



East Valley

Astronomy Club

President	Tom Harvey	998-0035
Vice-President	Ted Heckens	827-1524
Treasurer	Bob Kelley	451-7319
Newsletter	Bill Smith/Roy Halverson	831-1520/844-9563

April

Newsletter

1992

EDITOR'S NOTES

Its time to offer special thanks to several members who have worked with me to make our newsletter what it has become - useful and something to be read (carefully I might add, or you'll miss something).

Roy Halverson, whose column you'll see to the right, has been on the ball writing up EVAC news by recapping the last business meeting events. He has also included a summary of the meeting's speaker, which I have found to be extremely helpful even though I was at the meeting. For those of you who couldn't make the meeting, Roy has provided you with a way to "be there." Roy also lets you know what's going on with other club events, so read carefully.

Robert Kerwin either knows a lot more about the sky than anyone in the club, or more realistically, spends a heck of a lot of time doing research for his monthly articles called *The Deep Sky Notebook*. Talk about useful! I'm keeping all my issues of the newsletter to use next year. Its been a little too moist this year for me to take full advantage of all Robert's work so far, but others have commented to me how helpful its been for them.

Byron Scott has also been doing his research by using many sources of information for his "Monthly Highlights". Best times to see planet groupings, meteor showers, equinox, solstice, historical events - Byron's been including them all. If you want to have something included in there, let him know. He's a whiz with his word processor and will include it! I would imagine (although I didn't ask him editorial privilege I suppose) Byron would probably include other events on a regular basis if you let him know what you want.

cont'd

MARK YOUR CALENDAR EVAC BUSINESS MEETINGS

April 22- SCC RoomPS 172
Guest Speaker - Dick Simmon
DEEP SKY STAR PARTIES
April 4th - joint SAC/EVAC
Sentinel Arizona-see map inside.

LOCAL STAR PARTIES

March 28th - Cave Creek Site
See map inside. Meet at 6pm.
Call Bob Kelley for instructions.

cont'd

Michael Janes has been sending information he has been gathering from the many astronomy databases he regularly scans. Just last month he sent me a report over his modem about a new (3 or 4 days old) nova in Cygnus. The problem we ran into was the newsletter had been sent to the printer less than an hour before he found out! If there's room, I'll include his report in this edition anyway. Sorry I couldn't include it last month—"stop the presses" didn't work.

Again, a big thanks to all of them! What a team - Republic and Gazette - eat your heart out.

EVAC NEWS

by Roy Halverson

THE FINE ART OF PIGGYBACKING: ASTROPHOTOGRAPHY FOR THE AMATEUR

Tying your 35 mm SLR camera to your telescope puts astrophotography of remarkable quality within the reach of nearly every amateur, Steve Coe of the Saguaro Astronomy Club told EVAC members at the meeting March 18.

This doesn't mean sighting your camera through the telescope, but rather using the scope's clock mechanism as a tracker, keeping the camera in time with the rotation of the earth.

Coe said such photography requires very careful polar alignment. Merely lining up on Polaris isn't good enough if your exposures are to be more than a minute or so long. Illustrating his techniques with an impressive array of superb slides, Coe described his recent week-long trip to Australia. The Magellanic Cloud was especially awesome.

Filters help squelch the effects of city lights, but force much longer exposures, usually by a factor of 2. He showed slides taken with and then without the Orion Sky Block filter. The improvement of the image with the filter was significant. But nothing, he said, can take the place of dark skies for the photography.

