

NOVAC

THE NEWSLETTER OF THE NORTHERN VIRGINIA ASTRONOMY CLUB

Issue Number 40

Volume 12

March/April, 1992

President: Myron Wasiuta 703-494-0413
Vice President & Editor: George Uhl 703-369-4575
Secretary: Bob L'Hommedieu 703-978-0946
Treasurer: Brenda Jones 703-527-7963
NOVAC Information Hotline 703-256-8359
NOVAC Computer Bulletin Board 703-256-4777

UPCOMING EVENTS

| Club Observing Dates | Monthly Meetings |
|----------------------|------------------|
| March 6, 7, 27, 28 | March 18 |
| April 3, 4, 24, 25 | April 15 |
| May 1, 2 | |

Upcoming NOVAC Meeting Programs

by Bill Burton

The Northern Virginia Astronomy Club is privileged to have two outside speakers for its next two meetings. On Wednesday, March 18 the featured speaker will be Capt. Frank Wooldridge from the Navy, a meteorologist who will speak on atmospheric conditions and their effects on observations.

Our speaker for the April program, on the 15th, will be Dr. Dan Weedman, an astronomer from Penn State who is visiting at NASA headquarters. He will tell us about the NASA orbiting observatories, including the Cosmic Background Explorer, the Gamma-Ray Observatory, and of course the Hubble Space Telescope. Hopeful future speakers include Dr. Dan Milton, a crater expert from the USGS, and Geoff Chester on weather satellites. So don't miss any of our upcoming meetings!

The monthly meetings of the Northern Virginia Astronomy Club are held on the third Wednesday of every month at 7:30 P.M., at the Arlington County Planetarium, 1426

N. Quincy Street, Arlington, VA 22207. Admission is free and open to the public. Call the NOVAC hotline (703 256-8359) for upcoming events, special announcements, or to leave a message in order to obtain further information.

Is there interest in holding a swap meet at a future meeting, perhaps this summer? If you have something to swap or sell call 703 648-6904 and leave a message.

President's Column

From the first moment, NOVAC had impressed me as a very diverse and interesting group of people. I consider it a privilege to be president, and wish to express my gratitude to each and every one of you for your confidence. I will do my best at all times, and can only hope to carry on the fine tradition of leadership this organization has had in the past.

Along these lines, I feel a club like ours has a responsibility to our members first. Since we have a large diversity of people with varying degrees of interest and skill, our

programs should reflect this. I would like to see programs on various topics ranging from the basics such as getting started with your first telescope, observing with binoculars, or even naked eye astronomy. Other advanced topics might include observational projects such as meteor shower radiant and rate determinations, astrophotography, telescope-making, or astro-sketching.

If you have suggestions on a program, or how NOVAC can better meet your expectations, please contact me. I want NOVAC to benefit you!

Myron Wasiuta
President - NOVAC
494-0413

Rediscovering The Moon IV-- Lunar tectonics

by Bill Burton

The word "tectonics" refers to the movement of matter that occurs in the outer portion of the planets in our solar system. For the inner planets this outer portion is made of solid or partially molten rock which is generally divided up into the

outermost "crust" and underlying "mantle." This region displays movements and perhaps large-scale circulation that varies in degree from planet to planet. On Earth, the most tectonically active planet, the crust and an attached part of the underlying mantle makes up a series of "plates" which shuffle around relative to each other, creating the major physiographic features on the surface that we are familiar with: mountain ranges, ocean basins, volcanic arcs, continental margins, and so on. In response to the stresses caused by the movement of these plates the crust generally deforms in two ways: by folding (ductile deformation) or faulting brittle deformation). The source of energy that powers these processes is the heat that comes from the decay of radioactive elements in the Earth's interior. On Venus, which is nearly the same size as Earth, the potential heat source is nearly as large, and the Venusian surface accordingly displays an abundance of tectonic and volcanic features, as revealed by the Magellan spacecraft (to be discussed in a future article). Venus does not, however, appear to have well-defined "plates," for some unknown reason. The considerably smaller Mars shows only weak evidence of internal activity, mostly in the form of scattered volcanoes and a faulted basin or rift valley: the gigantic Valles Marineris.

