



SVAS

OBSERVER

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Sacramento Valley Astronomical Society

Founded in 1945

2013 Star-B-Q



One more great Star-B-Q for the record books. This year it was relatively small, after all it was the 4th of July weekend. I think we all learned not to hold it on this weekend again, for a lot of members were vacationing with their families. Small or large group we always have a great time, and the steaks pictured at left were objects of beauty! Many hands make light work, and the SVAS is a great example of everyone pitching in to help. It felt like a barn raising in the old west, with someone holding every corner of the shade tent for the final assembly. We did our best to stay within the first 12' on the east side of the tarmac by HGO, and used chalk to mark the spacing for parking. Members showed up a bit later than usual, so

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Nightwatch Observatory Purchase Committee Report



by **Walt Heiges**



First of all, I would like to thank the many folks who lent their expertise and knowledge to this investigation. We made several trips up the hill to visit Nightwatch. Bud Bafia, former SVAS member, was very accommodating by providing access to the observatories.

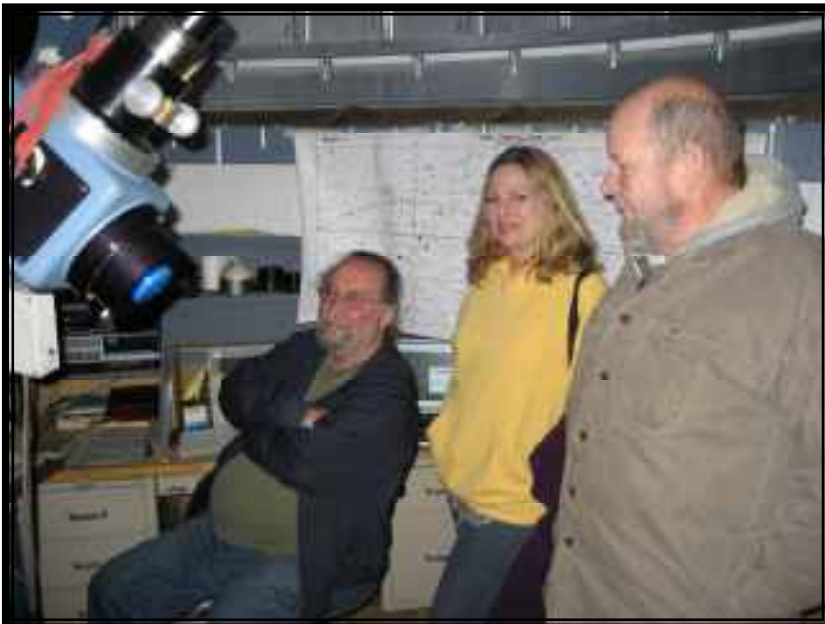
We assessed the condition of all the equipment and buildings that were "For

Sale". The committee analyzed every aspect of the purchase and the maintenance needs of the buildings and telescopes. We considered the purchase and the resulting addition to our SUP with the Forest Service. Adding the Nightwatch SUP to ours not only adds \$\$ to the SVAS annual fees but also adds the responsibility of removal should we lose our SUP in the future. Although there is no threat of this happening, we must be aware that it is a real possibility.

We listened to comments made by informed and concerned members about the purchase. Some were "Pro" and some were "Con" about the idea of the purchase. Many expressed concern about other pending projects. It helped set the priorities we must follow when considering the future of the SVAS. Although I



was initially in favor of the purchase, it became apparent that it was not in the best interest of the SVAS to make the deal. HGO and RJMO have maintenance problems and telescope repairs that need to be addressed. We have too many other worthy projects more beneficial to the SVAS Mission Statement. The SVAS Board of Directors and Officers have met and conferred over the issues and unanimously voted to reject the offer made. There were just too many concerns and not enough support.



Walt Heiges Vice President, SVAS

SVAS Event Calendar



September 5 New Moon



September 6-7 Blue Canyon

Tim Tingey & I will hopefully be working on the Messier Marathon on Saturday the 7th, at BC. Come join us for some star hopping practice. Lonnie



September 20, General Meeting, Friday at 8:00pm

Sacramento City College, Mohr Hall Room 3, 3835 Freeport Boulevard, Sacramento, CA.



Community Outreach

September 22, Sunday Public solar viewing at Rusch Park, 11am—3pm

7801 Auburn Blvd, Citrus Heights. Bring your solar telescope for some fun! Check with Walt for further information, and page 3.



October 5 New Moon



October 4-5 Blue Canyon

See Tim Tingey for more Messier Marathon work on Saturday the 5th.

Star Party Schedule for 2013

September	6-7
October	4-5
November	1-2 & 29-30
December	6-7



Blue Canyon



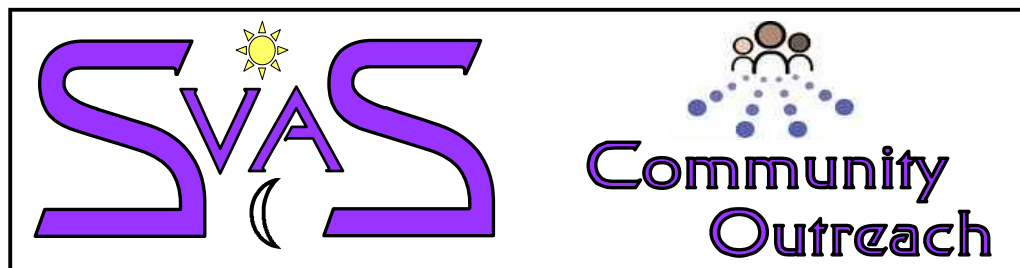
October 18, General Meeting, Friday at 8:00pm

Sacramento City College, Mohr Hall Room 3, 3835 Freeport Boulevard, Sacramento, CA.

Star-B-Q 2014!

We believe in plenty of advance notice, so next years Star-B-Q will be held July 26, 2014. Hopefully missing major holidays and other events, GSSP is scheduled for June 26-29, 2014. We are already working on raffle prizes and plan on assembling the shade canopies and tables earlier to get things going smoothly.





17th Annual
Citrus Heights
Sunday Fun Day
September 22nd
Rusch Park
11:00am - 3:00pm

SVAS Members
Bring your solar scopes
for a
public viewing!

Free Rides & Family Entertainment!

Coordinated by the City of Citrus Heights, Sunrise Recreation & Park District, and the Citrus Heights Chamber of Commerce

**Free Bounce Houses, Pony Rides, Rock Climbing Walls,
Live Entertainment, & Free Giveaways!**

Location: Rusch Park, 7801 Auburn Blvd. Citrus Heights
Call 916-727-5400 for more info or visit www.citrusheights.net

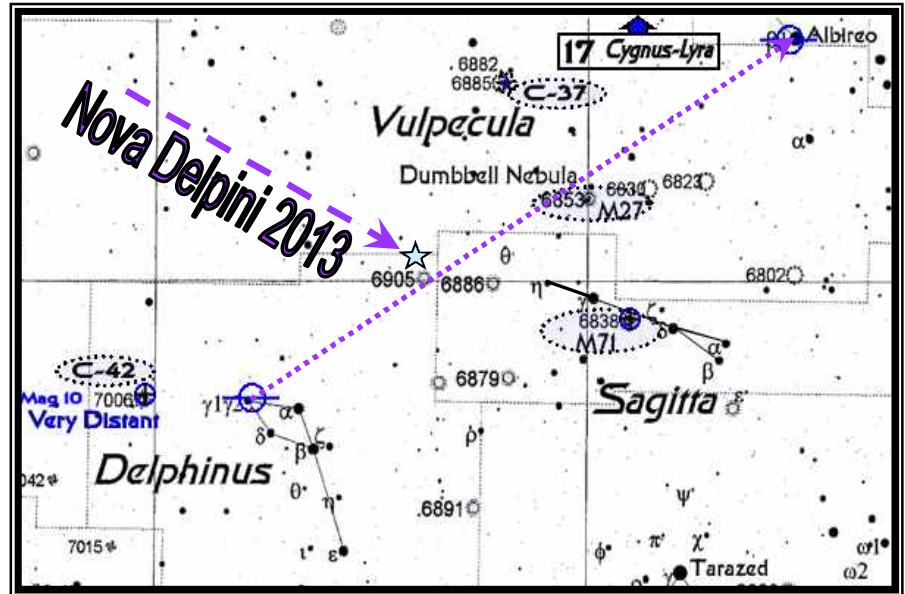
WouP hat's

Brightest Nova
since 2007!