cont'd on page 5

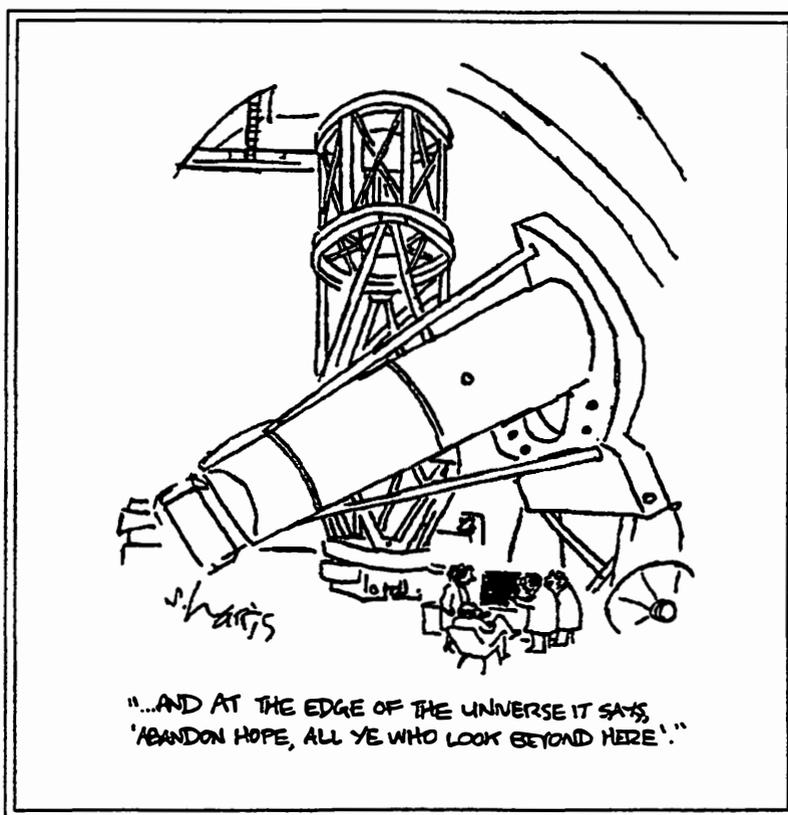
EVAC NEWS cont'd from page 1.

Exposure times on his photos ranged from half a minute to more than half an hour. Star images were bright, sharp points. Nebulas had delicate shadings and bold bright colors. It was easy to see that he had aligned his scope exactly on the Pole.

Coe recommended Fuji 400 film because it gives a deep blue background for stars that show in their true colors. Agfa 1000 is also excellent, he said, but now is difficult to find, and its high speed often results in excessive graininess.

Several books are available to the neophyte: Jim Ballard's *Handbook for Star Trackers* is one. *Astrophotography for the Amateur* by Michael Covington is another.

