly long, thin oval OC. 7x35 Binos – A dim oval patch with speckling of stars on it.
NGC 2899	12:03 AM	13mm – Without O3, a very dim, roundish glow. Maybe dumbbell shape inside round glow. With O3 and AV, see circular shape and a bow tie on glow that extends above and below each side of bowtie of circle. Circle seems to have a hint of a thick ring around it's edge.
NGC 2181	12:09 AM	13mm – An OC with PN N2818. With O3, see PN is small, round, uniformly lit glow. OC is nice with 50 stars of 2-3 magnitudes of dimmer stars. PN obvious, inside roundish OC at 1:30 o'clock. A small, uniformly lit, circular. OC is loose and fills center of FOV nicely.
IC 2714	12:19 AM	13mm – 50+ dimmer blue white stars of 3-4 magnitudes make a loose, circular OC. 7x35 Binos – A small, dim, circular glow.
NGC 3228	12:24 AM	13mm – 10 brighter blue white stars form a loose association with 8 in a roughly circular shape and 2 outliers.
NGC 3132	12:28 AM	13mm – Without O3, a nice, bright circular shape with a bit more nebula above it than below. See thick ring. Central star very bright. With O3, see ring easier. Best view without filter.
NGC 2736	12:37 AM	13mm – With O3, a SNR that all I can see is a thin line, 3 FOV long. Middle FOV has brightest part of line. Sweep around area didn't see any more nebulosity.
Stock 14	12:42 AM	13mm – 20-25 dim stars of 2 magnitudes outline a long, thin bullet.

NGC 6334	12:50 AM	13mm – A nice, round, dim, circular nebula glow around a brighter field star.
IC 4628	12:53 AM	13mm – With O3, a long, narrow oval that extends under 1 brighter stars at top and under 3-4 very faint stars on bottom. DSF only shows nebula and brighter star.
Stock 13	1:05 AM	13mm – 12 brighter blue white stars in a rectangular shape. Somewhat compact.
NGC 4103	1:10 AM	13mm – 50-60 dimmer blue white stars of 3 magnitudes form a roughly circular compact OC. 7x35 Binos – A very small, round patch with speckled stars.

Clouds here and there. Working in holes.
Seeing and Transparency OK.

NGC 4337	1:14 AM	13mm – 18 dim stars in 1, ½ circle arc and 10 in a leading second arc with lots of very faint stars underneath. Nice lines. 7x35 Binos – See a hint of glow where this OC is.
NGC 4349	1:23 AM	13mm – 50+ dimmer stars of 4 magnitudes make up this large oval shaped OC. Has 1 bright field star at bottom. Fills center of FOV nicely. 7x35 Binos – A small, dim oval glow with stars sprinkled on it and other speckling.
NGC 4463	1:29 AM	13mm – 2 brighter and 15-20 much dimmer stars basically outline a small football shape. 7x35 Binos – All I see are the 2 brightest stars. No other stars seen.
NGC 4815	1:33 AM	13mm – Under 2 brighter field stars are 15 very faint stars and a glow of many unseen stars in a roughly fat oval shape. Small and compact.
NGC 4852	1:36 AM	13mm – 50-60 very dim stars of 3 magnitudes form a long rectangle shape. Compact. Fills center of FOV nicely. 7x35 Binos – See a small oval dim glow speckled with stars.

Seeing and Transparency OK.

Tr 21	1:41 AM	13mm – 20-25 dimmer blue white stars of 3 magnitudes form a candle shape. Candle has 2 brighter stars and rest dim.

IC 4642	1:46 AM	13mm – Without O3, see a small, dim oval, uniformly lit. With O3 see oval has a thick ring, maybe a hint of the central star seen.
IC 1266	1:50 AM	13mm – with O3, only seen with O3. A bright star surrounded by a small, extremely faint halo glow.
Shapley 3 PK 342-14.1	1:58 AM	13mm – Without O3 see a brighter star surrounded by a tiny bit of halo. With O3 central star disappears. Has very small halo glow, uniformly lit.
NGC 6729	2:02 AM	13mm – Under 3 sets of 2 stars around FOV is a nice nebula glow that extends a bit away from the stars.
NGC 6438	2:10 AM	13mm – A small, very dim oval glow.
NGC 6438A	2:10 AM	13mm – Just below N6438 is this bump with a stellar core off the lower left of N6438. Can see they are very close but 2 different galaxies.
IC 4710 PGC 61922	2:16 AM	13mm – An extremely faint, small, round, ghostly glow that is uniformly lit.
IC 4721 PGC 62066	2:20 AM	13mm – A long, thin, 3:1 tilted oval. Very faint. Uniformly lit.
IC 4742 PGC 62270 IC 4748	2:23 AM	13mm – To upper left and near a field stars is this very small, round glow with tiny, very faint stellar core. Then above and to left is IC4748, a very small, round, uniformly lit glow.

NGC 6673	2:26 AM	13mm – A small, thin tilted oval. Dim. Has brighter, larger core. Dim halo around core and arm tips that extend 9:30 – 3:30 o'clock.

Seeing and Transparency Good.

NGC 6684	2:29 AM	13mm – A small, dim, fat oval to round shape. Has bright, large core and dim halo around it.
NGC 6699	2:34 AM	13mm – A very faint, fat oval, uniformly lit and small.
NGC 6707 NGC 6708	2:37 AM	13mm – A very small, round, uniformly lit glow. To left of a field stars is N6708, a very small, thin, uniformly lit edge on.

IC 4806 PGC 62689	2:42 AM	13mm – A very small, very dim, tilted oval with small, brighter core.
NGC 6725	2:45 AM	13mm – A very small, very faint, thin oval, 3:1, uniformly lit.
NGC 6744	2:48 AM	13mm – A nice, large tilted oval. Dim. Has large, brighter core and dim halo.
NGC 6754	2:51 AM	13mm – A fat, tilted oval. Small. Uniformly lit. Very faint.
NGC 6753	2:53 AM	13mm – A small, roundish, dim glow with tiny, hare brighter core.
IC 4831 PGC 62951	2:55 AM	13mm – A small, thin oval, 3:1. Very faint with small, hare brighter core.
IC 4837A PGC 62964	2:58 AM	13mm – A long, thin, 4:1, uniformly lit, very dim glow. Has brighter field star on left hand side of glow.
IC 4839 PGC 62975 IC 4837	3:01 AM	13mm – An extremely faint, roundish, small, uniformly lit glow. Then near and to left is IC 4837, a small, thin, 2:1, extremely faint, uniformly lit glow.
4837		4839
NGC 6769 NGC 6771 NGC 6770	3:04 AM	13mm – A very small, very faint, thin oval with maybe a hare brighter, tiny core. To right is N6771, a tiny, round, extremely faint smudge of light. Above is N6770, a very small oval, uniformly lit smudge of light.
6770		
6769		6771
NGC 6776	3:14 AM	13mm – A very small, very faint, round glow with brighter, tiny core.
NGC 6788	3:16 AM	13mm – a very small, thin, tilted oval, 3:1 with small, brighter core. Has field star to left of galaxy and near.

Seeing and Transparency Good.

IC 4889 PGC 63620	3:18 AM	13mm – a very small, round, very faint glow with larger, hare brighter core.
NGC 6397	3:20 AM	13mm – A nice, large globular. Has small, compact core with lots of stars in halo. Fills FOV. Lots of member stars seen.

IC 4901 PGC 63797	3:23 AM	13mm – A small, fat oval. Uniformly lit. Very faint.
NGC 6848 PGC 64041	3:25 AM	13mm – A very small oval, very faint with tiny hare brighter core. A very small, very faint, linear, uniformly lit glow.

64041 6848

IC 4933 PGC 64042	3:28 AM	13mm – A very small, very faint oval glow with tiny, hare brighter core.
NGC 6854	3:31 AM	13mm – A very small, roundish, very dim glow with brighter, star core.
NGC 6868 NGC 6861	3:32 AM	13mm – A very small, round, very faint glow with brighter, tiny core. Then to right is N6861, a very small, thin oval, uniformly lit, very faint glow.

6858 6861

NGC 6867	3:35 AM	13mm – An extremely faint, small oval. Uniformly lit smudge of light.
NGC 6875	3:37 AM	13mm – A very small, dim, fat oval, 1:1.5 glow with larger, brighter core.
NGC 6887	3:39 AM	13mm – A small, long, thin, 3:1 tilted oval. Uniformly lit. Very faint.
NGC 6893	3:41 AM	13mm – A small tilted oval. Very dim with small, brighter core.
NGC 6909	3:43 AM	13mm – A small, thin tilted oval. 3:1. Dim. Has small, brighter core.
NGC 6935	3:45 AM	13mm – An extremely faint, small, round, uniformly lit smudge of light.
NGC 6942	3:47 AM	13mm – A very small, very faint oval. Uniformly lit glow with maybe a hare brighter core.

I was observing by myself the last few minutes. Something in the bush startled me. Had a grunt to it's voice. Way cool but scary. Maybe a kangaroo. The night was great despite some passing clouds. Shared the scope with Faint from the UK until she left about 1 AM.

Moonrise curtailed my further observing activities.

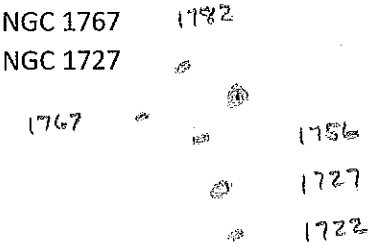
Tuesday, April 5, 2016

Clear and calm at sunset.
Seeing and Transparency very good.

NGC 104	6:45 PM	13mm – Watching it come out as sky darkens. Good Argo Navis alignment tonight.
NGC 1698	6:53 PM	13mm – A small, long, triangular glow with a few, very faint stars on glow.
NGC 1712 NGC 1727	6:55 PM	13mm – A small, long oval OC with 10-15 faint and very faint stars on top of a nebula glow. Then to right is N1727, a very small, round, dim, uniformly lit glow.