Comet ISON

Bill Goff sent an e-mail informing us this nova is creating quite a stir within his AAVSO (America Association of Variable Star Observers) group. <http://www.aavso.org> It peaked in mid August at magnitude 4.5, which makes it very naked eye visual. Look for it just above the planetary nebula 6905, Sagitta almost points to it. How long will it be a magnitude 4.5 is the question, and it may begin to fade at any time. Bill's AAVSO group will continue to monitor it for many months to come. "**Nova Delphini 2013** is among the 30 brightest novae ever recorded," says S&T editor in chief Robert Naeyes.

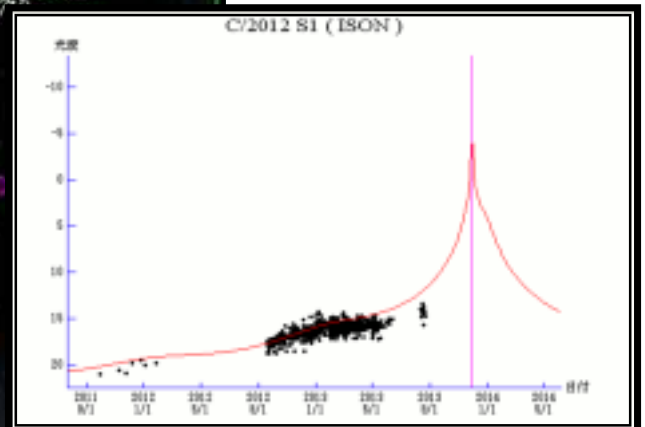
Solar evolution is such an interesting subject. A nova originates from a binary system of two stars orbiting very closely around each other. One is a white dwarf and the companion is another active star smaller than our Sun. A white dwarf is formed from a Sun sized star that has reached the end of it's lifetime, expelling off it's outer shell material forming a planetary nebula and leaving a white dwarf at the center. This Earth sized core is all that remains of the star where nuclear reactions have ceased counteracting and balancing gravity, allowing it to shrink dramatically leaving it extremely hot and dense. It's initial mass was not large enough to create a neutron star and the subsequent complete destruction of a supernova. In the case of the nova, the white dwarf's high gravity pulls hydrogen and helium from it's close companion's upper atmosphere. These surface gases are heated by the intense gravity and core heat, causing a runaway nuclear reaction exploding and displaying a bright nova. This surface explosion leaves the white dwarf intact to continue stealing more gas from it's neighbor, a process that can repeat nova eruptions many times in suspected 100s to 100,000 year cycles!



Unfortunately, after emerging from behind the Sun in August, **Comet ISON** is not as bright as expected. In Sept it will continue to brighten towards its maximum in late November as it travels towards Regulus in Leo, and then near Mars. In November it will travel near Spica and Saturn. Early December will probably be the best month to observe the comet. Keep watching, it could turn out to be a real show!



Comet charts printed with permission from Seiichi Yoshida
<http://www.aerith.net>



SVAS News

Liam McDade agreed to be our new Speaker Seeker!

With his professional college contacts, he should be able to generate an exceptional speaker list. I couldn't find any good pictures of him, it seems he is always helping out in the background avoiding the photo ops. This one from our last Star-B-Q works.

Thank you Liam, your constant support of the SVAS is much appreciated!



Some aircraft tie downs at Blue Canyon are filled in.

We have all been very concerned about the new tie downs, because they are a bit dangerous in the dark! The holes are the depth of the new asphalt. Now Placer County decided to fill in the tie downs closest to the runway, but not along the HGO side! Ross had a conversation with the powers that be, and they indicated most aircraft won't need the tie downs and can still park out towards the runway. However, if an aircraft requests tie downs we will need to relinquish those unfilled tie downs by HGO towards the North. Stay tuned...

HGO will get it's new front door lock any day now!

We are waiting for a part that was left out of the original lock order. We will try to have Stuart Schulz trained to swipe your drivers license into the lock too, since he is there at the observatory often and can help Perry Porter keep all the observatory members current in the system.

Walt Heiges still has a bunch of slightly out of date college textbooks on Astronomy.

Yours for a \$20 donation to the SVAS. These textbooks are a fantastic high level source of Astro information. Even I find things in them I don't know! (I'm kidding)

TelescopeS.NET
by Woodland Hills Camera & Telescopes

Did you receive your discount coupon from Walt for TelescopeS.net ?

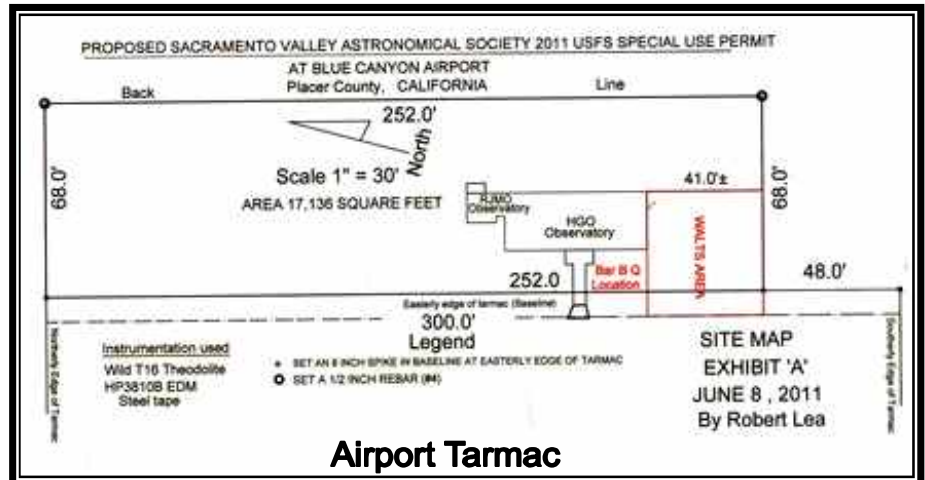
They are the new official SVAS supplier for all our telescope needs. They can get most all parts for Meade, Celestron, and many others. Great folks to work with!

SVAS Board of Directors

Non Member Use of the Airport Tarmac at HGO

I have never been one to shy away from serious issues, and this one is right up at the top of the sensitivity scale! The SVAS Board of Directors had a lengthy discussion on this subject at the August meeting, and I'll try my best to present the basic line of thought about why the tarmac is considered off limits to non SVAS members.

First, let's define where our SUP (Special Use Permit) property borders are. Here is a map of HGO and it's clear SVAS does not own rights to the tarmac. The airport property and tarmac are under a separate Forest Service SUP belonging to Placer County. The good news is Ross has negotiated a written permission letter from Placer County, allowing the SVAS to use the tarmac to set up our astronomy equipment, but not to be used for camping. We must be ready to relinquish the area should aircraft need it for parking, and keep the fire lanes open. The SVAS is the only organization to have this special permission. Our support of the SUP next to the tarmac and our insurance indirectly protecting Placer County's liability exposure, helps make this use agreement possible.



The reality is these nonmember astronomers are our brothers and sisters. We want to welcome them to the SVAS as best we can, treat them as our guests, and hopefully make them feel at home enough they will want to join the SVAS family of observers!