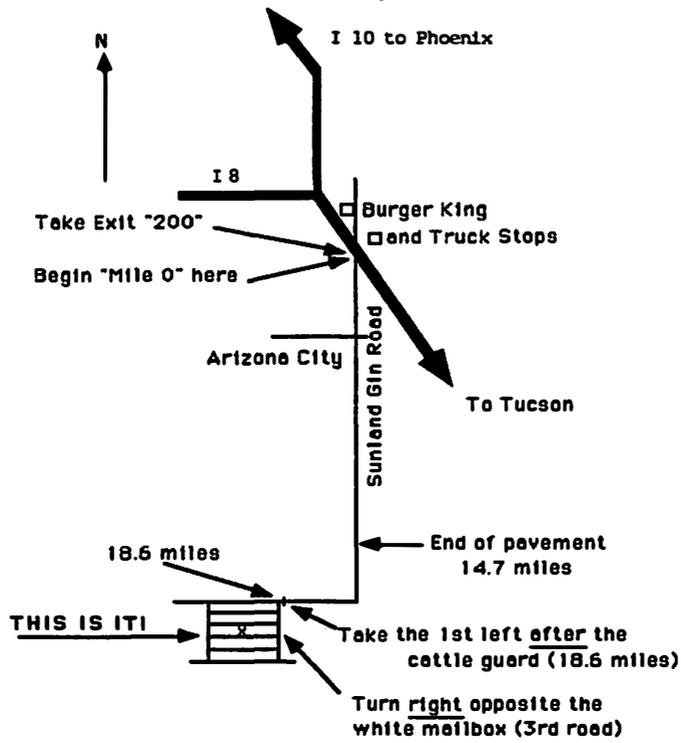
- Roy Halverson



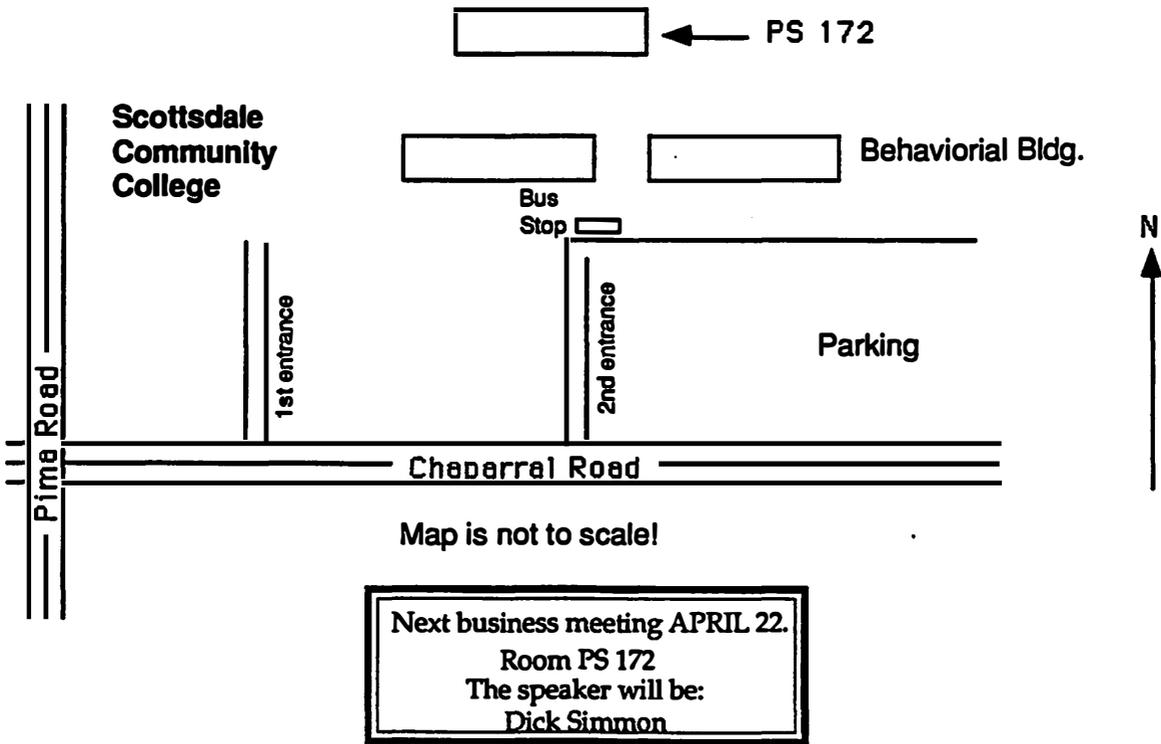
Welcome New Members!

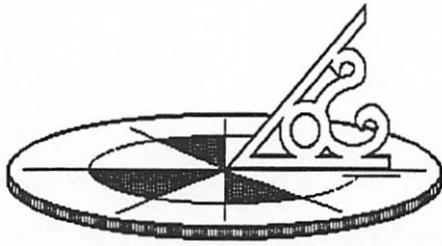
Listed below are members joining EVAC since Jan. 1992. We look forward to seeing them at all EVAC events. Give them a call and make them feel welcome!