NGC 1715 NGC 1714 NGC 1718	6:57 PM	13mm – A very small oval, 2:1, bright glow. Seems much brighter on lower part than top. Then to right is N1714, a very faint, round, uniformly lit glow. Below is N1718, a chain of 5-6 dim stars with tiny bit of glow underneath.

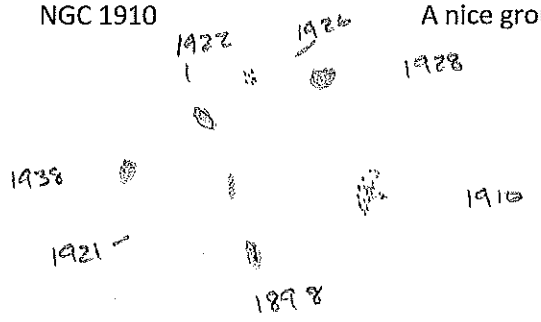
NGC 1736	7:00 PM	13mm – A small, round, dim glow with 2 field stars on it, one in center and other at edge at 4 o'clock.
NGC 1743 NGC 1782 NGC 1756 NGC 1722 NGC 1767 NGC 1727	7:03 PM	13mm – A small, round glow. Dim. Has field star at center. To left and above is N1782, a very faint, round, uniformly lit glow. Below is N1756 and looks the same. To left and below is N1767 and looks the same. Below and to right is N1727, a dim round glow that is uniformly lit. Then below and to right is N1722, a very small, round, dim glow with star in center.



NGC 1755	7:06 PM	13mm – A small, bright OC. Roundish with an X on it with stars on X and lots of very faint stars speckled on it which gives is a nice glow.
NGC 1774	7:08 PM	13mm – A very small oval glow. Bright. Brighter in center and bit of dim halo around it.

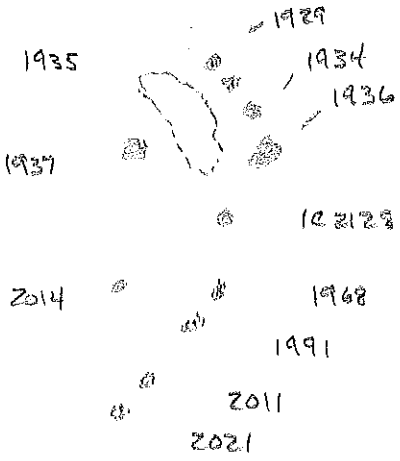
NGC 1805	7:10 PM	13mm – A very small oval glow. Brighter. Has 1 bright field star in center and 2 dimmer left and right of this.
NGC 1816 NGC 1814	7:12 PM	13mm – 10 – 12 very faint stars in a loose, large oval with those to upper left and to upper right have tiny, faint nebula under them.
NGC 1820	7:14 PM	13mm – 2 brighter and 6 fainter stars form a long, slender rectangle shape.
NGC 1818 NGC 1763 NGC 1787 NGC 1849	7:15 PM	13mm – A nice bright oval. Has tons of stars in center and then dims slowly. Tons of stars seen. Looks like a globular. Then above is N1763, a very small, dim, knot of stars. Stars seen. Then to left is N1787, a medium sized oval, very faint glow of an OC. Then below and to right is N1849, a tiny knot of stars. Stars seen but very compact.
NGC 1831	7:18 PM	13mm – A medium sized, dim, round, uniformly lit glow. See hint of specking on glow.
NGC 1856	7:21 PM	13mm – A medium sized, long, narrow nebula glow with lots of very faint stars on glow.
NGC 1874 NGC 1872 NGC 1877	7:22 PM	13mm – A small, round glow with speckling of member stars on glow. Brighter in venter and dims quickly to edge. N1877 and N1872 are identical to this one.
NGC 1866	7:26 PM	13mm – A medium sized oval. Bright. Brighter in center and dims slowly to edge. See tiny stars speckled on OC.
NGC 1895	7:31 PM	13mm – A very small, very faint knot of stars. Few individual stars seen.
NGC 1899	7:35 PM	13mm – A large, faint, round glow. Fills FOV. DSF doesn't show it any better.

NGC 1921	7:37 PM	13mm – A very small, very faint linear oval, uniformly lit glow.
NGC 1922		A very small knot of stars with nebulosity.
NGC 1926		A tight know of very dim stars.
NGC 1928		A very faint, round, uniformly lit glow.
NGC 1938		A round glow with bright center.
NGC 1898		A glow with stars sprinkled on it.
NGC 1910		A nice group of very faint stars.

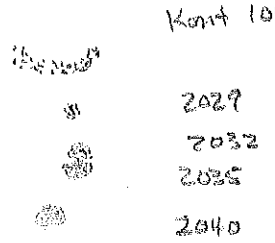


NGC 1920	7:42 PM	13mm – A small, round glow with hare brighter center and dims slowly to edge. Maybe extremely faint star on glow in center.

NGC 1935	7:50 PM	13mm – 40-50 brighter stars of 2-3 magnitudes in a fat arc shape.
NGC 1937		A round, loose association of 8 stars on a very faint glow.
NGC 1929		A very small round glow with 2 stars on glow.
NGC 1934		A very small, roundish, faint nebula.
NGC 1936		A very small, roundish, faint nebula.
IC 2128		A very small, roundish, faint nebula.
NGC 1955		A very small, round nebula glow.
NGC 2014		A tiny, very faint roundish nebula glow.
NGC 1968		A very small OC of 10 stars.
NGC 1991		A very small OC of 20 stars.
NGC 2011		A very small OC of 10 stars.
NGC 2021		A very small OC of 12 stars.

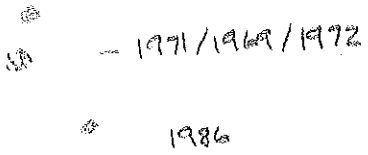


Kont 1098	7:50 PM	13mm – 30 dim stars of 2-3 magnitudes form a small arc.
NGC 2029		A very small, round, very faint glow.
NGC 2032		A very small, round glow with 5 stars on glow.
NGC 2035		A very small, round glow with 5 stars on glow.
NGC 2040		A very small, round glow with 10 stars on glow.



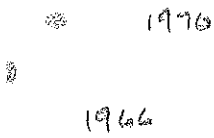
NGC 1941	7:58 PM	13mm – A very small, bright knot of stars seen on glow. Then below and to right and near is N1798, a very faint circular glow of very faint stars.
NGC ~~1798~~ 1978		

NGC 1945	8:01 PM	13mm – A triangular shaped, dim, uniformly lit glow. Maybe extremely faint field star on glow.
NGC 1949	8:04 PM	13mm – A very small, very faint round glow. Is hare brighter in center. Situated between 2 field stars.
NGC 1958	8:05 PM	13mm – A very small, faint, uniformly lit glow. Below is the combined, extremely faint, small circular OCs of N1971, N1969 and N1972. Below and to right is N1986, a tiny, round, very faint, uniformly lit glow.
NGC 1971		
NGC 1969		
NGC 1972		
NGC 1986		



NGC 1951	8:08 PM	13mm – A larger, 50-60 stars in an oval shape of 2-3 magnitudes. Somewhat compact. To right is N1946, a tiny knot of dim stars that are easily seen. To right is N1948, an extremely faint, very small, round, uniformly lit glow.
NGC 1946		
NGC 1948		

NGC 1966	8:13 PM	13mm – A tight knot of stars. Brighter. Speckling seen. Above is N1970, an extremely faint, small, round glow of a nebula.
NGC 1970		



NGC 1968	8:14 PM	13mm – A small knot of 5-10 dim, easily seen stars. This is to left of a chain of 4 OCs drawn on previous page.
NGC 1983	8:16 PM	13mm – 8-10 very dim stars outline a dim nebula glow. Basic arrow head shape. Nice. Medium size.
NGC 1991	8:18 PM	13mm – A very small triangle shaped OC. Member stars very faint, compact and easy to see.
NGC 2004	8:20 PM	13mm – 6 dim stars of 2 magnitudes form a small, thin rectangle. Nebula glow under stars across top of it.
NGC 2011	8:22 PM	13mm – 10-15 stars in a medium sized circular shape. Center bright and dense and rest of stars radiate out from center in 6 lines. Nebula glow under center of OC.
NGC 2014	8:24 PM	13mm – 2-3 stars, very small. Nebula glow under bottom 2 stars. Very faint.
NGC 2020	8:25 PM	13mm – A tiny, round, very faint glow around a extremely faint star.
NGC 2029	8:28 PM	13mm – 30 stars of 2-3 magnitudes form an arc. Thicker in middle. Left center of arc has tiny nebula glow around 1 star.
NGC 1947	8:29 PM	13mm – A very small oval, uniformly lit glow.
NGC 1703	8:31 PM	13mm – A small oval. Has bright field star on halo glow on lower end. Tilted oval. Has hare brighter tiny core.
NGC 1796	8:34 PM	13mm – A small, long, thin, 3:1 oval. Uniformly lit.
NGC 1688	8:35 PM	13mm – A small tilted oval. Dim. Has tapered arms off each end. Has small, brighter core.
NGC 1617	8:42 PM	13mm – A large, thin tilted oval. Dim. Easy to see has large, bright core.
NGC 2736 Gum 23	8:52 PM	31mm – With O3. Brightest part of nebula is the long, thin line with nebula above it. Chase arc several FOVs around to see it all.