Our satellite the Moon, smaller yet than Mars, has even fewer features that might be best classified as tectonic, as opposed to volcanic or impact-related. The Moon has a very thick, cold crust that renders impossible the plate-tectonic processes of Earth, where plates can slide under, over, or sideways past one another. The thick crust and lack of lateral surface movement furthermore rules out the existence of fold belts on the Moon. Lunar tectonism is therefore restricted to vertical movements along faults, and

these faults are probably linked to volcanic or impact events that caused uplift or subsidence of the lunar surface. (Our knowledge, however, of the causes of lunar faulting is still very incomplete.) Some of the fault-related features on the Moon can be seen in a small telescope, and these constitute the only extraterrestrial tectonic features easily visible to the amateur astronomer.

The best-known such feature on the Moon is the Straight Wall (Rupes Recta), near the eastern margin of Mare Nubium (Figure 1, arrow).

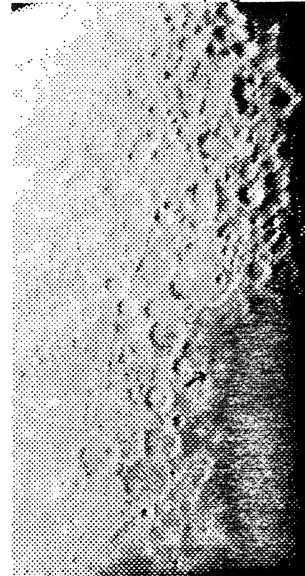


Figure 1

The Straight Wall is a 70-mile-long, roughly 2000-foot-high fault scarp which is not perfectly straight but only appears so relative to the mostly circular features on the Moon. I remember an old Chesley Bonestell painting which depicted it as the forbidding, steep wall that its name suggests; in fact it has a slope of only 40 degrees, probably due to the eroding effects of millions of years of meteorite bombardment. Still, this many-million-year-old fault scarp is a monster compared to those on the Earth's land surface, which are constantly being eroded away by atmospheric and biospheric processes.

Two larger and probably older fault-related features on the Moon are the Altai Scarp (Figure 2, right arrow)

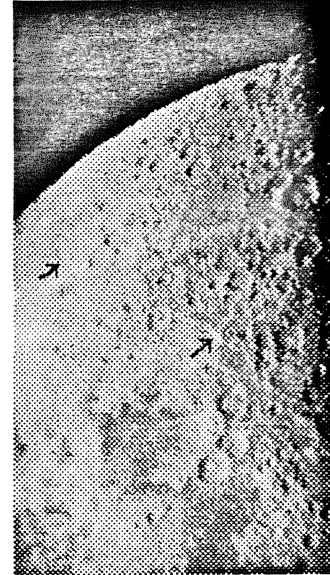


Figure 2

and Rheita Valley (left arrow). The very long Altai Scarp is thought to be related to large scale subsidence of the lunar surface following eruption of the lavas that formed Mare Nectaris (lower left). The Rheita Valley is more enigmatic; it was once thought merely to be a chain of craters but is now considered to be at least in part a fault-bounded rift valley. Rift valleys form in one of three ways: by crustal extension perpendicular to the walls of the valley, compression in the same direction as the valley walls, or by upwelling of magma (molten rock) from underneath. The cause of the formation of Rheita Valley is anybody's guess.

A better example of a possible rift valley is the Alpine Valley, which cuts across the highlands northeast of Mare Imbrium (Figure 3).

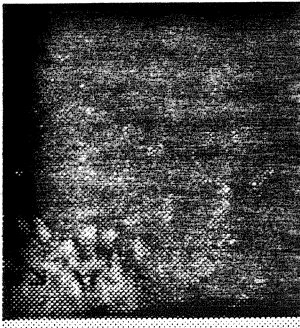


Figure 3

Volcanic features are associated with this valley, including its lava-covered floor and a rille running the length of the valley, which suggest that the Alpine Valley was formed by upwelling followed by surface eruptions of lava.

The main thing lunar tectonic features have in common is that they tend to be more linear than other lunar features. See if you can discover some tectonic features yourself the next time you look at the Moon through a telescope.

March/April Sky Sweep

by Kevin Jones

March and April evenings herald the transiting of parts of the huge, sprawling constellation Hydra, the water snake. Within its borders lie several fascinating deep-sky objects, well worth viewing on a clear, mild, early spring night.