981-7046	Don Farley	2332 N. 63rd Place	Mesa	AZ	85205
482-2918	Joe Murray	5201 E. Beck Lane	Scottsdale	AZ	85254
982-2428	Don Wrigley	423 W. 5th Ave.	Apache Jun.	AZ	85220
982-9054	Rick Salmon	2627 W. Gregory St.	Apache Jun.	AZ	85220
759-4969	Eric Peterson	5010 E. Cheyenne Dr.#200	Phoenix	AZ	85044
730-8188	Ron & Cindy Cox	966 W. Nido Ave.	Mesa	AZ	85210
494-0879	George Kohl	4840 E. Sunnyside Dr.	Scottsdale	AZ	85254
730-0837	Doug & Annitta Smith	917 W. Peralta	Mesa	AZ	85210



Believe it or not, they named the street opposite the white mailbox:
MOON CHILD!!





April Highlights 1992

by
Byron Scott

Calendar

<u>Date</u>	<u>Day</u>	<u>Event</u>
03	Fri.	New Moon
07	Tue.	Delta Draconid meteors
10	Fri.	Asteroid Don Quixote at perihelion
13	Mon.	Comet Giacobini-Zinner at perihelion (orbital period 6.41 Earth years)
17	Fri.	Full Moon
19	Sun.	Easter
22	Wed.	Lyrid Meteors (hourly rate 15)
24	Fri.	Moon at last quarter

April Flashback

Soviet Cosmonaut Yuri Gagarin piloted the first manned space flight (Vostok 1, USSR) on 12 Apr. 61. He completed one orbit around Earth which lasted for 1 hour and 48 minutes.

SALE

TELESCOPE - 10 inch f/6.3 S.C.T. with glass solar filter and other extras. Upgrading to a larger scope and must sell. Excellent condition and only \$1500. Call Michael Janes. 945-5431. **SOLD**

SINGLE-AXIS DRIVE CORRECTOR. Made by Meade, but will work with any telescope using 12VDC power source. Call Bill Smith 831-1520. \$60.00.

Please submit your items for sale to the newsletter editor by the 15th of each month.

The Deep Sky Notebook

by Robert Kerwin

Exploring Canes Venatici

The constellation Canes Venatici, the Hunting Dogs, lies south of Ursa Major. The brightest star is 3rd magnitude Cor Caroli, which means "the Heart of Charles" (named after King Charles II of England). In the mythological outline of the constellation there are two dogs; "Chara" is marked by Cor Caroli and "Asterion" is marked by Beta. Most of the deep-sky objects in Canes Venatici are galaxies; only one open cluster (Uggren 1) and one globular cluster (M3) are plotted on Uranometria 2000.

A good starting point is **M106**. M106 lies approximately half way between γ Ursae Majoris and β Canum Venaticorum. This galaxy is bright and elongated southeast-northwest with a small, bright nucleus. In moderate-size instruments you may be able to see some granular texture across the surface of the galaxy. With the 8-inch under a dark sky, I noticed a very faint wisp on the northeast edge of the galaxy—a segment of a spiral arm. Just northwest of M106 in the same field of view is **NGC 4248**. This galaxy appears as a very faint elongated glow. **NGC 4217** is about one degree west of M106 and appears as a faint patch elongated northeast-southwest with a bright central area. There is a relatively bright star nearby.

Moving about ten degrees directly south, we encounter **NGC 4244**, an edge-on galaxy. This galaxy appears as a long, ghostly spindle of light, elongated northeast-southwest. Moderate-size telescopes should show a blotchy or granular texture and a slight bulge in the center. Five degrees south-southeast of **NGC 4344** is **NGC 4395**, which appears as a very faint, slightly oval enhancement of the sky background. Use lower magnifications and averted vision. Approximately four degrees east of **NGC 4395** is a fine pair of edge-on galaxies, **NGC 4631** and **NGC 4656**. **NGC 4631** appears as a bright, elongated patch that is slightly brighter toward the center. With medium-size instruments, the central bulge can be seen along with a granular or patchy texture. Just southeast is **NGC 4656**. This galaxy is fainter than **NGC 4631**, but has almost exactly the same dimensions. As with **NGC 4631**, a mottled structure can be seen with an 8-inch or larger scope and averted vision.