Mrk 18	9:31 PM	13mm – 12 stars in 3 groups. 2 triangles at each end and rest vertical in middle. Dim stars.
Mel 105	9:40 PM	13mm – 40-50 blue white stars of 2-3 magnitudes in a tight, circular shape.
Harvard 6	9:45 PM	13mm – 12-15 very faint stars in a loose, roughly circular glow. Has 2 brighter field stars on each side.
NGC 2788	9:55 PM	13mm – A very small, dim, thin edge on. See tiny arms off each side. Has brighter field star just above it and near making it hard to see. Hint of a hare brighter core.
NGC 2836 NGC 2822	10:01 PM	13mm – A small fat oval. Uniformly lit. Dim. Has very faint field star on left hand side of glow. Then below is N2822, a tiny, round smudge of light.

Seeing and Transparency Very Good.

NGC 2887	10:03 PM	13mm – A very small, thin oval. Very faint. Has larger, brighter core.
NGC 2915	10:06 PM	13mm – A very small tilted oval. Very faint with hare brighter core area.
NGC 4835	10:28 PM	13mm – A medium size, long, thin, 5:1 glow. Down center has brighter core area. Maybe very tilted oval and not edge on.
NGC 5064	10:35 PM	13mm – A very small, dim tilted oval. Has linear, hare brighter core with bright stellar core in center.
NGC 5266	10:39 PM	13mm – A small, bright galaxy. Tilted oval. Has larger, brighter core with still brighter in center core.
NGC 5516	10:42 PM	13mm – A very small, dim tilted oval. Has large, brighter core and tiny bit of halo around it.
NGC 5688	10:45 PM	13mm – A very small, round glow with larger, brighter core area and still brighter stellar center.
NGC 5697	10:49 PM	13mm – A small, round, uniformly lit, dim glow.
IC 4585 PGC 56630	10:53 PM	13mm – A very small, very faint thin oval glow. On core, see a mottling texture on it.

NGC 6221	10:56 PM	13mm – A small, round, dim face on. Has a small, brighter core. On bottom, a CCW curved brightening of an arm. No counter part on top. Core has linear look, maybe a bar.
IC 4618 PGC 59325	11:01 PM	13mm – A small, round, very dim, uniformly lit glow.
NGC 6328	11:05 PM	13mm – A very small tilted oval. Dim. Larger, brighter core had mottling on it. Cool.
IC 4653 PGC 60311	11:09 PM	13mm – A very small, round, very dim glow. Has tiny, hare brighter stellar core and a similar magnitude field star on halo glow at 9 o'clock.
NGC 3324	11:27 PM	13mm – With DSF fills center of FOV. Nice, bright glow. Nebulosity pretty uniformly lit in main part.
NGC 4603	11:43 PM	13mm – A larger, fat oval. Dim. Uniformly lit.
NGC 4603B		A very small, very faint, thin, uniformly lit sliver of light.
MGC 7-26-21		A very small, roundish glow. Has larger, bright core.
NGC 4601		A very small, very faint, linear, uniformly lit glow.
~~PGC XXXXX~~ P42392		A tiny stellar glow. Like out of focus tiny star.
NGC 4603C		A small, thin, linear, uniformly lit glow.
E322-47		A very small, round, uniformly lit glow.
NGC 4603D		A very small, round, uniformly lit glow. Has hare brighter, larger core area.
PGC 42580		An extremely faint, very small, round smudge of light.
IC 2944	11:52 PM	13mm – In center of 3 bright stars that form a triangle is 50+ fainter, blue white stars in a loose association.
NGC 5091	12:03 AM	13mm – A small, thin glow. Maybe a hint of a hare brighter core.
NGC 5090		To right of N5091 is a roundish glow with larger, hare brighter core.
E270-3		A very small, round, very faint, uniformly lit glow.
NGC 5082		A very small, very dim, uniformly lit, round glow.
NGC 5086		A tiny, round, very faint, uniformly lit glow.
NGC 6744	12:06 AM	13mm – A small, dim globular. Has member stars seen.
PGC 49242	12:24 AM	13mm – A very small, faint oval, uniformly lit glow.
NGC 5266A	12:32 AM	13mm – A very small, very faint, uniformly lit oval glow.

PGC 46502	12:55 AM	13mm – A small, uniformly lit fat oval. Has 3 field stars on glow.
PGC 33705	1:03 AM	13mm – A medium size, long, fat, 5:1 oval. Has linear, brighter center area. Top part a bit fatter and rounded and bottom part pointed.

Seeing and Transparency Good.

NGC 6492	1:18 AM	13mm – A small tilted oval. Has larger, brighter core and dim halo around it.
PGC 61624	1:28 AM	13mm – A very small, very faint, round glow. Has larger, hare brighter core. Near a very dim field star to lower left. Has stellar core in center.
NGC 6684	1:34 AM	13mm – A medium size oval. Longer. Under a bright field star. Field star to left of center of galaxy. Uniformly lit glow.
NGC 6684A	1:34 AM	13mm – A small, round, dim glow, with larger, brighter core. To upper left of N6684.
IC 4765	1:40 AM	13mm – A small tilted oval. Very dim with hare brighter core.
E104-7		A very small linear glow. Has speckling on core.
IC 4767		A very small, very faint, linear, uniformly lit glow.
E104-2		A tiny, out of focus looking object.
PGC 62391		A very small, extremely faint, round smudge of light.
PGC 62412		A tiny out of focus looking object.

Seeing and Transparency Poor, deep in the south.

IC 4831	1:49 AM	13mm – A long, thin, 4:1 tilted oval. Dim. Has larger, hare brighter core.
NGC 6770	1:54 AM	13mm – N6769 is a small, round, dim glow with larger, bright core that dims quickly. N6770 is between 2 stars and is very small, round, very dim glow with larger, hare brighter core. N6771 is a tapered tilted oval. Small. Dim. With hint of a linear, hare brighter core in center.
NGC 6771		
NGC 6769		

Comet 252P/Linear	2:16 AM	In Binos, a nice, large, dim fuzz ball. 26mm shows a nice, large coma. See it gradual brighten to center where a bright star like nucleus is. No tail seen, just the round coma.

NGC 6876	2:35 AM	13mm – A small tilted oval. Very dim. Has hare brighter, small core.
NGC 6872		Below N6876 and away is a thin tilted oval with tiny, brighter core.
IC 4970		To right of N6872 and near and above center is this tiny, very dim, round, uniformly lit glow.
IC 4972		To left and a bit away from N6876 is this very small, thin sliver of extremely faint glow.
NGC 4887		Above N6876 is this very small, very dim, uniformly lit roundish glow.
NGC 4980		This is above N4887 and a bit away. A very small, very faint oval, uniformly lit glow.
NGC 4981		Near N4980 and above and to right is this tiny, extremely faint, thin sliver of light.
NGC 6932	2:43 AM	13mm – A very small, thin tilted oval. Very dim. Has larger, brighter core.

Seeing and Transparency OK.

NGC 6920	2:45 AM	13mm – A very small, very faint thin tilted oval with larger, hare brighter core that brightens to a bright stellar core.
IC 5063	2:49 AM	13mm – A very small fat oval. Very faint. Has larger, hare brighter core with even brighter center.
IC 5052	2:52 AM	13mm – A medium size, long, 6:1 thin edge on. Uniformly lit. Has tapered ends.
NGC 6970	2:53 AM	13mm – A very small, very faint oval. Has hint of a small, hare brighter core.
IC 5071 PGC 65915	2:55 AM	13mm – A very small, very faint, thin, 3:1 glow. Saw stellar core pop in once in a while.
NGC 7029	2:58 AM	13mm – A very small oval, 2:1. Has larger, hare brighter center and then in center, a bright, tiny bar.
NGC 7038	3:00 AM	13mm – A small fat, uniformly lit, very dim oval.
NGC 7041	3:05 AM	13mm – A very small, bright, almost edge on. Has long, bright core that dims slowly to edge.
NGC 7049	3:10 AM	13mm – A very small fat oval with brighter core that dims slowly to edge.

HP 1	3:15 AM	30" f/5 with 17mm (224x) eyepiece – A small, round glow with 2 brighter stars on glow. Maybe hint of mottling on glow.
NGC 7090	3:18 AM	13mm – A medium size, long, thin edge on. Very dim. Uniformly lit. Has very faint field star on upper 1/3 of galaxy, centered on glow.
NGC 7096	3:20 AM	13mm – A very small oval. Has brighter core and very faint halo around it.
NGC 7124	3:26 AM	13mm – A small fat oval. Uniformly lit. Very faint.
NGC 7125	3:28 AM	13mm – A very small, thin oval, 2:1. Has small, hare brighter core and lots of very faint halo.
NGC 7126	3:30 AM	13mm – A very small oval. Very faint. See mottling on glow in center.
NGC 7095	3:33 AM	13mm – A small, extremely faint round, uniformly lit glow. Has faint field star to right of it and just outside halo glow.
Beta1 Tuc Beta2 Tuc	3:41 AM	In James's 14" scope. Almost horizontal looking at star as it came out of trees. A nice yellow-orange, bright star. Is approx. ½ the magnitude of Beta1 and same yellow-orange color and a bit away from Beta1.
NGC 7168	3:44 AM	13mm – A very small, dim, roundish glow. Has hare brighter center and bright stellar core in center.
NGC 7196	4:00 AM	13mm – A very small, roundish, very faint glow. Has hare brighter core area and very faint stellar core in middle.
NGC 7205	4:02 AM	13mm – A medium size fat oval. See a hare brighter core area that brightens to a stellar core. Brightens very small around it.
NGC 7213	4:10 AM	13mm – A very small, round, dim glow. Has small, brighter core that dims slowly to edge.
IC 5170 PGC ~~6XXXX~~ 68284	4:11 AM	13mm – A small, long, thin, 3:1 oval. Very dim. Uniformly lit.
IC 5176 PGC 68389	4:13 AM	13mm – A small, thin, 4:1 oval. Very faint. Uniformly lit.