Let's start this issue's telescopic tour with a bright, easy open star cluster, M48 (NGC 2548). This sixth-magnitude cluster sits in a barren region of sky, just into Hydra from Monoceros. Despite its isolated location, this star cluster is easily spotted in finderscopes and binoculars as a loose, scattered group of tens of stars, roughly half a degree across. Through a low-power telescope, M48 looks roughly like a cartoonish Indian tepee, complete with a v-shaped stellar chain forming the door.

Following the long, snaking chain of Hydra's body southeastward, we encounter a long, very large, eleventh-magnitude irregular galaxy. This galaxy, NGC 3109, is a fairly even grey oval, roughly five times as long as it is wide. Long-exposure photographs of this irregular show its mottled appearance, grainy with bright resolvable stars.

About thirteen degrees north of NGC 3109 is the fourth magnitude star Lambda Hydrae. The barred-spiral galaxy NGC 3145 is located just eight arcminutes southwest of this bright star. This galaxy, magnitude 12.5, is only one-fifth the size of NGC 3109, at 2.5 arcminutes by one arcminute. Its small size gives it a fairly high surface brightness, however, and improves its visibility so near a naked-eye star.

Moving southeast from Lambda Hydrae we find another fourth magnitude star, Mu Hydrae. A relatively large planetary nebula, NGC 3424, glows brightly at ninth magnitude two degrees south of Mu. The central star of this 40-arc second planetary can be glimpsed with small amateur telescopes, as it shines through the nebulosity at eleventh magnitude. As planetary nebulae derive their name from the similarity of their shapes and sizes to the gas giant planets of our solar system, NGC 3424 has aptly been named the "Ghost of Jupiter Nebula," because of its slightly elliptical shape and Jupiter-like size. Long-exposure photographs of this nebula taken through observatory telescopes show NGC 3424's uncanny resemblance to a huge human eye staring at the Earth from deep space.

Continuing down the sinuous chain of Hydra, the large elongated Sd spiral galaxy NGC 3621 waits. Its tenth magnitude outline is five by two arcminutes in size, and is coarse and clumpy with star clouds and nebulae along its length.

Near Hydra's tail sparkles the small globular cluster M68. This 9th magnitude globular contains well over 100 thousand stars, many of which are readily resolved in small telescopes. When looking at this group, try to imagine that at M68's distance of 50 thousand light-years, light requires one hundred years to cross this cluster, only one-sixth of a degree across. The large, eighth-magnitude Sb spiral galaxy M83 can be found ten degrees to the west of M68. The spiral arms of this galaxy are very well defined and can be glimpsed in large-aperture amateur telescopes. M83 is thought to be 10 million light-years from our Solar System, and its visible mass is roughly 30 thousand light-years across.

Ten more degrees to the west lies the small, 11th magnitude globular cluster NGC 5694. This small, distant globular, located over 100 thousand light-years from the Sun, is rather nondescript in appearance. Studies of the velocity of this globular relative to the galactic center, however, suggest that its speed may exceed the galactic escape velocity of 190 kilometers per second. If this is the case, NGC 5694 will not remain gravitationally bound to the Milky Way galaxy; it will slowly soar outward into the void of intergalactic space.

I hope you have enjoyed this walk down the length of Hydra. Its panoramic expanse of sky contains a good assortment of deep-sky objects, from star clusters to planetary nebulae to hundreds of galaxies. But enjoy these cool, transparent, bug-free nights of early spring while they last, Sticky, hazy, humid evenings are on the horizon!

Messier Marathon Search Sequence

by Brent Archinal

Well, it's that time again! Mid to late March gives the best year round opportunity to see most, if not all, of the Messier objects in one night. This year we've got a full Moon in mid month, but any night the week of March 29 should be an ideal time to observe (unless you live where I do - and then it will be cloudy!) Since several people have requested it, following is a suggested search sequence. This is based on my original table and article on the subject that appeared in the March 1982 issue of "Deep Sky Monthly".

A few notes on identifications that have been questioned in the past:

M24 - This is a Milky Way starcloud in Sagittarius (it is not the involved cluster NGC 6603 as some authors have claimed).

M40 - The double star Winnecke 4 near 70 Ursae Majoris.

M47 - Open cluster NGC 2422.

M48 - Open cluster NGC 2548.

M73 - 4 stars in Aquarius.