Three degrees northwest of Cor Caroli is **M94**. M94 appears as a bright, slightly oval glow with a bright, compact (but non-stellar) nucleus. The glow seems to have fairly well-defined edges. Now move approximately five degrees west to **M63**. M63 appears as an elongated glow with a bright core. The galaxy is elongated east-west and there is a magnitude 8.5 star just to the north.

Moving northwest by six degrees, we encounter one of the showpieces of the spring skies, **M51** and its companion galaxy **NGC 5195**. Even the slightest optical aid will show the pair as two hazy spots. M51 is one of the few galaxies that yields its structure easily to amateur telescopes. A 6- to 8-inch telescope under dark skies should be sufficient to show glimpses of spiral structure. On photographs, M51 and its companion appear linked by a faint, luminous bridge, which may be visible in larger telescopes. Our final object is the globular cluster **M3**, which makes for a nice change of pace after straining to see faint detail in galaxies. This globular appears to be relatively condensed toward the center. A 6-inch should show some granulation across the image, while an 8-inch or larger telescope should mostly resolve the cluster.

Canes Venatici

Tirion charts: 7

U2000 charts: 47-49, 74-77, 107-110

Name	Type	Mag	Size	R.A.	Dec.
M106	g	8.3	18	12h 19m	+47.3
NGC 4248	g	12.6	3	12h 15m	+47.7
NGC 4217	g	12p	6	12h 16m	+47.1
NGC 4244	g	10.2	16	12h 18m	+37.8
NGC 4395	g	10.2	13	12h 26m	+33.6
NGC 4631	g	9.3	15	12h 42m	+32.5
NGC 4656	g	10.4	14	12h 44m	+32.2
M94	g	8.2	11	12h 51m	+41.2
M63	g	8.6	13	12h 16m	+42.0
M51	g	8.4	11	13h 30m	+47.2
M3	gc	6.4	16	13h 42m	+28.4

SKY & TELESCOPE NEWS BULLETIN
FEBRUARY 21, 1992

BRIGHT NOVA IN CYGNUS!

There's big news in Cygnus. A naked-eye nova has brightened to magnitude 4 and 1/2 as of Friday morning, February 21st. I'll read its position and some comparison-star data in a minute, so get a pencil ready.

The nova was discovered visually on Tuesday evening, February 18th, by veteran nova hunter Peter Collins of Boulder, Colorado. He estimated its brightness that evening as magnitude 6.8. It soon turned out that Collins had caught the nova early in its outburst, well before maximum. Just 12 hours later Collins observed it again, now in the morning sky, and found it had brightened to 6.0. By Thursday morning it had climbed to about 5.1.

By Friday morning the 21st, estimates were averaging magnitude 4.5 with signs that the brightening had slowed. George Gliba of Greenbelt, Maryland, called Sky & Telescope to say the nova was "quite spectacular" in 8 x 50 binoculars, and "I couldn't believe how bright it was with the naked eye."

Nova Cygni 1992 is located about 8 degrees north of Deneb, in northern Cygnus near Cepheus. Its coordinates for equinox 2000 are right ascension 20 hours 30.5 minutes, declination 52 degrees 38 minutes. This makes the nova circumpolar as seen from latitudes north of about 38 degrees. However, it is very low in the north-northwestern sky right after dusk -- only 10 degrees up for observers at 40 degrees latitude -- directly below Cepheus. Not until about 4 a.m. does it climb up to 30 degrees above the horizon in the northeastern sky as seen from 40 degrees latitude. It's best placed for viewing just before the start of morning twilight.

Here are visual magnitudes of some nearby comparison stars for estimating the nova's brightness. These are taken from the AAVSO Variable Star Atlas: 43 Cygni, 5.7; Omega-1 Cygni, 5.0; Psi Cygni, 4.9; 33 Cygni, 4.3; Omicron-2 Cygni, 4.0; Iota and Kappa Cygni, 3.8; Delta Cygni, 2.9. When making magnitude estimates, of course, note which comparison stars you use and the magnitudes you assume for them.