Each and every SVAS members' dues pay for all the costs of maintaining the SUP and HGO. These major costs include the annual Forest Service SUP fees, insurance, porta potties, and all maintenance at HGO. The negotiated provisional tarmac use should be considered a benefit of the SVAS membership. Here's the rub, why are there nonmembers using the tarmac? They justify it many ways, but principally it's felt the tarmac is public property and open to everyone. Perry Porter said it best, "the sign at the gate says Authorized Persons Only, and special permission is required beyond this point". Clearly it irritates SVAS members to pay all the expenses, take the steps required to gain this permission, and then have other clubs advertise to their members unrestricted free use of the Placer County Airport Tarmac!

What should we do? It's important to consider Placer County has placed it's trust in the SVAS to control tarmac use, and non members become our responsibility (liability) when at HGO. Any problems caused by these folks could indeed jeopardize the SVAS SUP. If asked, our response could be; **You need authorization from Placer County or the SVAS to be here. Please be my guest tonight, and consider joining the SVAS?**

With that said, the reality is these nonmember astronomers are our brothers and sisters. It's hard to believe anyone with the intellectual curiosity to appreciate the heavens as we do, would cause any serious problems. We want to welcome them to the SVAS as best we can, treat them as our guests, and hopefully make them feel at home enough they will want to join the SVAS family of observers! Then they will enjoy the satisfaction of helping to support the underlying responsibilities that keep HGO and the tarmac available to us all.

The SVAS Board of Directors

Star-B-Q 2013



From page 1 we put off cooking and the raffle for a bit. Walt had a difficult time this year finding vendors willing to donate the usual great prizes due to a tough economy, but he managed to put together a rather impressive selection. Walt was doing his thing being a natural MC, and Liam manned the raffle ticket scrambler cage. We had a long discussion on the required speed of the ticket cage, because turning too fast will simply force the tickets against the inner walls without mixing them. Go figure, this is a hi-tech operation. Jason Gayman was present buying his usual large number of raffle tickets (thank you Jason!), and Walt reported great ticket sales even though the prizes were modest. Everyone seemed to have a





great time!

The Star-B-Q replaces the SVAS general meeting for that month, so Walt conducted a brief rundown of current events. Ross, who normally takes the podium was on vacation, and so were several Board members. Unexpectedly, Walt ask me to say something about our ATM endeavors. Speaking is definitely not my forte, and I did my best until quickly running



out of something to say. I turned to Walt for help, but he was missing inside HGO. Liam told me to use plan "B", except I had no plan "B"! In retrospect there was a lot to talk about with club issues, and I promise to be better prepared for a surprise presentation next time! I have a new appreciation for Ross and Walt, they make running our meetings seem effortless! As always, we welcome your input on topics to discuss.

This years very deserving Star Awards went to Stuart Schulz and Wayne Lord. Stuart for his huge maintenance efforts at HGO, and Wayne for immense support of the SVAS newsletter and our outreach star parties. **I must also give special thanks to Davin Enigl for his extensive help with the newsletter.**

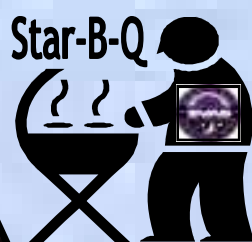


He has written some truly great Darkest Night Observing guides stemming from his extensive astronomy back-

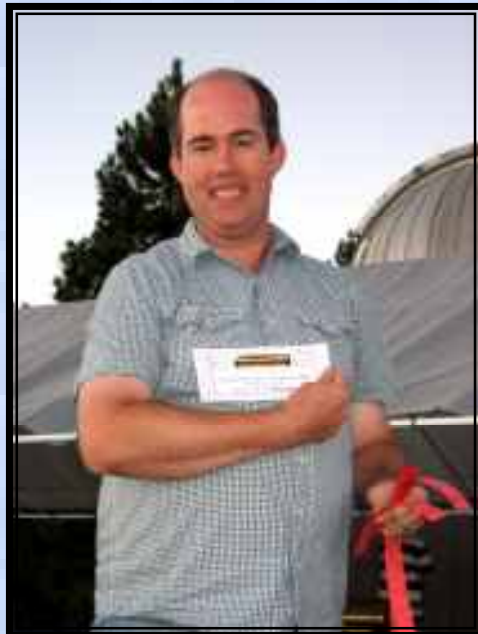


ground. We can always use your help with the newsletter, please send in your thoughts, opinions, for sale items, and or articles. It's your newsletter, lets make it great!

We had a special treat in store just after sunset. Jason Gayman hung a large white cloth sheet over the north



Special thanks to Davin Enigl
for his superb Darkest Night
Observing articles!



Credit for many
photos goes to
Wayne Lord.



side of RJMO, to be used as a projection screen for the photos of his new backyard observatory project. After viewing a few slides, the screen started to wrinkle and fold up. It was Perry running the dome of RJMO, not realizing the sheet was attached to it! Jason did such a great job with all the details of electrical wiring to power everything imaginable including air conditioning and heating. Hearing about his adventures with El Dorado County planning commission brought to mind my own past encounters with Sacramento County. Everything turned out as planned, and it is one great looking observatory!

It was a bit windy during the afternoon, but it died down after sunset presenting some pristine skies for observing. I spent the early evening sharing scopes with everyone, and later on Dave Buchla shared his beautiful new 14" Celestron for some great views! His 6" Fuginon binoculars are truly amazing too. We only viewed the Double Cluster and the Andromeda Galaxy, but I couldn't get enough and hogged the eyepieces! Andromeda has never looked better seeing it with both eyes at a low enough magnification to almost take in the whole galaxy, with the added three dimensional effect. I ended up not using my scope at all, even though it was set up ready to go within arms reach. After all it's more about sharing views with someone else that makes it a star party.

I decided to turn in for some rest about 3:00am, and 7:00am arrived all too soon. Most everyone had already departed leaving the shade tents and grill for a very few of us to put away. I didn't take a morning picture of dismantling the tents, so please pretend it's early Sunday morning in the photo below and ignore the shade lines indicating otherwise. I kept thinking about the Danish rolls Ross shared with us at past cleanups, we did miss him (or was it the Danish, I'm kidding). On the way home I stopped in Colfax for some great tasting sausage and eggs at McDonalds, it really made the trip home seem so much shorter.

Ross and Walt are already planning for next years Star-B-Q which will be held July 26, 2014. We will be planning on high attendance and a great raffle! The 2014 Golden State Star Party will be held June 25-29, hopefully there won't be any other conflictive events for our July date.

Till next year....



HGO's 16" Dobsonian



by Lonnie Robinson

The telescope workshop was on the road in May, and Perry P. Porter and I spent the afternoon working on HGO's 16" f/4.5 Dobsonian. I don't remember when I first noticed this behemoth sitting in the commissary room at HGO, but it's been waiting there unused for many years. It's an old Meade Dobsonian, and I've seen several like it with great optics. When I first removed the tube end cover and looked down at the objective, it was definitely



a contender for the dirtiest mirror I've ever seen! You can see the clean spots where the mirror clips were in the photo below, and the aluminized surface looked like an unfinished piece of ground glass. But first things first, it would take at least two big guys to move the scope out to the tarmac. Wheel barrel handles were in order, so I spent a few prior weeks assembling the parts and fabricating the handles from 2x4s. Perry helped me drill the holes for the threaded inserts in the base, to accept the eyebolts. Many possible locations were considered; should the handles be horizontal or have a slight upward tilt when sitting on the ground. How much clearance do we need for the

wheels, and will they lift the rocker box high enough to clear the door threshold? This was supposed to be easy! After trying several positions, we decided to go with horizontal. I'm glad we did, for the handles are just the right height to easily reach, lift, and walk with ease.