M91 - Probably the same object as M58, but could be NGC 4548 (which you should try to observe anyway!).

M102 - Clearly the same object as M101, but many authors assume this is NGC 5866, which you might as well observe anyway.

M110 - NGC 205, a companion of M31.

"THE LIST" follows:

M110, M31, M32, M33, M74, M77, M34, M76, M45, M42, M43, M78, M79, M41, M93, M46, M47, M50, M48, M1, M35, M36, M37, M38, M44, M67, M95, M96, M105, M65, M66, M81, M82, M108, M97, M109, M40, M106, M94, M63, M51, M101,

M102 (same as M101, but try NGC 5866), M3, M64, M53, M85, M100, M98, M99, M88, M91, M86, M84, M87, M89, M90, M58, M59, M60, M49, M61, M104, M68, M83, M5, M92, M13, M57, M56, M12, M10, M14, M107, M9, M80, M4, M39, M29, M27, M71, M11, M26, M16, M17, M18, M24, M25, M23, M21, M20, M8, M28, M22, M19, M62, M6, M7, M69, M70, M54, M52, M103, M15, M2, M75, M72, M73, M55, M30

Clear Skies, Happy Observing, and Good Luck with M30!!!

How Do You Learn All This Stuff

By Al & Lynn Schumann

That's a good question; one which we have been asked many times. The short answer is, you can't. Fact is, nobody can learn it all anymore. The days are long gone when someone like a Copernicus, a Kepler or a Newton could actually learn all that was worth knowing about astronomy in their day. Today, we seem to have specialists who have to concentrate on one of myriad sub-categories within their specialties.

Fortunately, we amateurs do not have to learn it all to enjoy ourselves. Mostly, we're in this game to have some fun or find some temporary escape from the rigors of making a living. Generally, we want to observe, take a few pictures, and develop a broad-brush understanding of the universe. With these goals in mind, we believe the best way to learn about our hobby is through total immersion; jump right in with both feet, and don't be afraid to make a damned fool of yourself.

So it was when the two of us joined NOVAC in 1982. The club was only a couple of years old then, and most of the time, meetings were held in whichever library would let us have a room for an hour. Sort of like

hookers and a seedy hotel. Actually, we could have held most of those meetings in a telephone booth. There were three officers and just about everyone else was on the board of directors.

As for the skies, we knew some of the constellations; we could identify a few stars by name; and we could point out Venus, Mars, Jupiter and Saturn. That was about it! Also, we did something no one should EVER do - we ran out and bought a telescope before we knew the square root of Orion about astronomy. Fortunately, the telescope was a C-8, and after all these years, we're still growing into that wonderful instrument. Sometimes being lucky is a lot better than being smart or skillful.

We subscribed to Astronomy and Sky & Telescope magazines, and we read each article several times in hopes that something would stick. Initially, all but the bare bones, basic stuff made sense. The rest went right over our heads. However, eventually little threads began to come together and weave a tapestry of flawed misunderstanding. At the same time, we scoured the aforementioned libraries for books on astronomy. One nice thing about astronomy is that many of the books available are written BY amateurs FOR other amateurs. Local bookstores helped flesh things out with simple sky charts, planispheres, picture books and other how-to basics. Also we rarely missed a meeting or an observing session; first at Burke Lake Park, then onto the Manassas Battlefield, Greenville Farms, Sky Meadows and Crockett Park.

Along the way, we latched onto a few of the old pros and picked their brains. Dr. Jerry Perman has a Meade SCT, and he was gratis enough to teach polar alignment and the use of setting circles to anyone who would listen. Also, his

newsletter articles were captivating and inspiring. Somehow, Jerry managed to cart his telescope all over creation, and his astronomy-on-the-road stories would make Charles Kuralt envious.

At the other end of the continuum, Al Boldt is a wonder at star-hopping and locating obscure phenomena that everyone mostly overlooks. Al gave us a masters degree in working our way around the sky. Locating our telescope next to Al, and keeping our mouths shut, invariably set the stage for the discovery of many new objects.

Joe Macrie is a wizard without a cape and pointy cap. His astrophotographs are as stunning as any you could hope to see. He'd set up that big, orange C-11 with 49 yards of wires and other assorted bits and pieces of mystical stuff and perform acts of magic you wouldn't believe.