NGC 7233 NGC 7232	4:14 AM	13mm – A very small, thin oval, 3:1, very faint. With small, hare brighter core. N7232 is above and near and is this very small, round, very faint, uniformly lit glow.
NGC 7329	4:19 AM	13mm – A very small, thin tilted oval. Very faint. Has hare brighter central area and small, brighter core.
IC 5249 PGC 69707 IC 5250A IC 5250B IC 5246 PGC 69714	4:21 AM	13mm – A very small, thin, 2:1 oval. Vertical in FOV. At top a brighter knot of IC 5250A (P69714) and below on glow is IC 5250B. Nothing in center of a very faint halo glow. IC 5246 is a very small, very faint oval. Uniformly lit glow.
NGC 7400	4:29 AM	13mm – An extremely faint, very small, long, thin, 4:1, uniformly lit glow.
NGC 7637	4:32 AM	13mm – A small fat oval. Extremely faint, uniformly lit glow. Faint field star at 4 o'clock and just outside glow.
NGC 7796	4:34 AM	13mm – A very small, very faint oval. Has larger, hare brighter core. Looking about 20 degrees above horizon for this one.

Saw Gegenschein in east all morning. It was bright and reached up to about 60 degrees. Cool.

IC 5328 PGC 71730	4:37 AM	13mm – A small, dim tilted oval. Has larger, hare brighter core.
NGC 104	4:40 AM	13mm – Back out of tree and rising again. This one is truly awesome.

A truly heavenly night. Finished the LMC and lots of Southern Arps from my lists.

AND I shared the 18" with 2 others. Didn't see the moon yet but eastern sky was brightening.

There was a time about 4 AM when a warmer breeze occurred from no where from the SE and I watched stars in the FOV in Pavo (low in SE) bloat real fat, get more like normal and bloat up again, all in about 10 seconds. Waited a few minute4s and all was back to normal.

Went into Coona yesterday afternoon and I drove Mike to a laundry mat a few blocks while Greg used the library's internet. It was fun driving in Australia again, but I switched on the wipers and not the turn signal, for the levers are switched in Australian cars.

Out writing this summary Wednesday morning about 11 AM. Beautiful day. Nice breeze. Clear as a bell.

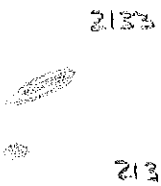
Wednesday April 6, 2016

Decided not to tour the telescopes so I could talk to Barbara on the internet phone and get a nap. Tonight is looking like a good night to observe and I want to stay up to moonrise.

Clear and Calm at sunset.
Seeing and Transparency Very Good.

NGC 643	7:08 PM	13mm – A small, round, very dim glow. Speckling of stars on glow.
NGC 1466	7:10 PM	13mm – A small, round, dim glow. Above a brighter field star. Core brighter and dims slowly to edge. Speckling seen on glow. A very faint field star on right hand side of glow and on glow at 3 o'clock.
DY Crux	7:12 PM	13mm – A beautiful red, dim star. Near Beta Crux which is brilliant, blue white. Nice color contrast.
NGC 1651	7:24 PM	13mm – A small, very dim, round glow. Has hare brighter core that dims slowly. Speckling on glow.
NGC 1644	7:27 PM	13mm – A very small, very dim, round glow with few very faint stars on glow. Brighter in center.
NGC 1751	7:28 PM	13mm – A small, very dim round globular. Hare brighter core dims quickly. Some member stars seen on glow and speckling of rest.
NGC 1754	7:29 PM	13mm – A very small, elongated glow with brighter stars speckled on glow. Uniformly lit.
NGC 1841	7:32 PM	13mm – A medium size, round, very dim glow. See speckling of very faint stars on glow.
NGC 1795	7:34 PM	13mm – A small, round, dim glow. Brighter core. See speckling of very faint stars on glow.
NGC 1672	7:35 PM	13mm – A large, dim tilted oval with large, bright core and tapered ends.
NGC 1851	7:39 PM	13mm – A large, bright globular. Large, bright core that dims slowly to edge. Tons of member stars. Nice.
NGC 1806	7:39 PM	13mm – A small, round glow, uniformly lit. Has 3 brighter field stars on glow.

NGC 1987	7:41 PM	13mm – A very small, very dim, round, uniformly lit glow. See speckling on glow.
NGC 339	7:43 PM	13mm – A small, round, very faint, uniformly lit glow.
NGC 361	7:44 PM	13mm – A small triangle shaped, dim, uniformly lit glow. See very faint member stars.
NGC 362	7:45 PM	13mm – A medium size, round, bright glow. Larger, bright core dims slowly to edge. Tons of member stars seen.
NGC 376	7:46 PM	13mm – A very small, compact, dim triangle shaped. Member stars easily seen.
NGC 411	7:48 PM	13mm – A very small, very faint, uniformly lit glow.
NGC 416	7:49 PM	13mm – A small, round, dim glow. Pretty uniformly lit. See speckling of stars on glow.
NGC 2019 NGC 2005	7:52 PM	13mm – A small, round glow. Dim. Uniformly lit. See tons of member stars. Then below and to right is N2005, a small, round, dim, uniformly lit glow with tons of member stars.
NGC 1846 NGC 1849	7:54 PM	13mm – A small, round, uniformly lit, dim glow. Speckling seen. To left is N1849, a very small, round, uniformly lit glow. Maybe with a hare brighter core. Speckling seen.
NGC 2121	7:56 PM	13mm – A small, very dim, round, uniformly lit glow. Hint of speckling.
NGC 1898	7:57 PM	13mm – A very small, dim, round. Has brighter core. Speckling on glow of member stars.
NGC 2145 NGC 2134 NGC 2133	7:58 PM	13mm – A very small, round, very dim glow. Brighter core that dims quickly. Speckling. To right is N2134, a very small, very faint, round, uniformly lit glow. Hint of speckling. Above is N2133, a long, thin, small OC. 10-15 very faint stars seen on glow.



NGC 1917 NGC 1910	8:01 PM	13mm – A very small, very faint, round glow. Has larger, hare brighter core. Very faint member stars seen with AV. To right is N1910, a very small, round, very faint, uniformly lit glow.
NGC 2161	8:03 PM	13mm – A very small, very faint, round, uniformly lit glow.
NGC 1953 NGC 1962 NGC 1965 NGC 1972	8:05 PM	13mm – A very small, very faint, round, uniformly lit glow. With AV, see very faint member stars. Below is N1962, N1965, N1970, an OC with 15-20 dim stars of 3 magnitudes. Very loose. Has part that streams off to right. Easy to see. Nebula glow along top ½ of OC.
NGC 2173	8:07 PM	13mm – A small, very dim, round, uniformly lit glow. With AV see very faint member stars.
NGC 1978	8:08 PM	13mm – A fat oval. Dim. Uniformly lit glow. Easy to see speckling on glow but can't see individual stars.
NGC 2190	8:10 PM	13mm – A very small, very faint, round glow. See speckling on glow with AV.
NGC 2120	8:11 PM	13mm – A very small, very faint, round, uniformly lit glow. With AV, see brighter member stars and speckling.
NGC 2209	8:13 PM	13mm – A small, roundish, extremely faint, uniformly lit glow.
NGC 2213	8:15 PM	13mm – A very small, very faint, round glow. With AV see hare brighter core area and speckling on glow.
NGC 2298	8:16 PM	13mm – A small, somewhat compact, dim, uniformly lit glow. Tons of member stars easily seen.

Seeing and Transparency Good.

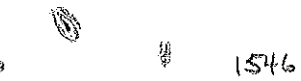
NGC 2442	8:19 PM	13mm – A medium size, very dim halo with larger, brighter core. Bottom of halo glow wraps to left and maybe dust lane above core on glow.
IC 2714	8:21 PM	13mm – A large, very faint oval, uniformly lit under lots of stars in Milky Way.
NGC 1511	8:24 PM	13mm – A small, dim, long, thin oval, 4:1. Has long, hare brighter core with mottling.

NGC 1511B	8:24 PM	13mm – Then below N1511 and to right and a bit away is this tiny, linear, thin, uniformly lit, very faint glow.
NGC 1512 NGC 1510	8:28 PM	13mm – A large, tilted oval. Large, brighter core surrounded by dim halo. To right and on glow is N1510, a very small, round, dim, uniformly lit glow.

NGC 1515	8:30 PM	13mm – A nice small tilted oval. Core larger and linear on center of glow. Then in very center is a stellar, brighter core.
IC 2035 PGC 14558	8:33 PM	13mm – A very small, brighter, round core that dims slowly. Has tiny bit of halo around it.
NGC 1533	8:34 PM	13mm – A small tilted oval. Dim. Has brighter, larger core.

Seeing and Transparency OK in this part of the sky.

NGC 1536	8:37 PM	13mm – A small tilted oval. Dim. Has larger, brighter core in center and stellar core in very center.
NGC 1546	8:39 PM	13mm – A small, long, thin, 4:1, dim glow. Has a long, linear core down center that is mottled.
NGC 1549 NGC 1553 NGC 1546	8:41 PM 1549	13mm – A small, thin oval. Has dim halo and brighter, large oval core that brightens to center. Below and to right is N1553, a medium size tilted oval. Has bright linear core. Nice one. To right is N1546, a very small, very faint, 2:1 oval, uniformly lit glow.



NGC 1559	8:45 PM	13mm – A medium size tilted, long oval. Uniformly lit. Dim. Has very faint field star on lower upper edge of halo (galaxy is vertical in FOV) glow and another field stars just off right hand side edge and close.
NGC 1556	8:48 PM	13mm – A very small, thin, long, 3:1, very dim oval. Has hint of a tiny, hare brighter core.
NGC 2058	8:53 PM	13mm – A nice, small, dim glow.
NGC 1558	8:58 PM	13mm – A very small, thin tilted oval. Very faint. Has small, hare brighter core.