Now that we were able to move the monster, it was time to clean and align the optics. Dirty put it mildly, and as we poured water on the surface the



dirt began to run off in streams. A little soaking time, a second and third rinse to make sure any remaining grit was removed, and then a few drops of dish soap did the trick. Lightly wiping the surface with cotton balls and puffs of Kleenex removed all the crud. A final rinse of distilled water, so it wouldn't spot, finished the job. We positioned the mirror to dry on HGO's front porch, under a complete dark cloud cover. Just before it was dry, sunlight started sneaking in and out of the thinning clouds. It's a good thing we didn't leave it unattended for long, because the sun could have burned a nasty



hole in the front wall of HGO! Sunlight off the 16" could do some serious damage to an ant hill! Perry and I were pleasantly surprised at how well it cleaned up. There are a couple bad spots in the coating, but overall it should perform well for a few more years.

I'm always interested in how

mirror cells are designed, and this one is bit different. It's very functional incorporating a standard nine point wiffle tree flotation sitting on crown nuts, but notice how the mirror edge is supported and secured. There are four clips with

nylon set screws to center and support the edge. Then a mirror hold down clip, with a cork pad, is bolted to each of the four edge supports. When it's installed in the tube, the mirror is positioned so that two of the nylon screws support the bottom edge at a 90 degree separation. It's called a 45 degree edge support because its measured left and right from the vertical centerline. This 45 degree support located on the edge's center of mass is very acceptable, and helps prevent the mirror from "potato chipping" or flexing from it's own weight. We cleaned the huge 4" secondary, and found it was center marked for the proper full offset making laser alignment a breeze.

Perry easily rolled it down the ramp onto





the tarmac for a test run. Everything went perfect, the scope cleared the bumps just right and easily cleared under the observatory's front door. Leaving the handles on while observing is a real possibility, since they turn with the base and mostly stay under the tube? It was still several hours before dark, so we aimed the scope at one of the red lights located at the top of the runway tower. It was very cool to see great detail in the electrical box the

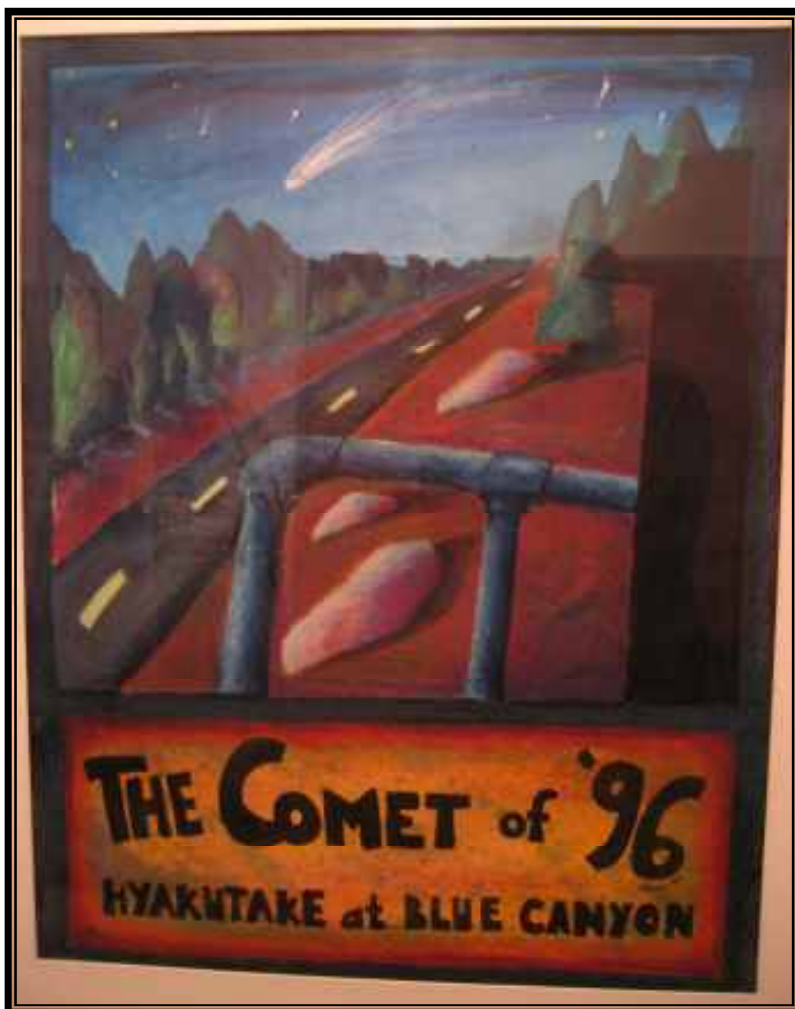
lights were mounted on, we could even see the mounting screws and positively identify them as Phillips! The optics were performing really well.

The one last improvement I want to make, is to replace the azimuth bearing material with some FRP (fiberglass reinforced panel) and add new Teflon bearings. That should make the movement feel buttery smooth.

This is your scope, and nothing would give Perry and me more pleasure than to see it being used by the SVAS membership! We will be collecting a 1.25" eyepiece set for it, so please donate one or two old and unused ones if you can. I have an eyepiece rack that could be mounted on the side to hold them.

We had a very productive day, and when closing down the observatory I noticed a new picture hanging on the dome control room wall. It looks like the same artist who painted another great view of RJMO being

assembled, the painting featured in an earlier newsletter this year. What's his name?? I'm kidding, it's Stuart Schulz.





Observing Guide

for
September
&
October
2013

by Davin Enigl



M31 right, the star "Mirach"(Beta And)Middle and M33 left.
See them naked-eye before using a telescope.

The darkest nights for the next two months are September 4-6th and October 4-6th. The best time to observe is from Midnight to 3:30 a.m. On the following list, we will explore a somewhat comprehensive survey from the rising eastern objects to the southern meridian. The passage of objects will be from Pegasus at 23 hours RA left (objects rising in the East and moving South) to Orion at 6 hours RA.