Blaine Korcel doesn't take a back seat either, by the way. His photos took our breath away at our first telescope meet in the Burke Lake Park days. Only thing is, it takes Blaine nine hours and thirty-two minutes to get his telescope set up and ready to go to take a picture!

But we digress, By virtue of attending two consecutive meetings we were unanimously elected to the board of directors. Groucho Marx once said he wouldn't join any club that would consider him for membership. What kind of crazy outfit was NOVAC, anyhow? We hadn't even found the ring nebula, and we were on the board! In the long term however, it was a splendid opportunity to learn.

When the Archinal's came on the scene, they too were elected to the board of directors. At last we had some big time experience. Brent wanted to get some extra zip into the

meetings; set up programs with guest speakers to boost attendance and impart the kind of information amateurs needed to know. If we couldn't entice any high rolling guests, we'd simply do it ourselves. At the time, that sounded crazy...like the blind leading the blind. But he was absolutely right. That's where total immersion again really came in. Because of Brent's quiet bullying, and despite a learning curve still hovering around zero, we started pulling things together for various show-and-tell programs. Believe it or not, before long we were actually going on the road teaching the basics to other budding amateur astronomers. What fun. All you need is gall and a desire to study.

If Brent is a low key corporate bully, then the newsletter editors are nags. Bob Ridgley and George Uhl could pass for the stereotypical mothers-in-law whom comedians love to taunt - "...take my editor...please!" They wring their hands, shovel guilt around by the bushel, and soak the floor with crocodile tears until someone agrees to write an article just to stop the horrible show of utterly embarrassing and humiliating self-abasement. Where do people like that come from? (*ed. note. believe me, I'd like to find another one to take my place!*) So, we'd go back to the books for a crash course on something the readers might like to know. Neutrinos anyone? Immersion again, and another chance to learn by doing. Most of our articles have been done in a light-hearted, sometimes irreverent mode, but there is always some good, legitimate stuff before the stories veer of the tangent.

So, there you have it. If one is serious about learning astronomy for the amateur, our advice is to get in there and have at it. Jump in with both feet and challenge yourselves. Come to the meetings, get out and observe, run for office, (*ed. note,*

become the newsletter editor), grind a mirror, teach a class, write a story about what you saw and did, ask questions, give a talk, etc., etc., etc.. Maybe you can't learn it all anymore, but you can learn enough to make astronomy a much more meaningful and enjoyable hobby for yourself. More importantly, you just might ignite a small flame in someone else which would perpetuate an interest in amateur astronomy.

Minutes Jan. 1992 General Meeting

The Meeting was called to order at 7:30 pm on Jan. 15,1992 by Myron Wasuita. There were 25 members and guests present.

Old Business

No old business was discussed.

New Business

1. Myron Wasuita summarized the Executive Committee Meeting held on Jan. 14,1992. The main points of the meeting were :

A. Bill Burton was appointed Meeting Program Chairman.

B. A committee was formed to put on this years Northern Virginia Telescope Meet.

C. A budget committee was formed.

D. A dues structure will be proposed to the membership at the February General Meeting.

E. Tax forms are being filed with the I.R.S. to complete our tax exempt status.

F. The future of the club observing site is being considered.

G. A survey will be printed in the newsletter in order to solicit membership opinion on the current observing site and other topics in the future.

H. A possible club retreat to a dark sky observing site is under discussion.

I. Members are urged to attend Executive Committee Meetings which are held on the Tuesday preceding the General Meeting at Brenda Jones house at 7:30 pm.

2. It was noted that Bob Bunge had a very striking photo published in Astronomy Magazine and Railroading Magazine.

3. The membership voted to send our newsletter to Astronomy Magazine in order to participate in their Network News project. Bob Ridgley suggested that the Trustees review the folks now receiving complimentary copies of the newsletter. Brent Archinal suggested that the club should also send our newsletter to Sky & Telescope Magazine.

4. Bill Burton announced that Comet Zanotta-Brewington should be at magnitude 6.3 by the end of the month. It will be visible about 12 degrees above the western horizon at the end of astronomical twilight.

The formal portion of the meeting was adjourned and the program for the evening began. Myron Wasuita displayed his sketches of Jupiter made with the 12" refractor at the Naval Observatory. Myron gave us a video tour of the moon and a star dramatically showing the effects of

atmospheric turbulence on seeing conditions. He followed this up with more video he took of the sun through a hydrogen alpha filter and a copy of a Don Parker CCD video of Mars, Saturn and Jupiter.