NGC 1574 	9:01 PM	13mm – A small fat oval. Has linear, brighter core inside halo glow. Core mottled and has a separate tiny piece below main core.
NGC 1596	9:03 PM	13mm – A long, thin, small oval. Has larger, brighter core that is offset on left hand side of halo glow. A tiny field star above galaxy and centered and near but not touching halo.
NGC 1527	9:06 PM	13mm – A small tilted oval. Dim. Has larger, brighter core.
NGC 1567	9:07 PM	13mm – A very small, fat oval. Very faint. Has larger, hare brighter core.
IC 2056	9:09 PM	13mm – A very small, very faint, roundish, uniformly lit glow. Glow seems mottled.
NGC 1617	9:10 PM	13mm – A medium size, dim, tilted oval with larger, brighter oval core.
NGC 1703	9:12 PM	13mm – A very small, round, very faint glow with tiny stellar core. Dim field star to 4 o'clock and near galaxy.

Light breeze from SE and can smell forest fire that started today (controlled burns). Breeze warm at times.

NGC 1705	9:16 PM	13mm – A very small, very faint, roundish glow with small, hare brighter core.

Seeing Fair in this part of the sky.

NGC 1792	9:18 PM	13mm – A medium size, dim, long, fat, uniformly lit oval. Has a few extremely faint field stars on glow.
NGC 1824	9:21 PM	13mm – A long, thin, 4:1, very faint, small, uniformly lit glow.
NGC 1808	9:23 PM	13mm – A long, thin tilted oval. Dim. Has brighter, linear core. A bar.
NGC 1853 PGC 16862	9:28 PM 16862	13mm – A very small, very faint, long, thin, 3:1, uniformly lit glow. Above and to right is P16862, a very small edge on. Has brighter, stellar core and tiny, very faint arms off top and bottom.
NGC 1947	9:31 PM	13mm – A very small, very faint, roundish glow. Has larger, brighter core with stellar center in core.

NGC 2104	9:33 PM	13mm – A very small, very faint, 2:1 oval, uniformly lit glow.
IC 2160 PGC 18092	9:36 PM	13mm – A very small, extremely faint, fat oval glow. Uniformly lit. Has a couple of extremely faint field stars on glow.
NGC 2221	9:39 PM	13mm – A very small, very faint, 3:1 oval. Has a couple of hare brighter knots down center of glow where core should be.
NGC 1947	9:41 PM	13mm – A small fat oval, uniformly lit glow.
NGC 2187 NGC 2187A NGC 2187B	9:42 PM	13mm – A small, fat oval with larger, brighter core. N2187A is touching halo glow of N2187 and is a brightening , roundish glow that is the same magnitude as N2187's core. N2187B is to upper left and a bit away and is a tiny, roundish smudge of light.

NGC 2129	9:50 PM	13mm – A small, very faint tilted, thin oval glow. Has bright, large core with even brighter stellar core.
NGC 2305 NGC 2307	9:52 PM	13mm – A very small, very dim, round, uniformly lit glow. Above and to left, in between 2 field stars is N2307, a tiny, round, dim glow with bright stellar core.

NGC 2310	9:56 PM	13mm – A small, thin oval, 3:1, very dim. Has small, brighter core.

Clouds drifting in from West. Partly Cloudy is patchy.

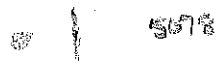
Seeing and Transparency OK.

NGC 2369	10:21 PM	13mm – A small, thin tilted oval. Very faint. Has hint of something at core.
NGC 2369A		A small, very faint fat oval. Uniformly lit. Under 5-8 field stars and a bit away from N2369.
NGC 2369B		A ways above N2369 and is a very small, very faint, roundish smudge of light.

NGC 2397	10:25 PM	13mm – A small, dim tilted oval. Has larger, brighter core and brighter stellar core in center.

Another set of clouds from West passing thru.

NGC 5101 NGC 5078	10:33 PM	13mm – A small, thin edge on. Has a brighter, linear core with lots of mottling in it's brighter part. To right is N5078, a very small, very faint, roundish, uniformly lit glow.



NGC 5011 NGC 5026 NGC 5011C	10:41 PM	13mm – A long, thin, 3:1, small, dim galaxy. With AV, core area mottled and long. To upper left is N5026, a very small, dim, round glow with small, brighter core that is 1 FOV away from N5011. Below and 1 FOV away from N5011 is N5011C, a very small, very faint, round glow.

NGC 5011B	10:45 PM	13mm – A very small oval, dim. Has hare brighter core.
NGC 5011A	10:50 PM	13mm – A very small, dim oval. Has hint of a hare brighter stellar core.
NGC 2381	10:59 PM	13mm – A very small, very faint oval. Has hare brighter, larger core which is mottled.
NGC 5026 PGC 46056	11:07 PM	13mm – A very small, roundish, uniformly lit, very faint glow. Above and to left is P46056, a very small, dim oval with linear, brighter core.
NGC 2502	11:09 PM	13mm – A very small fat oval. Very faint. Has tiny, hare brighter core.
IC 2554A PGC 29512	11:17 PM	13mm – A very small, very faint, 2:1 oval glow. Pretty uniformly lit with hint of a core in center.

Clouds again from W -> E. Working in sucker holes.

NGC 3557 NGC 3568	11:54 PM	13mm – A very small, dim edge on. Has 2-3 brighter knots along center line of core. Dim, tiny arms off each side. Above and to right is N3568, a small tilted oval. Dim. Has brighter core and still brighter linear core (a bar).

NGC 3557B NGC 3557	11:59 PM	13mm – A tiny, thin, brighter oval with most of what is seen is core with details and knots seen. Above and to right is N3557, a small roundish glow. Has larger, brighter core and very faint halo that brightens to much brighter center.

Ton 2	12:10 AM	13mm - A small, roundish glow with 5 very faint, yet easily seen stars on glow.
Ton 1 NGC 6380	12:14 AM	13mm – A tiny knot of a few (5-8) stars and a hint of a glow underneath. To lower left and near a dim field star. Also known as N6380.
NGC 2417	12:23 AM	13mm – A very small, extremely faint, roundish glow with tiny stellar core.

Seeing and Transparency OK. Clouds now drifter to the SE.

NGC 2434	12:25 AM	13mm – A very small, very faint tilted oval. Has larger, hare brighter core and a bit brighter small center.
NGC 2427	12:28 AM	13mm – A medium size, long, fat oval. Uniformly lit. Extremely faint. Has 3-4 field stars on glow.
NGC 2640	12:34 AM	13mm – A small oval, 2:1 with brighter, linear core down center and maybe a stellar core in center. 4 stars in a rhombus at upper end of halo glow.
NGC 2451	12:36 AM	26mm – 10-15 brighter blue white stars of 2 magnitudes in a very loose wedge shaped OC. Fills ¾ of FOV in size.
NGC 2516	12:39 AM	26mm – 50-60 brighter blue white stars of 3 magnitudes in a somewhat compact circular shape. Fills center of FOV nicely.

Seeing and Transparency OK.

NGC 2547	12:42 AM	26mm – 50-60 brighter blue white stars of 4 magnitudes in a somewhat compact, ¾ FOV long and ½ FOV wide in size, wedge shape pointing at 3:30 o'clock.
NGC 2477	12:45 AM	26mm – A tight group of 50+ fainter, blue white stars. Compact. Shape of a 5 point star.
NGC 2822	12:50 AM	13mm – A very small, dim, thin tilted oval. Has tiny, hare brighter core. To lower left and near very bright field star.
NGC 2845	12:52 AM	13mm – A very small, very faint thin oval. Has hare brighter linear core. Dim field star just off lower left of halo glow makes it difficult to see clearly.

NGC 2887 12:54 AM 13mm – A very small, very faint thin edge on. Has brighter, small core.

Seeing and Transparency Good now.

NGC 2997 12:58 AM 13mm – A larger, very dim tilted oval. Has larger, brighter oval core. Extremely faint dust lanes on halo glow reveals 2 CCW spiral arms.

NGC 3059 1:26 AM 13mm – A dim, large, roughly circular glow. Has a hare brighter core and a couple of stars on glow that makes it difficult to nail down core.

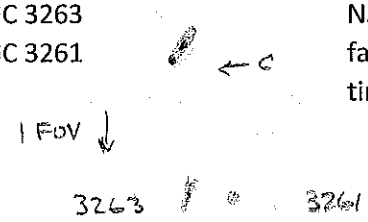
Tried to find Djvorski 1. Didn't find it because no contrast in the sky around the stinger of Scorpio.

NGC 3136 1:33 AM 13mm – A small tilted oval. 3:1. Has larger, brighter core area and brighter yet small central core.

NGC 3136B 1:33 AM 13mm – A very small, very faint round glow with tiny, very faint stellar core.

NGC 3250 1:42 AM
NGC 3244
PGC 30713
13mm – A very small, very dim tilted oval. 2:1. Has larger, brighter core that slowly brightens to center. To left is P30713, a tiny, roundish smudge of light. Below and a bit away (approx. 1 FOV) is N3244, a very small, thin, 2:1 oval. Uniformly lit. Very faint.

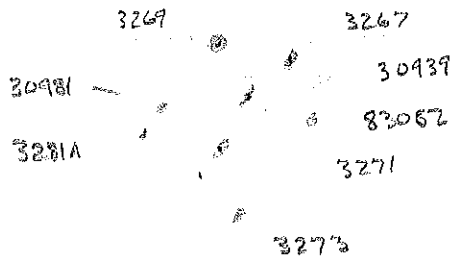
NGC 3256 1:53 AM
NGC 3256C
NGC 3263
NGC 3261
13mm – A small tilted oval. Very faint halo and large, brighter core. Most of core is offset to lower part of halo from center, which maybe is N3256C. Below and to right and 1 FOV away is N3263, a very small, very faint, thin edge on with tiny, brighter core. To right of this is N3261, a tiny, roundish, uniformly lit smudge of light.



bh 176 2:03 AM In 30" with 17mm (224x) eyepiece – A globular in Norma. A very faint glow. Very small. Under a couple of brighter field stars. Very subtle. Circular.