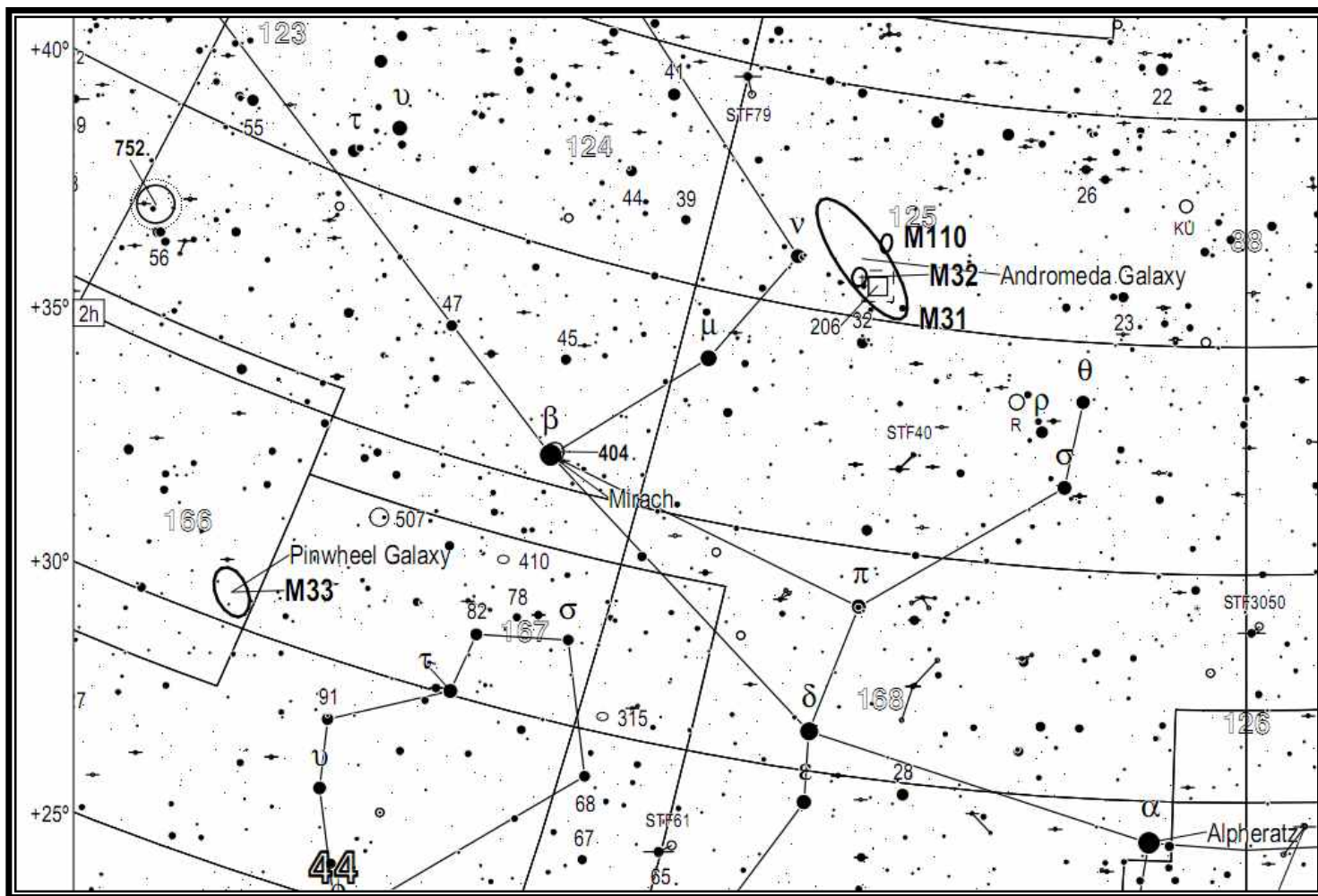
The list is organized by constellation and is based on: "Lonnie's Scribble Chart" available in PDF format for free, and as described in the Kepple and Sanner's (1998) Volume 1 of *The Night Sky Observer's Guide* (NSOG). Then, you should get more detailed location information using a go-to telescope or the "Millennium" sky atlas (three volumes) or the *Uranometria* charts (available for use by SVAS members inside the Henry Grieb Observatory at Blue Canyon).

Tip: I recommend the Kepple and Sanner's (1998) NSOG for any serious deep sky observer with telescopes from binocular to 18-inch+. For example a Celestron C14 will see almost all objects in the NSOG with commentary reminiscent of the *Burnham's Celestial Handbook: An Observer's Guide to the Universe Beyond the Solar System* (1978)

volumes, but NSOG is updated to 1998.

Tip: If you are even more serious than that, then . . . try the free "Triatlas" by J.R. Torres at <http://www.uv.es/jrtorres/index.html> and more details (and the downloads) at <http://www.uv.es/jrtorres/triatlas.html>. This sky chart was recommended to me by Matthew (Matt) Jennings who is formally from the Lumicon astronomical company and who is a current SVAS member. He uses a 23-inch Dobsonian reflector with tracking. The Triatlas is perfect for his very deep sky system.

The Triatlas is the probably most sophisticated (yet easy to use) chart I have ever seen. Normally I would also recommend Cartes du Ciel too, <http://www.ap-i.net/skychart/start> but I think the Triatlas may have outdone that chart. The only reason I still use Cartes du Ciel is because it can overlay multiple galaxy charts very quickly. The reason I like the Triatlas is because the PDF format has better printing capabilities and it works "cross-platform" on Linux, Windows and Apple computers for printing. I like printed charts because dimmer light can be used than most computer screens (even with ruby-lith or red Plexiglas). Therefore dark adaption of the eyes is more reliable with printed charts. I never liked "The Sky" computer sky chart -- too bright, too expensive and too difficult to use. The Triatlas and Cart du Ciel charts are free. Of course it's hard to beat the expensive *Millennium* and *Uranometria* -- espe-



cially the better re-formatted second edition.

Triatlas M31 and M33 area.

Suggested Observing List

Legend:

Messier (M) or NGC (N) or Index catalog (IC) number and name (if known)

Type of object, pn = planetary nebula, gx = galaxy, gc = globular cluster, oc = open cluster.

Location: Right Ascension 00:00 - 23:59 hours & declination in degrees elevation

NSOG chapter (Ch) number is also shown for constellations.

Tip: It's best to wait until about Midnight to see most of the following listed objects. Take a look at the sky with your

eyes first and find a few Messier objects (M31, M33) so you can tell if the sky is good enough to see dimmer NGC objects.

Pegasus Ch22. Look for the "big square" of Pegasus with your eyes, before using a chart or telescope.

M15 N7078 gc 21:30 +12

N7331 deer lick group of galaxies (gx), see the smaller satellite gx (N7335). 22:37 +34

N7332 pair N7339 edge-on gx 22:37 +23

N7094 pn 21:37 +12

N7320 Stephan's Quintet group of five gx. Usually we can see the three brightest gx. 22:36 +33

Caldwell 44 (C44) N7470 face-on barred spiral gx. 23:04 +12

N 7619, 7626, 6731 Pegasus I Galaxy Cluster 23:20 +8

N7814 gx 00:03 +16

Pisces Ch 24

N7537 pair N7541 gx. 23:14 +4

N7619 pair N7626 and N7617 gx. 23:20 +8

N7750 gx. 23:46 +3

N7782 gx group of 5 gx. 23:54 +8

N194 pair N200 and N198 pair N199, gx. 00:39 +3

N507 gx group of 13 gx. 1:23 +33

N383 gx group of 17 gx. 1:07 +32

N520 gx. 1:24 +3

N524 pair N532 and N518 gx 1:24 +9

N741 pair N742 gx. 1:56 +5

M74 N628 large bright core, faint arms face-on gx. 1:36 +16

Andromeda Ch2. Look for The Andromeda Galaxy naked-eye before looking through your telescope.

M31, M32, M110 Andromeda galaxy group. 00:40 +41

N708 gx group. 1:52 +36

N891 gx The Outer Limits Galaxy. Similar to M105, dark center band, one of the most spectacular galaxies in the sky behind M31, M105 and N253.

N910 gx group. 2:25 +42

N7640 gx 23:22 +41

N7662 pn blue planetary, 23:26 +42

Triangulum Ch30. Dropping just below (South) the Andromeda galaxy, look for M33 naked-eye before going to your telescope.

M33 N598 face-on gx. The Triangulum Galaxy, aka The Pinwheel Galaxy. 1:33 +30

N579 pair N582 gx. 1:32 +33

N669 gx. 1:47 +35

N672 pair IC1727 gx. 1:48 +27

N750-1 pair gx looks like a small whirlpool (like M51) of two galaxies. 1:57 +33

N761 gx 1:58 +33

N925 gx 2:27 +33

Perseus Ch23.

M76 N650-1 Little Dumbbell pn. 1:42 +51

N869 pair N884 The Double Cluster, one of the most visible naked-eye objects, oc 2:19 +57

N1023 gx, 2:40 +39

N1250 Perseus I Galaxy Cluster of 38 gx (Abell 426), 3:15 +41

N1245 oc, 3:14 +47

N1333 nebulosity around 11th magnitude star. 3:39 +31

IC348 reflection nebula around oc of 20 stars. 3:44 +32

N1499 Nebula, The California Nebula. Very large, use your lowest magnification of you will only see from "L.A. to Fresno" as Steve (one of our SVAS members has said to me). I recommend using a 55 - 32 mm eye piece and an Orion UltraBlock nebula filter. Also, experiment with hydrogen beta and Oxygen III and Lumicon nebular filters or equivalent, if possible. 4:00 +36

Cetus Ch12. This is the first low (southern hemisphere) constellation visible at this time of year that has quite a few interesting objects -- as Fall approaches.