Brent Archinal gave a slide show of the highlights of the total solar eclipse, Stellafane, the Northern Virginia and Hidden Hollow Telescope Meets. This was a recap of the big events of 1991 attended by our members.

Respectfully Submitted,
Bob L'Hommedieu, Secretary

Minutes Feb. 1992 General Meeting

The meeting was called to order at 7:30 pm on Feb. 19, 1992 by Myron Wasuita. There were 30 members and guests present.

Old Business

1. The budget for 1992 was discussed by the membership who then voted to adopt the budget as proposed.

2. The dues structure outlined in the articles of incorporation was voted on and passed by the membership. The dues will be as follows:

Regular - \$18
Additional - \$6
Patron - \$50
Supporting - \$100
Corporate - \$200.

The Trustees have determined that the cost of the newsletter is \$7.50 per year. Once we achieve tax exempt status, the dues will be deductible on members income tax as a contribution except for the portion of the dues used to pay for the newsletter.

3. The Trustees serving 1 year terms will be Bill Burton and Blaine Korcel.

4. A committee is being formed to draw up plans for the construction of the club telescopes. All interested members are urged to participate. Please call Myron if you would like to help.

New Business

1. The dues will probably have to be increased in 1993 to cover the effects of inflation and the increasing costs of publishing the newsletter. Currently the newsletter takes up over half the NOVAC budget. The other major expense for NOVAC is the Telescope Meet which makes up about 25% of the budget.

2. Blaine Korcel runs the NOVAC computer bulletin board and also pays its expenses out of his own pocket. The Trustees would like to talk to Blaine about helping him fund the bulletin board as a club sponsored activity since so many of our members use it.

3. Member Bob Bunge is now on the staff of the magazine of the National Space Society. The magazine is called Ad Astra and Bob passed out copies at the meeting.

4. Now that Deep Sky magazine is out of print, Brent Archinal suggested two other magazines that may help bridge the gap. The Practical Observer and Betelgeuse are magazines with a format similar to Deep Sky.

5. Steve Smith has requested that NOVAC speak at the Arlington School Board meeting against a budget cut for the Arlington Planetarium. The School Board wants to eliminate Tom Wilmich's job. This action would end all public

planetarium shows and negatively impact astronomy education in the school system. Steve also requested NOVAC write letters to the Arlington Journal, Washington Post, and to the School Board.

After the meeting was adjourned, Myron Wasiuta gave an excellent program on the anatomy and physiology of the human eye. Myron is an Optometrist by profession and explained how our eyes work. He gave many interesting demonstrations of how our vision affects astronomical observation and showed us the best ways to maximize our ability to visualize astronomical objects.

Respectfully submitted,
Bob L'Hommedieu, Secretary

NOVAC NOTICES

NOVAC Messier Marathon

Friday and Saturday nights, April 3rd and 4th, are designated as NOVAC Messier Marathon Nights at Crockett Park. See if you can stay up all night and catch all of Professor Messier's non-comets.

The moon will only be a few days old and could make the early evening objects a real challenge. But hey, no guts no glory!

OBSERVING SITE RULES

NOVAC members may use Crockett park for observing on nights other than those scheduled for club observing; BUT, YOU MUST HAVE PRIOR APPROVAL FROM RODGER PENCE, THE PARK MANAGER. Call early in the day on which you wish to observe; the telephone number is 703-788-4867. If you reach the answering machine

leave a message stating that you are a NOVAC member and you wish to observe that night. Also, leave a telephone number where you can be reached. If you do not receive a return call you may not use the park. **THERE ARE NO EXCEPTIONS!** Use of the park is limited to NOVAC members only, and your Observing Pass must be displayed on the dashboard of your car.