NGC 3258 2:20 AM
NGC ~~3264~~ 3268
NGC 3281A
13mm – A very small, very faint, roundish glow. To left is ~~3264~~ 3268, a very small, roundish smudge of light. Below and to left and to left of a faint field star is a tiny, round smudge of light of N3281A.

NGC 3261	2:23 AM	13mm – A very small, very faint, thin oval, 2:1 oval glow. Has tiny star core. To left of core and on halo glow is a field star a bit brighter than core which gives is a unique look.
NGC 3267	2:25 AM	13mm – A very small, very faint, thin 3:1 oval with small, brighter core.
NGC 3268	2:29 AM	13mm – A very small, very faint oval with small, brighter core.
PGC 30939		A thin sliver of light with bright core.
NGC 3269		A round, very faint glow with small core.
NGC 3267		An oval, very small, very faint glow with small core.
PGC 83083		An extremely faint, roundish, extremely faint smudge of light.
PGC 30939		A very small, thin, very faint glow with tiny brighter core.
NGC 3271		A very small, very dim oval glow with small core.
NGC 3273		A very small, very faint, oval, uniformly lit glow.
NGC 3281A		A very small, very faint, oval, uniformly lit glow.
PGC 30981		A very small, very faint, oval, uniformly lit glow.

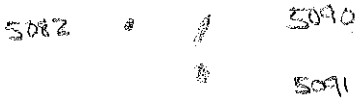


NGC 3275	2:37 AM	13mm – A small, thin, very faint tilted oval with small, brighter core.
NGC 3366	2:45 AM	13mm – A very small, very faint oval, 2:1, uniformly lit glow. Has bright field star very near and to upper left making it hard to see.
NGC 3318	2:48 AM	13mm – A very small, extremely faint oval, uniformly lit glow. Has 3-5 very faint field stars sprinkled on glow but no center (core) glow seen.
NGC 4976	2:52 AM	13mm – A small, thin tilted oval. Has brighter, thin oval core. Has very faint field star to upper left of halo and near.
NGC 4947	2:56 AM	13mm – A very small, fat oval, very faint. Has stellar core seen once in a while.

NGC 5062 2:59 AM 13mm – A very small, round, very faint glow with tiny, stellar core. Has 2
NGC 5063 very faint field stars of same magnitude as core at 2 o'clock and touching halo. Below and to right is N5063, a very thin oval, 2:1 with tiny core. It too has a very faint field star on lower part of halo glow of same magnitude as core.

NGC 5102 3:02 AM 13mm – A small tilted oval. Dim. Halo extends left and right beyond brighter halo. Has small, bright core.

NGC 5090 3:03 AM 13mm – To right of a bright field star is this very small, very faint, thin,
NGC 5091 2:1 oval with brighter, stellar core. Below and near is N5091, a very
NGC 5082 small, very faint, thin edge on with tiny core. To left is N5082, a very small, very faint round glow with tiny, hare brighter core.

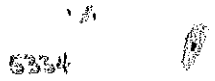


NGC 5121 3:08 AM 13mm – A very small, very faint fat oval. Has brighter, linear, thin core area (bar) and then still brighter small core.

NGC 5156 3:11 AM 13mm – A very small, very faint fat oval, uniformly lit glow. Has a couple of field stars on lower edge and on halo glow.

NGC 5206 3:14 AM 13mm – A very small, extremely faint, round, uniformly lit glow.

NGC 5266 3:17 AM 13mm – A very small, very faint fat oval. Has brighter core and maybe
NGC 5334 stellar center seen once. Above and to left and about 1 FOV away is N5334, an extremely faint, roundish, smudge of light with maybe a very faint stellar core.



Seeing and Transparency Good. Milky Way soft. Shirt sleeve observing.

NGC 5333 3:29 AM 13mm – A very faint, very small, thin oval, 2:1 with brighter, larger core.

NGC 5365 3:31 AM 13mm – An extremely faint, thin, 5:1 edge on. Uniformly lit. Has brighter field star off lower left tip of galaxy and near.

NGC 5408 3:34 AM 13mm – A very small, extremely faint, thin tilted oval. 4:1. With tiny stellar core. Core is most of what you can see. Has very bright field star below it.

NGC 5483	3:37 AM	13mm – A small, very faint, round, uniformly lit glow.
NGC 5530	3:38 AM	13mm – A small, fat, 2:1 oval. Extremely faint. Uniformly lit. Has dim field star to lower left of galaxy and on halo glow. No core seen.
NGC 4402	3:42 AM	13mm – A small, very faint, long, thin, 6:1, uniformly lit glow. Easy to see.
NGC 5643	3:44 AM	13mm – A small, very faint round glow. Has hare brighter small core. Has 3 very faint field stars on glow at 2, 10 and 12 o'clock.
NGC 5670	3:52 AM	13mm – A very small, very faint oval. Has a texture on glow.
IC 4464	3:54 AM	13mm – A very small, very faint oval with brighter stellar core.
NGC 5824	3:57 AM	13mm – Globular. A small, round. Has bright compact core that dims quickly to dim halo. Speckling of member stars seen.
NGC 5986	4:00 AM	13mm – Globular. A medium size, round, uniformly lit. Brighter member stars easily seen. Fainter ones speckled on glow.
NGC 6139	4:02 AM	13mm – Globular. A small, dim, round. Hare brighter core that dims slowly to edge. Speckling of stars on glow.
NGC 6256	4:06 AM	13mm – A small, extremely faint, round glow. 5-10 'brighter' members on glow. No speckling seen.
NGC 6441	4:10 AM	13mm – A small, brighter globular. Small, dense core dims quickly to dim halo. Speckling. It is to left of bright field star.
NGC 6453	4:12 AM	13mm – A small, dim globular. Has hare brighter core. Speckling.
NGC 6752	4:14 AM	13mm - A large, bright, dense core with lines of stars radially from core. Lots of member stars seen.
NGC 5833	4:24 AM	13mm – A very small, very faint fat oval, uniformly lit glow.

Seeing and Transparency Good. Milky Way soft. Bit cooler. Need Jacket. An hour before twilight stars. Stars pinpoints in FOV and background sky dark. Good contrast.

NGC 6156	4:42 AM	13mm – A very small edge on with central bulge. Tiny tapered arms off each side and small, bright core.

NGC 6215 NGC 6221	4:45 AM	13mm – A small, dim tilted oval. Has brighter, small core. Above on halo glow is a brighter, thick arc. Maybe arm. To upper left is N6221, a very small, very faint, round, uniformly lit glow with faint field star at 8 o'clock and near edge of halo.

Gegenschein bright in eastern sky. Up at least 60 degrees.

Looked at N104, per Tony Buckley's suggestion. Didn't see the color contrast he said might be there. Golden in center and white outer. I saw same white color throughout.

NGC 6221	4:52 AM	13mm – A nice small tilted oval. Dim. Has small, bright core. Halo is not uniformly lit, indicating hint of spiral arms with dust lanes.
NGC 6300	4:57 AM	13mm – A small, fat oval, uniformly lit. Has 4 faint field stars on glow. 3 evenly spaced down center of glow and 4th at 8 o'clock.
NGC 6392	5:00 AM	13mm – A very small, very faint, round glow with tiny, stellar core and 2 very faint field stars around it.
NGC 6673	5:08 AM	13mm – A very small, long, thin tilted oval. 4:1. Has brighter bar core.
NGC 6699	5:10 AM	13mm – A very small, very faint fat oval. Has small, brighter core.
NGC 6708	5:12 AM	13mm – A very small, very faint round glow with tiny stellar core.

Morning twilight lighting up eastern sky pretty good. Contrast gone in FOV. Last galaxy was harder to see.

What a great night under the Australian sky.

For the most part, we had the scope all to ourselves all night. Approx. ½ hr. after dark, visitors from the local observatory were getting views thru our scope.

Mike and I found 175 or so objects tonight plus 10 more I didn't write down.

Started with M42, then N104. I like this one.

Thursday April 7, 2016

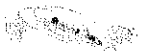
Early in the morning, Tony Buckley said core of N104 was an off yellow color. So about 10 objects before the end of observing, we turned the scope to N104 and it looked consistent blue white.

High thin haze. Warm. Calm.

Jupiter has red spot and moon shadow transit.

N104 nice.

NGC 1313	7:07 PM	13mm – A long, fat, dim oval. Has very large, bright core down center. See mottling/texture on central core glow. Has thick, short, very dim glow above right hand side of oval and similar very dim thick short glow below left hand side. Nice.



Seeing OK, Transparency Good.

NGC 1433	7:10 PM	13mm – A small, long tilted oval. Very dim halo. Large, brighter oval core with even brighter center.
NGC 1493	7:12 PM	13mm – A small, roundish, very faint glow. Has hint of a small, hare brighter core.
IC 2554A PGC 29512 IC 2554B	7:16 PM	13mm – A small, thin, long, 5:1 glow. Has bit brighter, long central core inside very dim halo glow. The core has mottling. To right is IC 2554B, a very small, very faint, round glow with tiny, brighter stellar core.

NGC 2417	7:20 PM	13mm – A small, thin, 3:1 oval with small, hare brighter core area. Has extremely faint field star to right and very near center line of galaxy.
NGC 3283	7:37 PM	13mm – A very small tilted oval. Dim. Has tiny, brighter stellar core in center. Surrounded by bit dimmer small core.
NGC 3347 NGC 3354 NGC 3358 PGC 32184	7:47 PM	13mm – A small, dim, long, thin, 4:1. Has tiny stellar core in center and same magnitude field star on glow above core. To right is N3354, a very small, very faint round glow with stellar core. To right is N3358, a very small, very faint oval with stellar core. Above and to right is P32184, a very small, dim, roundish glow with stellar core.

Seeing and Transparency Good.