M77 N1068 gx (near N1055 gx) The prototype for "Seyfert active galactic core" gx. 2:42 -00.01
N157 gx. 00:35 -8
N210 gx. 00:40 -14
N246 pn. 00:47 -11
N247 gx haloed and mottled. 00:47 -21
N578 gx. 1:30 -23
N1052 gx group. 2:41 -8
N1087 triangle N1090 and N1064 gx. 2:47 +00.17

Fornax Ch15. This is the second and lowest constellation that is interesting in Fall.

N1097 gx 2:46 -30
N1316 gx. 3:22 -37
N1360 pn. 3:33 -26
N1365 barred spiral gx. 3:33 -36
N1380 gx. 3:36 -35
N1406 gx. 3:39 -31
N1399 group of 17 gx. 3:38 -35

Eridanus Ch14. This is the third also very low constellation -- note all the minus signs for the declinations below.

N1300 barred gx face-on is often listed as the most spectacular barred galaxy that can be seen from Earth, however it is very dim and often disappointing unless you use at least an 18-21-inch telescope. Even in the SVAS Henry Grieb Observatory RC-16-inch telescope, N1300 's bar is barely visible and its spiral arms are very weak. A 10-inch telescope can only see the brighter central core. 3:19 -19
N1232 gx face-on. 3:09 -20
N1332 gx face-on. 3:26 -21
N1421 gx edge-on. 3:42 -13
N1532 pair N1531 gx. 4:12 -33
N1535 pn. 4:14 -13

Taurus Ch29. This is one of the first indications that Winter constellations are becoming visible.

Mel 25 Closest (150 ly) oc to our solar system. The Hyades. 4:27 +16
M1 N1952 pn. The Crab Nebula. 5:34 +22
M45 Mel22 pn. The Pleiades. 3:47 +24
N1514 pn. 4:09 +31

Auriga Ch5.

M36 N1960 oc. 5:36 +34
M37 N2099 oc. 5:52 +32
M38 N1912 oc. 5:29 +36

Orion Ch21. -- An ominous sign that Winter will be returning soon.

M42 N1976 emission and reflection nebula. 5:35.4 -5.27
M43 N1982 emission and reflection nebula. 5:35.6 -5.16
M78 N2068 emission and reflection nebula. 5:47 +00.03
N1980 emission nebula. 5:35 -6



Gibson Ranch June 7, 2013

by Wayne Lord



Lots of folks showed up despite the heat, which moderated some once the sun set. We spotted Venus first (we thought Jupiter had already set or was behind some clouds to the west) and then Mercury later. They were all nicely in a line last night so it would have been fun to see all three. I spotted Saturn first and went over to it. Once I got it centered, I put in a 9mm eyepiece, which gave a great view of the rings although I had to keep adjusting the Dob to track it. Lots of oohs and aahs from both kids and adults. Even had one senior citizen in a wheelchair get up and hold onto my step stool to look through the scope. Both she and her daughter(?) thanked me profusely since mine was the only scope with an eyepiece height she could reach. When the line died down and others were focusing on Saturn, I tried moving the scope elsewhere. Even though I practiced finding M13 on Thursday night, I just couldn't find it. It wasn't dark enough to see the stars in Hercules, which would have helped a lot. I spent a little time on the Double Double near Vega, but couldn't resolve the closer doubles making it less than spectacular. Visitors died down around 10 PM, so we packed up and headed for home.

Until next time...



Astro AP Photography

M92



by Wayne Lord

Wayne: Lonnie Robinson came over for a visit last night since he is interested in the AP capture and processing that



I do. It was not an ideal night since we apparently had a lot of smoke in the atmosphere from some fires down south, so I tried to pick targets that would be fairly bright and not close to the horizon where there would be less atmosphere to punch through. I had saved and reloaded the Summer Triangle stars from the previous session and it seemed to work great, putting the first star almost dead center upon initial slewing. I made some small corrections, but pretty much let things be. Unfortunately, I also neglected to check focus which turned out to be off a small amount. Lesson to self -- Always check focus! However, happily, the slew to M92 put it in view in the 50mm guider, and some corrections put it nicely in the main display. Since it was a fairly bright object and in the interest of getting some results to show Lonnie, I went for 12 2-minute exposures. Guiding seemed to be working fine and although M92 was fairly close to the meridian, it got through all 12 exposures without problems. I was using my older, old

faithful, laptop and upon checking I had extended the limits which allowed it to go beyond horizontal. Going to have to remember to do something similar for the newer laptop. We got a preliminary look last night with only a couple subs, but here is what I came up with after combining the lights and darks and running the full processing on them. As I said, could probably do better with some longer subs (3 to 5 minutes?) and a little better focus.

Lonnie: There is hope even this old guy can learn new tricks. Even though Wayne did all the work and applied his expertise, it felt very much like my own first digital image! Back in the day, I tried film imaging associated with long exposures and precise tracking alignment. I gave up after developing many rolls of film, days after taking the images, with very poor results and often just blank shots. The digital age is so amazing offering up instant gratification, especially impressive and appreciated after years of using film! I've been saving my old 8" Meade LX3 for possible astrophotography use; it has great optics but it will need a new modern go to equatorial mount to facilitate auto guiding.

Wayne and I were discussing which object to image, and I suggested one of my favorite globs the overlooked M92. A quote from Burnham's Celestial Handbook; "a beautiful rich globular cluster which in almost any other constellation would be considered a major show object; in Hercules it has been somewhat overshadowed by the splendor of the fabulous M13." It gets ignored a lot, so we decided to give it a try. It is a very bright class IV globular, naked eye visual at dark sites, and has a dense core. "Only" 25K light years away and about 330K stars packed in a 109ly space! My favorite globulars are M13, 92, 22, 15, 3, and 5.

I tried very hard to follow the photo enhancing as Wayne proficiently moved from one program to another, processing specific characteristics and stacking the images. After taking notes, I'm going to check out his recom-

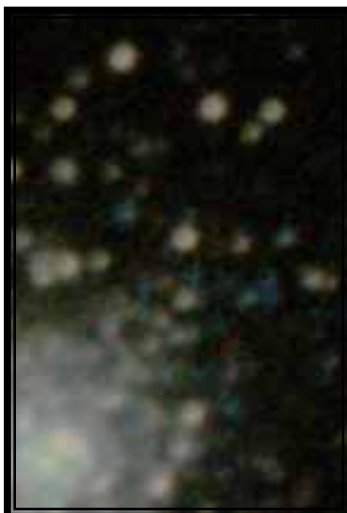
recommendations for imaging software. Until I can afford my own equipment, I think I'll use HGO's 12" Meade LX200 to get started, and perhaps a used digital SLR camera.

Thank you Wayne for my first experience with digital astrophotography! I can certainly see why so many are interested in this fascinating aspect of our great hobby. It's amazing you can achieve great photos from a backyard, close to sea level, and with big city lights!

Wayne: The skies have cleared up fairly well from what they were Monday night, so I got out last night for another imaging session. I had hopes of trying for M16 or M17, but they were both behind the Juniper trees to the southeast, so I went back to get some better images of M92 (longer images and better focus). When I finished with those, I decided to try for M27 again, and took four 10-minute exposures this time.