Note the exact time and whether or not you correct for differential atmospheric extinction close to the horizon. If you take good photos or a series magnitude estimates of this spectacle, by all means let us know about them. Mail them to SKY & TELESCOPE at P. O. Box 9111, Belmont, MA 02178. We'll keep you informed of developments!

24TH ANNUAL RIVERSIDE TELESCOPE MAKERS CONFERENCE

Dear Fellow Amateur Astronomer,

The 24th Annual Riverside Telescope Makers Conference will be held May 22nd through the 25th, 1992. It will be held at the Y.M.C.A. Camp Oakes (eight miles east of Big Bear City on Highway 38 at Lake Williams Road). This location is 50 miles northeast of Riverside in the San Bernardino mountains at an elevation of 7,300 feet. Find Highway 38 off of Interstate 10 in Redlands. A map will be mailed with your registration confirmation.

Due to the need to plan this conference far in advance, the prices will be discounted for all registrations received before May 1, 1992. In addition, meal plans will be limited to the first 400 requests and camping sites will be limited to the first 800 registrations for camping. There will be unlimited day use of the facilities.

MEALS AND LODGING

We offer four package plans. Remember that only 400 will be sold.

1. Five meals and lodging (or camping). Begins with the Saturday noon meal and ends with the Sunday evening meal.

\$53.00 per person
After May 1st \$63.00 per person
2. Six meals and lodging (or camping). Begins with the Saturday morning meal and ends with the Sunday evening meal.

\$56.00 per person
After May 1st \$66.00 per person
3. Seven meals and lodging (or camping). Begins with the Friday evening meal and ends with the Sunday evening meal.

\$59.00 per person
After May 1st \$69.00 per person
4. Eight meals and lodging (or camping). Begins with the Friday evenings meal and ends with the Monday morning meal.

\$62.00 per person
After May 1st \$72.00 per person

Note: You may still take a meal plan at Camp Oakes, however, the package price must remain the same.

PARKING: All participants will be directed by a parking control crew. Please assist us in making an orderly site. Friday evening arrivals on the telescope field and telescope alley will be assisted in parking.

Persons who arrive for day use only on Saturday, please note that beginning at 9:00 am, you will be directed to monitored parking areas and driven into the conference area. This helps solve the Saturday parking problem. We will use regularly scheduled vans from the main gate of the camp to the meeting hall.

We request that you drive at the posted speed limit at all times while on the camp grounds. Also, please be alert as to pedestrians walking along the road, especially at night.

AWARDS: Merit award certificates and plaques, which are all of equal value, will be awarded for displays, telescopes, or parts implemented, design, craftsmanship, and use of related equipment or accessories. The Warren Estes Memorial Award will be given for the best telescope made from simple materials. The Clifford W. Holmes Award is presented to the amateur astronomer contributing the most to amateur telescope making. The awards will be presented Sunday evening.

Please note: All telescopes entered for merit awards should be located on the telescope field or Telescope Alley. This is because the awards committee has a difficult time finding telescopes scattered all over the camp. We do not wish to miss your entry.

Please contact the telescope registration at the Observatory prior to set up. Sites will be numbered for identification.

SPEAKERS: We are requesting papers related to telescopes and equipment. Please contact Cliff Holmes by May 1st, at 8642 Wells Avenue, Riverside, CA 92503, (714) 689-6893.

A complete text of your presentation should be sent to John Sanford, 2195 Raleigh Ave., Costa Mesa, CA 92627, (714) 639-8446, for inclusion in the printed proceedings. They will be prepared and sold by the Orange County Astronomers for \$12.00 (\$14.00 after May 1st).