NGC 3706	7:57 PM	13mm – A very small oval, 3:1, dim glow. Has large, brighter core that brightens slowly to center.
NGC 3783	8:03 PM	13mm – Under a bright yellow and bit dimmer blue star is this small, round glow, uniformly lit. Yellow star in center and blue star to right on glow.
NGC 3882	8:11 PM	13mm – A small, fat oval, 2:1, very faint. Has tiny, very faint stellar core. In a star rich FOV. There is a mottling on the glow. 3 very faint stars on face and 1 in center for the core.

Seeing and Transparency Very Good.

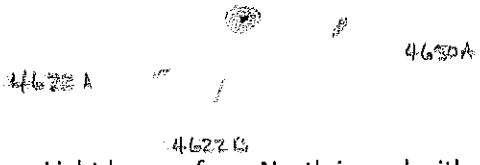
NGC 4112	8:24 PM	13mm – At end of 3 curved star chain is this very small, very faint oval, 2:1. Has brighter, larger mottled core.
NGC 4219	8:28 PM	13mm – A small, dim, thin tilted oval. Has mottled, hare brighter core area with hint of a very faint stellar core.
NGC 4373 NGC 4373B	8:30 PM	13mm – A small, fat oval, 2:1. Has larger, brighter core that brightens to center. Mottled. To left is N4373B, a very small, very faint, round, dim halo glow with small, brighter core.
IC 3370	8:35 PM	13mm – A small, round, dim halo glow. Most of it has larger, brighter core. Has lots of details in core.
NGC 4603	8:40 PM	13mm – A small, dim oval glow with a small, brighter core.
NGC 4602 NGC 4593 NGC 4597	8:44 PM	13mm – A medium size, fat oval. Uniformly lit. Has 4-6 field stars on glow, 4 of them along bottom edge. Below is N4593, a very small, very faint, thin oval with hare brighter stellar core. Below is N4597, a very small, very faint, thin oval with hare brighter stellar core.

4593

4597

NGC 4645	8:48 PM	13mm – A very small, very faint oval with brighter, small core.
NGC 4645A		A very small, very faint, 3:1 oval. As hare brighter, larger core complex.
NGC 4645B		To right of N4645A is a very small, very faint round glow with small, brighter core. A same magnitude field star as core to left at 9 o'clock and very near halo glow gives nice appearance.

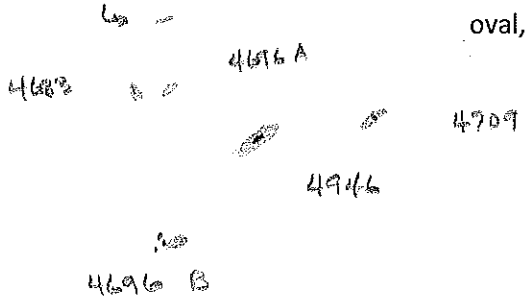
NGC 4650	8:56 PM	13mm – A very small, very faint oval with hare brighter, larger core. To right is N4650A, a tiny, oval, very faint glow with hare brighter stellar corer. To left is N4622B, a tiny, extremely faint, roundish glow with tiny, hare brighter core. Below is N4622B, a very small, very faint linear glow.
NGC 4650A		
NGC 4622A		
NGC 4622B		



Light breeze from North is cool with smoke smell and then wind blows from SE and is warm.

NGC 4622	9:03 PM	13mm – A very small, very faint oval glow with tiny, brighter core. To left is N4616, a very small, extremely faint, roundish, uniformly lit glow. To upper right and a bit away is N4603D, a very small, very faint, round glow with small, hare brighter core.
NGC 4616		
NGC 4603D		

NGC 4696B	9:08 PM	13mm – To right of a triangle of very faint field stars is this tiny oval, very faint glow. With AV, see core is mottled and extremely faint.
NGC 4946		A small, dim oval with larger, hare brighter core.
NGC 4709		A very small, very faint oval with tiny stellar core.
NGC 4696A		A very small, very faint oval uniformly lit glow.
NGC 4683		A very small, very faint oval uniformly lit glow.
NGC 4649A		Is a bit away from N4696 and to upper left. A very small, extremely faint oval, uniformly lit glow.



NGC 4709	9:27 PM	13mm – A very small, very faint round glow with tiny, hare brighter core.

NGC 4751	9:30 PM	13mm – A very small, thin oval, 3:1, with larger, brighter core. Complex mottled and center still brighter.

NGC 4767	9:35 PM	13mm – A very small tilted oval. Very faint. Has larger, brighter mottled central core complex.
IC 3896	9:50 PM	13mm – A very small, extremely faint oval, 2:1, uniformly lit glow.
NGC 4832	9:50 PM	13mm – A very small, very faint round glow with tiny, stellar core in center.

Fire 25 miles to west. Smoke drifting over field high up. Sky soft. Milky Way washed out.

Seeing and Transparency OK.

NGC 4835	10:10 PM	13mm – A small, very faint, 4:1, long, thin, uniformly lit glow.
NGC 4930	10:23 PM	13mm – A very small, very faint oval glow. Has linear, brighter core with speckling to form a complex look to it.
NGC 5266A	10:33 PM	13mm – A small, extremely faint, roundish, uniformly lit glow.
NGC 5266	10:36 PM	13mm – A small, fat oval. Very faint. Has hare brighter, larger core that seems to be speckled/mottled.
IC 4444	10:44 PM	13mm – A small, round, dim glow. Has brighter, small core in center.

Seeing and Transparency Good. Smoke gone overhead and now off to east covering Scorpio.

IC 4451	10:45 PM	13mm – Above at 11 o'clock and near a brighter field star is this very small, very faint, round glow. Has larger, hare brighter core.
NGC 5786	10:52 PM	13mm – A very small, extremely faint, uniformly lit, thin oval glow. Just a smudge. Kappa Cen, a 3rd magnitude star just above it has nebula glow that obscures this galaxy.
NGC 5938	11:04 PM	13mm – A very small, extremely faint, roundish glow. Hint of a tiny stellar core.
IC 4595	11:17 PM	13mm – A tiny, extremely faint, long, thin sliver of uniformly lit, smudge of light.
NGC 6209	11:29 PM	13mm – A small, extremely faint, uniformly lit oval glow.

Sky is too soft to find galaxies in TrA. Tried to find 3 with no success. Calling it a night.

Tonight was predicted to be cloudy and thin clouds at sunset seemed to indicate that was true. But it cleared up nicely and we found galaxies, Mike, Faith and I. Icing on our cake.

Friday April 8, 2016

Was cloudy all day and sprinkled rain about 2 hrs. before sunset. Cleared beautifully from W -> E.

NGC 104	7:13 PM	13mm – Awesome. Alignment good.
NGC 121	7:15 PM	13mm – Nice, Dim. Small globular.
NGC 1365	7:20 PM	13mm – Nice.
NGC 1313 NGC 1313A	7:23 PM	13mm – A long, thin fat oval. Has 2 field stars on each end. Speckling on glow. Thick glow up on right hand side and down on left hand side. Could one of there be N1313A.

Swept thru SMC and LMC, 7:25 – 8:00 PM. Saw lots of knots of nebula, stars and just way cool stuff.

Eta Carina		Nice. Homoculus nice in 13mm.
NGC 362	8:01 PM	13mm – A nice, bright globular. Lots of stars. Smaller.

Thin haze from west overtaking sky now.

NGC 3114	8:03 PM	13mm – A large, loose OC. Lots of stars. Circular. Fills whole FOV.

Seeing and Transparency Poor.

NGC 3496	8:06 PM	13mm – A small, roundish glow. Has 3 brighter stars on glow and dim glow.

Warm breeze from NW. Smell smoke.

Seeing and Transparency OK.

Tr 11	8:42 PM	13mm – A small, long, thin, tight group of 8-10 dim, blue white stars.
NGC 3330	8:46 PM	13mm – Under a bright field star are 5-8 very faint stars ad a boxy glow of maybe rest of stars.
IC 2581	9:52 PM	13mm – 20-30 dim, blue white stars of approx. same magnitude form a long, slender group. Goes 2 – 8 o'clock. Has bright field star on upper left.
Tr 17	9:54 PM	13mm – 11 stars of 3 magnitudes form a small circlet.

Tr 18	9:57 PM	13mm – 9 brighter and 10 dimmer stars form a long, thin rectangle, from 2 – 8 o'clock in FOV.
NGC 3519	10:00 PM	13mm – 10-12 very faint stars of 2 magnitudes form a small, compact teardrop.

Sky hazed over again. Only brightest stars barely shining thru.

Clouds persist and getting thicker. They are packing up the scopes. 10:15 PM. A great way to finish OzSky.

My Thoughts About My Australian Astronomy Adventure

What an incredible adventure. I am on the train now, from Dubbo to Sydney Central Station.

I observed all cloudless, moonless darkness. Both Friday nights and Thursday night were stopped early by clouds. Rest of nights were clear, with occasional clouds that went away. Wednesday night was exceptional and I observed till morning twilight was well started, Thursday morning. Other nights, quit as soon as moon cleared the trees, some 10-15 minutes after predicted moonrise.

Saw lots of incredible objects. M83 with spiral arms, Scorpio directly overhead. All my northern constellations upside down. Comet 252P was a treat I learned of from FRAC emails.

I observed and never felt tired. I got some sleep and took naps. Seemed I couldn't sleep past 10:30 AM, no matter when I went to bed.

Meals were good, but portions were smaller than I would have liked.

Talked to Barbara daily thru the WhatsApp, recommended by Melanie. It worked OK and at the Dubbo public library, it was very clear.

Made a couple of new friends. Steve Gotleib and Faith from the UK. Roger from east Texas. Vance Bagwell from Dallas. Nice to see Gary Kopff from Australia again. After learning of the extensive database the Argo Navis had, I purchased one. This will enhance my viewing enjoyment.