Lonnie: This shot of M27 is very impressive! I can only see it this good visually by using my imaginary vision. The last two shots of M92 are for comparison. The first is the one we took Monday evening, and the second is Wayne's photo taken the next day. The focus improvement is obvious, and the stars seem to be resolved deeper into the core. This is great fun to see the improvements and expand the images. Personally, I like both of them. The first photo of M92 is a bit more like piece. The slight out of focus of depth, emphasizing the non-more natural color. Does this different depth of field background and emphasize

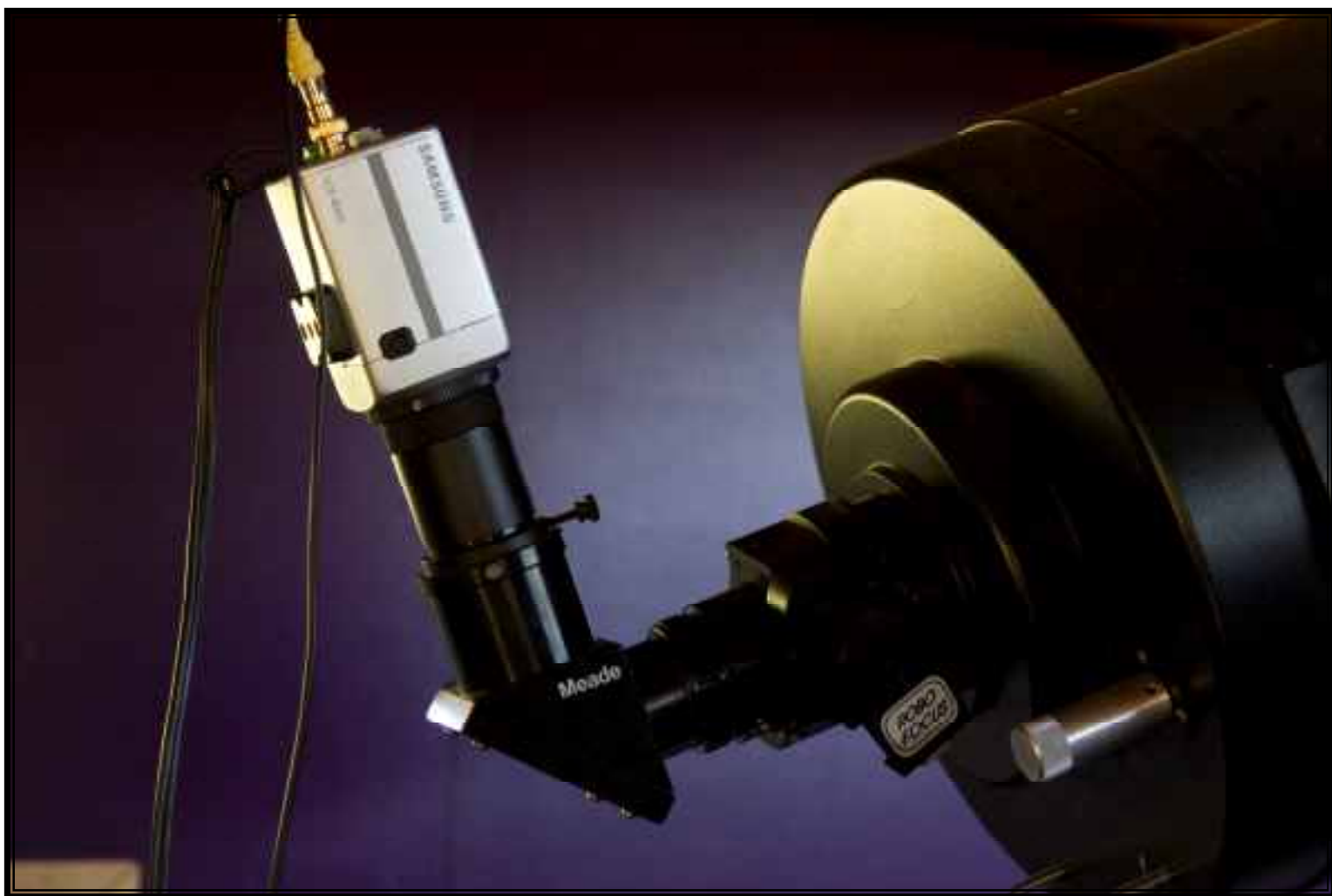
the image I see at the eye-seems to enhance the feeling mally blurry core, and it has a compare to taking photos of (different f/ stops) to blur the the subject? Perhaps.



I mentioned earlier that I would like to use HGO's 12" Meade LX200 until I can afford a new mount. Below is a really great photo I want to share with you, of said scope, that Wayne took a few weeks back while we were working on imaging with his new Samsung video camera. Sometimes the lighting and shadows just happen to be perfect, and I think this one qualifies. The observatory roof was only open a couple feet, but the secondary lighting came from a small window on the east wall with the sun ready to set in the west. I'm really glad we are all astronomers, or you may think I'm weird talking about telescope photos this way! Great photo Wayne!

We are considering the use of a video camera to display images on a monitor located either in the warm up room or the observation deck. What do you think? The monitor may be too bright for the observation deck, destroying night vision? It would be very cool to control the LX200 from a laptop in the warm up room, and view the images as a group on a large monitor.

Stay tuned for more astrophotography adventures.





Graeagle

by Lonnie Robinson



Nevada County Astronomers (NcA) did it again, the Graeagle Star Party was a huge success! A pristine dark site located at the parking lot of the Plumas-Eureka Ski Bowl, about 6500' altitude just above the old mining town of Johnsville, offered up some great views rivaling Glacier Point at Yosemite. We signed in at the old miners bunk house which is now a great museum. The Iron Door restaurant (steaks & seafood) and the old firehouse are pictured at right. The Plumas-Eureka State Parks Campsite offered a bargain deal for campsites in return for their guests sharing views from our telescopes. They really got behind us this year, with posters and ads in the local newspaper announcing the event. It worked with an almost overwhelming family



oriented crowd of 80 plus including locals and campers from all around the area! Great fun to share our views, but it left very little personal time for us to enjoy the great sky. Next year I plan on being there both Friday and Saturday for some more quality time at the eyepiece.

Paul Redmon joined me this year, and we packed a small tent and air mattress for him. The drive up 89 from Truckee was no less spectacular for my second visit. We were determined to arrive with enough time to join the group for dinner, which I hungrily missed last year. We met up at



the ski area parking lot, and enjoyed some great conversation with Bill & Fran Thomas, Dave & Lorraine Buchla, and Bruce & Jean Sayer. I set up my scope early since Bruce would be staying there during dinner, to watch over things.

There are many great restaurants located within a few miles of the site, which are supported by the great destination golf and vacation resorts of Graeagle. The whole area has the feeling of a lakeside resort town. It was quite a fast descent from the viewing area to the restaurant in



Johnsville, requiring a lower gear to stay off the brakes for the very short trip. Walking into Cuccia's Italian restaurant was a treat for me (being in the restaurant business), observing how clean, uncluttered, and organized it was offering up the beginnings of a great dining experience. Rod & Susan Fivelstad were there waiting for us, and it was decided to eat on the covered patio overlooking the Ponderosa covered valley.



The patio was well covered with insect netting, so the experience was truly one of enjoying the high mountain outdoors. The food was terrific, suggesting a trained chef was working in the kitchen. Each sauce was unique, and bursting with flavor. Highly recommended!

Returning to the observing area, we didn't have any idea how many guests were on their way. Rod still needed to assemble his brand new 12" Mead LX200, and he had it

working superbly by dark. The guests arrived two or three at a time, and before we knew it the lines were 10-15 deep at every scope. Lots of kids, and it seems the first thing they do is grab the eyepiece trying to pull it to them. Needless to say, I did a lot of relocating objects for everyone. I easily found Saturn, M81, M82, M51, M63, M22, M15, M31 Andromeda Galaxy, plus a few favorite double stars (Alberio, Gamma Andromeda, and Car



Caroli) for our guests. The lines were so long that we lingered on the same objects allowing everyone to have a leisurely look. The evening air cooled off quickly and the crowd finally thinned out around 11pm.