COMMERCIAL EXHIBITORS: Space is available to explain and sell your astronomical products. You must preregister or there will be no guarantee of available space. Please do not leave valuable eyepieces and equipment unattended. Contact Wayne Johnson, 2630 Raven Circle, Corona, CA 91720, (714) 734-8475 for full details.

CONFIRMATION: Confirmation of your registration will be mailed to you. Also included will be your meal tickets (if any), a car pass, a map to Camp Oakes and of the campground, and the rules of the conference. Please register early to ensure timely delivery of your registration materials.

REFUNDS: Refunds for preregistrations can be obtained by notifying the conference in writing before May 22nd in the case of meal plans, or within 10 days after the conference for camping or day use preregistrations.

INQUIRIES: For further information or to request additional registration materials, please call and leave a message at (714) 948-2205.

SAVE MONEY...REGISTER PRIOR TO MAY 1, 1992

ETIQUETTE FOR EVAC OBSERVATION SESSIONS

by Bob Kelley

These rules are intended to help maintain access and use of the East Valley Astronomy Club observingsite for as many members and their guests as possible, while preserving the conditions that permit everyone to pursue the study and enjoyment of astronomy to the fullest satisfaction.

If you are new to EVAC, or it has been a while since you have been to an observing session, please take a few minutes to review these basic guidelines. Please don't hesitate to ask questions if anything is unclear. Call Bob Kelley at 451-7319.

If you invite guests to star parties which are not public star parties, please read #1 carefully.

- 1) **Members are responsible for their guests. Please provide a copy of this article before departure. *Members must accompany the people they invite and help them understand and follow the rules. Deep sky star parties are not generally for guests because of the serious observing and astrophotography taking place.***

Invited guests are to be as responsible for their behavior and practices as members. Everyone should have a good time if everyone knows the procedures. Please accompany all guests.

- 2) **Use dim red lights after sundown. It takes 15-20 minutes to allow your eyes to adapt to the dark. Even a brief encounter with white lights will ruin it. Also, those attempting astrophotography can have a 20-60 minute guided photo spoiled by extraneous lights.**

Shield or turn off car door or trunk lights (pull fuses if necessary). Use red flashlights at all times. If you must use lights, please ask first, to avoid spoiling someone's night vision or astrophoto.

- 3) **Park based on your observing plan. Park facing towards the exit to avoid using your backup lights.**

If planning to leave early, park away from observers and point your car towards your exit path.

- 4) **Departure times are normally on the hour. Astrophotographers please note!**

Use parking lights only — no headlights please. If necessary, have someone help lead your vehicle out with a flashlight.

- 5) **Those arriving after dark need to drive slowly and turn off headlights.**

Drive 5-10 miles per hour and use parking lights because someone may be in the middle of a 60 minute astrophoto and it will be instantly ruined by bright headlights.

- 6) **Remember, the peace and quiet of the skies should be maintained by keeping loud noises to a minimum.**

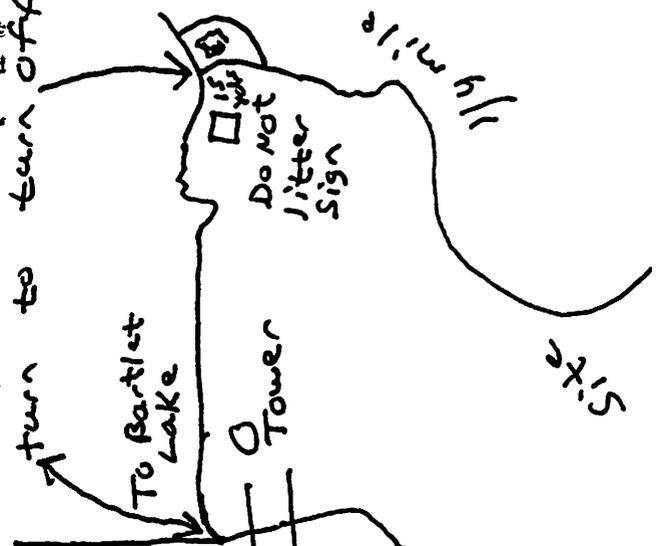
Radios, tape players and horns can disturb others. Please use carefully.