The gate is locked at sunset and the combination is shown on your Observing Pass. Do not reveal it to anyone. The combination will be changed from time to time and you will receive a new pass along with your newsletter. After setting the combination, the shackle must be pushed in slightly before it will release. You must lock the gate behind you after entering and please remember to lock it after you leave. No loud radios, no alcoholic beverages; no loose pets; do not leave trash or debris behind. We are guests of the park and our observing privileges may be revoked at any time because of the carelessness of one person. @

Directions to Crockett Park

From the Washington D.C./Northern Virginia area, go west on I-66 to the Manassas exit, 234 SOUTH. Continue on 234 until reaching Route 28--turn right. (If you are familiar with the area, there is a little short cut to Route 28 just past the "Po Folks" restaurant in Manassas. It goes past the IBM plant and saves about a mile.)

Once on Route 28, keep going straight through Prince William County. You will drive through Nokesville, passing the 7-11 on the left (a good landmark to remember, especially after freezing your gizzard for half the night--you may need something to warm you up on the way home. Even more importantly,

they sell gas there when other gas stations are closed for the night).

After crossing the Fauquier County line there are about six miles to go. You will drive through the sleepy little hamlets of Catlett and Calverton. After you cross over the railroad tracks in Calverton, you only have a few miles to go, thus you should start paying attention to where you are driving.

Make a right turn on 643. CAUTION: the first 643 sign to come into view goes only left--DON'T TURN THERE! Continue for about a mile, and there is another Route 643 going right (to Warrenton). There is a small country store (Mayhugh's) on the corner of the intersection. Turn right on 643 and proceed about a mile. Look for a small sign for C.M. Crockett Park on your right. Go about 100 yards and turn left. There will be a sign indicating "Dead End .5 miles". The park gate is at the end of the road. We suggest you get there before dark the first couple times. If it is dark, turn off your headlights when you stop at the gate.

There are a number of locks on the gates; one of them is ours. It is a combination lock which was thoughtfully provided by Al Boldt. The combination can be obtained from a club officer. Undo the lock, swing open the gate, drive through, stop, swing the gate closed, replace the lock and ease forward once again. We suggest you turn off your instrument panel lights at the gate to help you see better in the dark. Also, if you are unfamiliar with the area, we suggest you get out of your vehicle and walk down to the parking lot (during EST) or the field (during EDT) to see where other observers are located. Then drive into an open spot, unload and have at it.

If you decide to go there when its not an official club observing night, you

must call Roger Pence at the Park [(703)788-4867] ahead of time to let them know you're coming. There are no exceptions!

ADVERTISEMENTS

For Sale, contact Jim Schaeffer during working hours only at 281-6363: CAPS, baseball type, mesh back, adjustable, NOVAC logo, \$5.95 (you pick up), \$7.75 (UPS ship); JACKETS, nylon/satin, NOVAC logo on front & back, elastic at sleeves, neck, and bottom, very good quality, sizes S, M, L, XL, \$34.95.

For Sale, Unbelievable Views. Coulter Odyssey II, 17.5 inch reflecting telescope. Dobsonian mount allows easy set up and use. Very good f4.5 mirror. 26mm eyepiece with Lumicon premium H-beta filter good for the Horsehead Nebula. No wait, available now. \$950. Carl Adams (703)391-8838

For Sale, Celestron Super Polaris C-8, \$600 includes telescope, GE mount and tripod, 1.25" star diagonal, 1.25" porro prism, 26mm Plossl eyepiece; \$1000 includes above plus dual-axis drive, Sky Sensor Computer with drives, 2 x 1.25" eyepieces (Celestron 12mm Orthoscopic, and University Optics 9mm Konig), Orion dewshield, 6 color filters, tele-extender, T-adapter, piggyback camera mount, no finderscope though. Telescope 6.5 years old, excellent optics. TeleVue 2" star diagonal (only used twice) includes adapter for C-8, \$120. George Uhl - home:(703)369-4575, work: (703)883-7305.

(C) Copyright 1992 The Northern Virginia Astronomy Club. All rights reserved. The NOVAC Newsletter may be reproduced with proper credit given to The Northern Virginia Astronomy Club.

The NOVAC Newsletter is published six times a year. Subscriptions are available through membership in NOVAC. Dues are \$18.00 per year. For club membership information contact:

Brenda Jones, Treasurer, 883 North Kentucky Street,
Arlington, Virginia, 22205,
telephone: 703-527-7963.



The Northern Virginia Astronomy Club
c/o George Uhl
9039 New Britain Circle
Manassas, VA 22110

12/92 - \$0.00
L. Wanrow and B. Burton
2102 Whisperwood Glen Lane
Reston, Virginia 22091