Lachlan was a great friend and made this trip enjoyable. He showed us that if you used a white flashlight, held it on your chin and looked down the beam at the ground, Hunter spider eyes are tiny, green, doubles in the grass at night. Friday when it clouded up, we found several. A moth's eyes lit up red.

The 18" f/4.5 I used performed marvelously. I was generally one of the first on the observing field and one of the last to leave every morning. Tuesday night thru Wednesday morning, I was all alone for the last 30 minutes before moonrise. Something big fell in the bush near me and scared me. Shivers up my spine. Talked to it to keep it away. Maybe a possum or large nocturnal rodent I saw at the zoo. Fresh kangaroo poop was on the field every morning, so it could have been a kangaroo. Someone was observing moonrise from the cabin's veranda and heard the crash and then heard me talking to the varmint to keep away. He thought it was cute.

Mike's 13m Ethos eyepiece performed nicely in the scope. We used it for almost every observation.

Eta Carina, the Homoculus were incredible. You could see both lobes easily and holes thru the closer, larger lobe. Taratula Nebula was awesome as well as the LMC and SMC, 47 Tuc. They had a motorized Bino chair with 25x150 binos. It was neat to slew it around but without a Telrad or other pointing device, I couldn't find M42. Took a quick look thru their 12" bino telescope, but the collimation was off and the

views were not as good as they could have been. Looked at faint objects in the 30", that our roommate, Alan Whitman from Canada, was finding. They had coffee and cookies nightly.

The other volunteers were great. Andrew Murrill sang in the dark Friday night. He had a nice, baritone voice. His video he made of the week is incredible. His talk about observing faint stuff reminded me to use dimmer red light as to not to affect my night vision. James and Alex were good to hang out with. The first Friday night, used James's 14" scope with his ServoCat engaged. The other scopes had ServoCats, but due to their ability to be easily damaged, they were not used (push scope with clutches engaged is not good).

I shared my 18" with Roger, Mike, Faith, people from the observatory. For observations, I convinced Roger and Mike to alternate observations, one of theirs then one of mine. That worked well and I saw more things than were on my lists along.

By Monday night, I had finished my southern sky Astronomical League SST, Caldwell, SPN and SSBino lists. My additional list with the NGC/IC objects, the SA list of NGC/IC objects and the LMC and SMC objects were finished Wednesday night. I decided to just look at the NGC/IC objects for speed for it was easier to dial in a NGC # than enter coordinates (like PGC galaxies) for an object thru the Scratch interface. Thursday, we plowed thru Mike's objects.

The bed was comfortable. I used a bunk and kept my clothes on top bunk like at 3RF in Texas. The ear plugs and eye shade worked great to let me sleep thru 3 guys' snoring and loud talk outside our room starting about 9 AM each morning.

Every night I'd see the LMC, SMC and 47 Tuc and realized how fortunate it is that I was in Australia, seeing these objects myself. They want me to come back in the Fall of 2017. Greg is returning then. I'll see.

Traveling with Greg is nice. His United Premier status that is extended to once guest (me) is awesome. Pre-board plane, United lounge access, extra leg room, free bags is nice. All for free for me. No fighting for overhead space for my carryon bag.

I was so worried about not being able to use a scope all night before we arrived. That never happened. Wednesday night thru Thursday morning sunrise, Mike and I had the 18" uncontested.

The train ride is nice. I was able to identify the objects in my sketches using my SkySafari app during ride back to Sydney. I took 66 pages of notes, recording 44 object 4/1, 74 4/2, 86 4/3, 157 4/4, 170 4/5, 181 4/6, 53 4/7 and 15 4/8 each night for a total of 780 objects observed. Lots of duplicate observations but this was INCREDIBLE!!! What a lot of fun. I observed a total of 53 ¼ hours of total observing. This is the time when I recorded my first observation of the night and the last observation time. It includes the time I waited for clouds to pass or the sky to stabilize. Way cool. Thanks to Roger, Faith and Mike additional lists of objects.

Just saw several wild kangaroos jumping away from the tracks when the train stirred them up. They were neat. One jumped a fence along the tracks and tripped on the top wire. Didn't slow it down much though.

I did take a good look at every object, cupping my hands around my eye to block stray light. I feel I teased every bit of detail out of the object and felt good about every object I saw. Faith showed me what a bar in the core of a galaxy looks like and now I can record these. She appears to be a good observer, often finding the galaxy I could not. Her preparation and typing of notes afterwards is just like what I do, so I am not that weird.

6:05 PM. Looking out the train window to the west, a very thin crescent Moon about 10 degrees above the trees is shining down on the end of my Australian observing adventure.

The first Friday night, it was getting dark. We were finishing dinner. I left the group from under the lighted shelter, grabbed my binoculars and proceeded to sit in a chair and look thru the LMC, SMC and all the knots in the southern Milky Way. My first views of the LMC and SMC with just my eyes were breathtaking. The LMC was bright and the SMC was much dimmer, yet easy to see and obvious.

All week, I think the adrenaline of being there kept me from being tired. Never felt I wanted to pack it in early. Maybe the day time at home and it being 16 hrs. later in Australia and being their night at the same time helped a bit. I slept Denver normal night time on the flight over and tried not to adjust to Sydney days while there for 2 days prior to heading to Coonabarabran. Going west, jet lag didn't bother me. Faith went east thru Singapore from the UK and jet lag affected her a lot.

I put on the long sleeve black shirt, OzSky tee shirt nightly. Often it was too much in the early evening. When it cooled off, I would add my Yellowstone jacket, stocking cap and a couple of nights, my fingerless gloves to keep warm. That was enough. It never got colder than that. The locals were all bundled up in meat worker freezer suits, which is a puffy coverall type of item. The nights at the end of the week were warmer than the nights early on and I needed to take off the tee shirt in the early evening. Early in the morning, only twice did I need the gloves when my hands were cold. Stocking cap was also not needed until well into each evening.

Australians like to drink. Bottles of wine were brought out in the late afternoon. I didn't have any for I felt if I had, it might bring on fatigue. I didn't go to the Australian telescope tour Wednesday afternoon and choose to nap instead. Wednesday night into Thursday morning I was rewarded with an incredible night of seeing so I am glad I didn't do that. Mike Roos was wanting to turn in early, but I convinced him to stay up with me and by the time his head hit his pillow, he fell asleep in just a few seconds (I could tell by his breathing he were asleep).

The volunteers stayed up with us. I know they were hoping for an early to bed time, but Alan Whitman and a couple of others over by the 30" and 25" scopes stayed observing till I decided to quit. Alan napped early evenings and came out about midnight. He liked to talk. He and Mike talked together often. Most of the time you couldn't get a word in edgewise.

Wildlife rescue park tour on Friday was nice. A 70 minute drive 1 way. Petting Koala bears was awesome. Their fur is short and thick.

Made 3 trips into Coona during the week. Sandwiches I had for lunch there had beets on them. I liked that. Bought groceries at a local Woolworth's that gave me fruit, yogurts, lunch meat and cheese for snacks, breakfast and lunch. Got Adkins chocolate protein shakes I had each early morning while observing. This food lasted me all week, for there was a small fridge in the room that we all shared that kept it all cold.

Dinner deserts were good, but full of calories. So by Monday night, I was passing on desserts to help maintain my diet. When I got home, I had lost 5 lbs. on the trip to maintain my diet. I was never hungry.

Mike and Greg brought camera gear and took lots of pictures. I would like one that shows the LMC and SMC. Greg said he has one from a previous trip. Sydney zoo was awesome. Lost Mike for he was taking pictures of every critter. I made it thru all exhibits and when I was on the ferry to head back, Mike showed up just before they closed the gates.

Manly Bay was cloudy the first Wednesday night we were in Australia. It was easy to find the necessary ferry and there is a total of $15 AUD for mass transit fees each day, no matter how much you rode public transportation. It was neat to sit and watch the Pacific Ocean roll in from the east. We had very delicious fish and chips at a local restaurant. On the ferry ride back, the sky was breaking up and I could see Canopus and the Southern Cross for my first time.

Tried to sketch constellations. Did some. But others were in the trees so if I don't return in a fall trip, I won't get this AL certificate. I then decided to concentrate on my telescopic observations.

The first night, with James's 14" scope and then the 18", I completed many objects of my 91 to get AL certificates. I finished these observations Saturday night and checked twice Sunday morning to ensure I have everything observed I needed to complete all the certificates. I completed the Southern Sky Telescopic, Caldwell Gold and Southern Sky Binocular programs/certifications. I observed all Southern Sky Planetary Nebula objects I cannot see from home. Once I complete about 20 more PNs, I will have this certification also.

My gooseneck red light is too bright, so I didn't use it after the first couple of nights. Never used my observing hood. Just cupped my hands around my eye at the eyepiece.

The observing field never got really dark. I could walk around and not trip over chairs and telescopes. But I did need a red light to fill the coffee cup with hot water and mix instant coffee in. It was OK coffee. Had a couple of cookies (they called them biscuits) from the large assortment container on a couple of nights. One reminded me of the windmill shortbread cookies I liked when I was a kid.

Took lots of pictures with my camera, but mostly with my cell phone camera. Can't wait to see how they turned out (which I now know are some incredible shots).

Sunday morning, about 5:30 AM in my hotel room in Sydney. The van is going to pick us up in a bit over an hour from now to take us to the airport. Need to get my VAT tax back on the Argo Navis and turn in my Duty Free paperwork for the opal purchase. Then plan to have breakfast in the United lounge (which was nice) and call Barbara on their WiFi.

She treats me so well and I love her to death. Even though she said go on this trip this year, I feel so fortunate to have the ability to do this trip, a once in a lifetime opportunity. That's why I observed as many objects as I could, for in reality, there are other places to visit and returning to Australia to observe thru a telescope will probably never happen again. I am less stressed now and need to carry this feeling forward in my life. I am a lucky man.

Did a quick calculation and the total trip cost was $3182 USD. Not bad for my OzSky adventure.