Now that we

had some time for ourselves, we checked out ngc7331 and my favorite pair of edge on galaxies ngc7332 & ngc7339 in Pegasus. Dave's giant 6" binoculars were a hit with our guests, viewing Andromeda Galaxy and then



M51 among others. Wow, M51 was impressive with the spiral arms well defined! I was surprised it looked so good in the relatively low power binoculars. I have always had a tough time locating the Dumbbell without a computer. Dave showed me the star asterism which located it easily, and also pointed out the pattern locating the Veil Neb. I said don't stop with the hints now, but he joked only two locating asterisms per night saving more for next time. We should begin a series of Dave's monthly hints for finding Messier objects, but only two per month would take awhile! (kidding!)



We were all soon tired, Paul and me from the days travel and the rest of the group enjoying camping for the second of two nights. We turned in around 1am for a good nights rest. Dave (and Rod) was staying in a local motel, and before he left for the night declared he had a warm bead waiting. That comment stayed in my thoughts all night as I tossed and turned sleeping in my SUV. In the morning, I was pleasantly surprised my pumper thermos had kept the coffee warm from the previous morning. Paul's Danish rolls, and a super breakfast presentation of milk and cereal by Fran Thomas completed the morning for the long trip home. Please don't tell Fran, but we couldn't resist stopping for a hot late breakfast of sausage and eggs at the Graeagle Restaurant. Highly recommended mom and pop breakfast and lunch operation next door to the local gas station.



I believe NcA at Graeagle will soon become a legendary star party, one which will call us all back year after year! NcA is planning to invite eight members from the SVAS and eight from NcA next year, scheduling it for August 1st & 2nd, 2014. Rather like Yosemite which has a member participation limit too. Plan on joining us for a great weekend at a mountain resort community under pristine viewing conditions, and share the sky with some wonderful folks.



Star Party Report

by Ralph Merletti



I attended the annual summer Star-B-Q at the Blue Canyon airport for the first time in three years on Saturday, July 6th. I arrived late, but fortunately the charcoal was still hot, and I enjoyed the meat items that I brought to the grill. I submitted \$10 for the raffle--lots of interesting astronomy books, posters, and other items--and I was disappointed that I didn't win anything, despite the many winning ticket numbers called. Fortunately, this would be the only gamble that didn't pay off, considering my plans to be in Nevada for much of the following two days was a non-gambling scientific pursuit. After the raffle, it was almost dark, and I enjoyed my first definitive view of the Milky Way in three years. A definite case of photon starvation. Venus was low and setting, but Saturn was still high enough for a good view with my 3" refractor at 111x. I looked through the scopes of other club members, aimed mostly at deep

I enjoyed my first definitive view of the Milky Way in three Years! A definite case of photon starvation.

space objects. I used my 10x50 binoculars to take in the majesty of the stars and nebulae within the constellations of Scorpius and Sagittarius. I retired to my car in the early morning hours for an attempt at some rest. After 4am or later, I began watching for the start

of dawn. I was curious as to how long the Andromeda Galaxy would remain visible in the growing twilight. After that awake period, I slept until sometime after 7am. Approx. 8:20am I said goodbye and headed out eastward on I-80 over Donner Pass toward Reno on this Sunday morning, July 7th.

After attending Mass at the New Assumption Catholic Church just outside of Truckee, I continued on to Reno with plans to visit the Earth Science complex of buildings north of the city. After spending an intensive two days in pursuit of Earth Science information and brochures etc, I decided to make the 5pm show at the Fleischmann Planetarium located on the University of Nevada campus. I was able to get inside just after the narration began in the darkened facility. The main show was titled: "Two Small Pieces of Glass" --an easy to understand family-style discussion and history of telescope development through the ages; a shorter companion feature--"Universe"--incorporated ancient observation sites. The 6pm show was called "Extreme Planets" and featured an amusing Sun-like star that audibly hissed and bubbled in the sky beyond some interesting exoplanets. Afterward, I purchased a few planetarium postcards and a Nevada-shaped refrigerator magnet at the gift shop before they closed.

My visit to the Fleischmann Planetarium was the perfect ending to a great astronomy and Earth science weekend, and I hope to share more details of that experience at a later date. It was great to spend some time under the stars again!

Breaking News!

The SVAS Board of Directors has unanimously voted for July 1st to be the new annual membership renewal due date. It will be the same date for all members. We have been discussing this for several months, listening to the members suggestions, and decided it would be easier for all concerned to have one date. Here are the discussion points:



- *Easier for members to remember when their annual membership is due.**
- *We can remind everyone a few months ahead of time.**
- *Dues may be paid at Star-B-Q.**
- *Membership cards will be mailed to you.**
- *Dues will already be paid prior to SVAS elections.**
- *Easier for our treasurer to plan our yearly budget expenditures.**

In order to make it easier to prorate existing and new memberships to the new date, we changed the amount slightly so it would be evenly divisible by 12 months.

Here are the new rates:

Student;	Was \$20,	now \$24	or \$2 per month.
Family or Individual;	Was \$35,	now \$36	or \$3 per month.
Observatory;	Was \$40,	now \$48	or \$4 per month.

Please make an additional one time adjustment payment from your current expiration date to the new July 1st due date. Then everyone's membership will come due each July.

The SVAS Officers and Board of Directors, hope this will be a smooth and welcome transition for everyone!

SVAS Officers 2013

President *Ross Gorman* **Vice President** *Walt Heiges*

Secretary *Nerissa Adams* **Treasurer** *Kirk Alexander* **Past President** *Liam McDaid*

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Walt Heiges / Perry P. Porter
Perry Preston Porter
Perry Preston Porter
Perry Preston Porter
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Tim Tingey
Lonnie Robinson / Bill Thomas

Where We Meet

General Meetings the third Friday of each month beginning at 8:00pm.
Board Meetings begin at 6:30 on the same day. All members are welcome.
Star Parties on weekends nearest the new Moon.

Sacramento City College
 Mohr Hall Room 3
 3835 Freeport Boulevard
 Sacramento, CA.

WWW.SVAS.ORG

SVAS Observer

To Subscribe- First send in your membership application form below, with your dues, and upon approval by the Board of Directors the Observer (published bi-monthly) will be sent to your supplied email address in .pdf format. Second, request to join the SVAS Yahoo Group at <http://groups.yahoo.com/group/svas-members>. This group will keep you informed with the day to day current events and discussions.

Articles- Manuscripts and letters are welcome in MS Word, MS Publisher, or plain text format, and emailed to the SVAS Editor. Deadline is the 22nd of the month prior to the newsletter release.

Advertising- Commercial, non-personal advertising, business card, and full page are available. Classified advertising is free to SVAS members.

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SVAS Membership Application

Choose a Membership Level: **New:** ___ or **Renew:** ___
Student- (student ID required) \$24/yr or \$2/mo ___
Family or Individual- (one household) \$36/yr or \$3mo ___
Observatory- (membership+\$40+approvals) \$48/yr or \$4mo ___
Additional tax deductible contribution: Amt \$ ___
 (Please prorate dues to July 1st renewal date) **Total \$** ___

Name _____
Address _____
City _____ **Zip** _____ (Please Print)
Phone _____ (Email for newsletter mailing)
Email _____

Detach and mail **SVAS Membership Application**
 with payment to: **PO Box 15274**
Sacramento, California. 95851-0274



Observatory Membership Approvals

The benefits of a regular membership plus private use of the Henry Grieb Observatory (HGO) at Blue Canyon. You must be a regular member for six months or longer, be certified and approved by the Observatory Director, and then be approved by the SVAS Board of Directors.

Note: It may take the SVAS Board of Directors 30 or more days to process and approve this application.

By signing this application, I acknowledge I have accessed the SVAS website, read and understand the SVAS bylaws and the rules governing the USFS Special Use Permit. In doing so, I agree to abide by the respective "terms and conditions" of each as they relate to the SVAS, use of its property and its facilities. I further understand and acknowledge that failure to abide by these "terms and conditions" can result in revocation of use privileges and/or SVAS membership.

Required Signature

Date _____