- 7) **Being the last to leave can be frustrating or even dangerous.**

Unexpected occurrences can happen, such as, dead batteries or vandals. The last two observers should make every effort to leave together.

REPRINTED FROM LAST MONTH FOR THOSE OF US WHO FORGOT THEM.

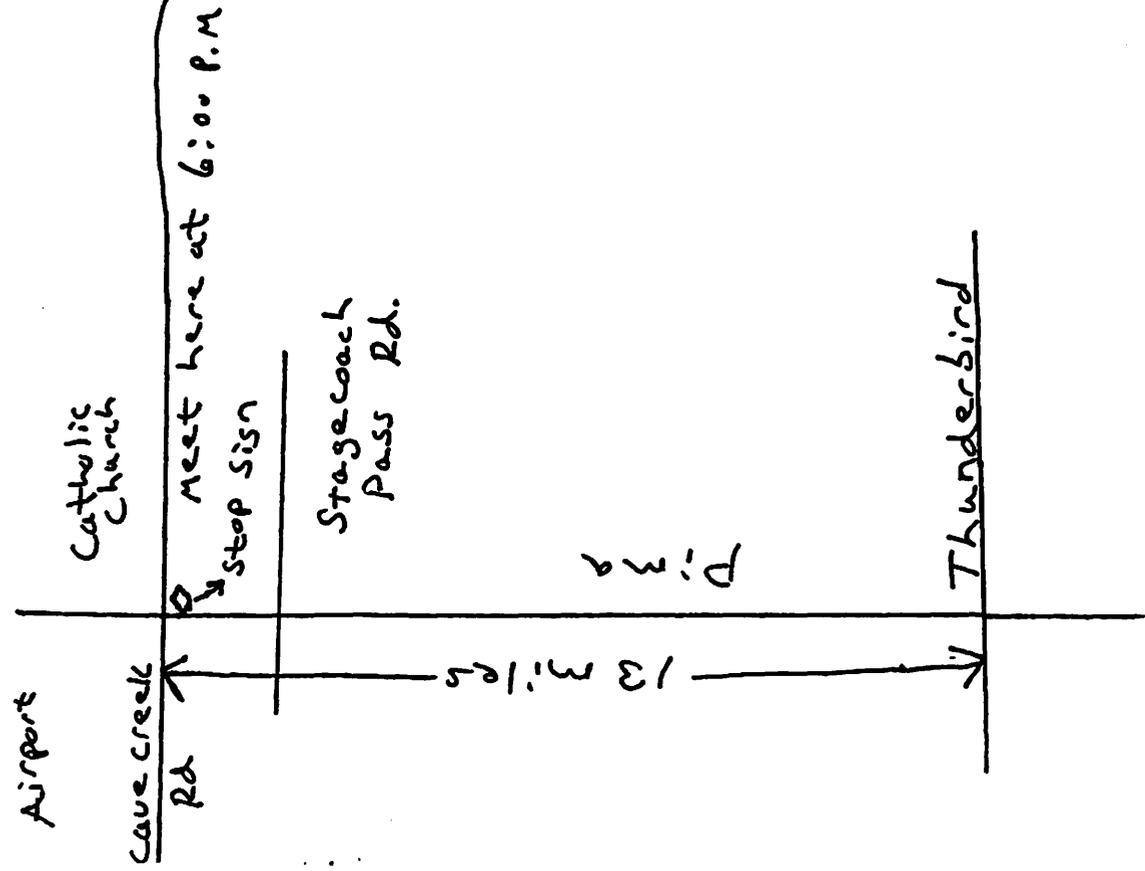
1/10 of a mile to turn off



F.

N

6 miles from stop sign to cattle guard



S



EVAC/Bill Smith
1663 S. Sycamore
Mesa, AZ 85202

