

Editorial

Summertime will be over in a few weeks, but what a summer it was. Once we got over all that rain and cloud, August turned out not to be too bad. The clouds parted just in time for the closest approach of Mars in recorded history. I hope that you all had a good look at it. If not, it will be still quite spectacular for a while yet.

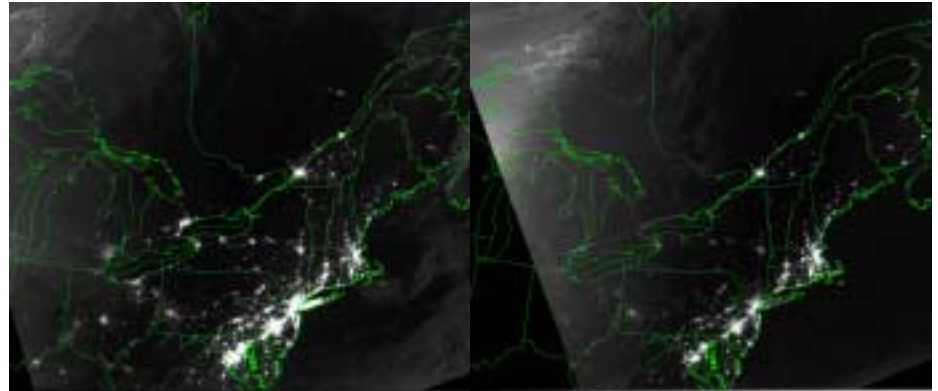
August was also the month of the “Great Blackout”. Fortunately I was away in Nova Scotia at the time, so I didn’t need to worry about losing my air conditioning. For those of you left here, I am sure you must had got at least a good hour’s worth of observing in, on the 14th, before the moon rose. I have even heard that the Milky Way was visible from downtown Toronto! Carl Sagan would have been impressed. I also heard from others in Hamilton, that even with the street lights out, there was still a small glow over the city. What’s up with that!

I think that we should use this opportunity to inform our elected officials on how they a conserve energy by switching to full cut-off lighting. This is the time to go after them, while it is still fresh in their minds. With an election looming, they might even be willing to consider some of our ideas.

On the August long weekend, the club had it’s second annual “Star Party” at the Buckhorn Observatory. Unfortunately this year, the weather was not that good. Despite that I think we all had good time socializing with other members.

Clear Skies

Charles W. Baetsen



Satellite images of Eastern North America before and during the blackout.

Mars – The View of a Lifetime

This past summer has been a great time to be viewing our celestial next-door neighbor. Of course we all know from the media hype that August 27th was the closest our worlds have been and will be for sometime, but what is not as evident or advertised, is that Mars has been great to view for well over a month and will be in the month ahead too. The following was an experience I had back in the middle of July.

“It was a great morning on July 17th, at about 5:00 a.m. south of Peterborough, Ontario. Although a veil of clouds did

roll in for a while, this was not enough to spoil the show. I have never tried to image Mars before, but this morning I had to give it a try and it was worth it.

The attached image was taken with a Nikon digital camera (3.34MP), afocally through a 32 mm Meade EP, in a Meade ETX 90 (Mak). I could not believe the fact you can see the south polar ice cap region and even a hint of Mare Sirenum? Of course the view in the eye piece was better yet, but you should know that the attached images have not been enhanced. I love the colour differential between the disc of Mars and our Moon. I can hardly wait until late August. If this is the sort of image when Mars is at about 19.5 arc seconds, then 25 arc seconds will have to be better?

Inside This Issue

- EDITORIAL
- MARS—A VIEW OF A LIFETIME
- AMAZING SPACE
- THE SKY THIS MONTH
- CLASSIFIEDS
- PAA STARPARTY
- STARFEST 2003
- PAA LIBRARY GROWS AGAIN!
- ASTRONOMY IN PHILATELY



Close Encounters of the Moon/Mars kind

The distance between these two celestial objects in the attached images was only about 0.25 degrees (½ a full moon width apart) this morning. Even in binoculars, it was impressive. Heck, even naked eye viewing was neat. Having our moon in the foreground for scale was what really made the event.

As far as I am concerned, the views of Mars now are no more impressive than earlier this summer. The south polar ice cap has shrunk to a fraction of the size it was in July and it is almost too bright. You most certainly need filters to reduce the glare if you plan to see any details on the planetary disk. Put there is no question we live in interesting times. To be part of a once in a lifetime celestial events is to appreciate the universe we live in with its many wonders.

Keep looking up,

Rick Stankiewicz
PAA member
stankiewiczr@nexicom.net

PAA's August Stargaze a Pouring Success

How often have you gone to a star party and hear the phrase, "you should have been here last night"? Well Friday night was terrific, one of the best we've had this summer. The sky was not only dark, but marvelously transparent. Just ask PAA member George Bryant. Unfortunately, George along with Mike and Ellen Ricks, local astronomer Gord Simpson and myself were the only scopers set up and running. Happily we had about 20 members of the public drop in for sky tours, so a perfect night was not wasted. Mars even provided some fascinating detail during the later hours of the evening. So what else can we say other than – ya should-a been here last night.

Saturday, on the other hand, was a terrific social gathering. Lots of food, plenty to drink, desserts beyond comprehension, and rain, buckets of rain! All of which helped bring the group together – literally. About a dozen took shelter in the gazebo, while

the balance of the tribe cloistered throughout the house. Deb ran the bar-b-q, cranking out burgers and sausages at near light speed, while Colin, Charles, the Stankiewicz's and Dianne did special duty guarding the desserts.

It was a credit to the group to see so many of you brave the rain to help make the dinner party such a success. We were delighted to see Jaan Teng and Susan Phair back now that Jaan's health problems are behind him. And Len drove over from Bobcaygeon having just celebrated his 85th birthday. Plus, new members Mathew and Susannah Walden not only brought themselves along, but another book "*Discovering The Universe*" to donate to our growing library. Thank you!

In addition to our own astronauts, we also welcomed the Anderson Family from the South Simcoe Amateur Astronomers along with Pete and Brenda of the York/Simcoe club.

The order of the day was "rain or shine, we're gonna dine" and that's precisely what we did. In fact, it was well into the evening when the first of the group started departing. Amazingly, everyone still fit back into their cars, though some of the seatbelts must have been a bit tighter on the trip home.



**Peterborough
Astronomical
Association**

The Reflector is a publication of the Peterborough Astronomical Association (PAA). Founded in 1970, the PAA is your local group for astronomy in Peterborough and the Kawarthas.

Website

www.geocities.com/paa_ca

Email

paa_ca@yahoo.com

Club Mailing Address

c/o Dave Duffus
7 Riverview Hts.
Peterborough, ON, Canada K9J1A9

I'd like to thank you all for coming and for tossing in with salads, veggies, chips, pop, beer, wine, and desserts. It was also a special pleasure to meet your wives. Let's do it all again next year. The only thing I'd change would be the weather. A meteor shower would be much more in keeping with the occasion.

John Crossen
JohnCstargazer@aol.com

The Sky This Month

MERCURY:

Mercury will be visible in the morning sky in the last half of this month.

VENUS:

Venus is not visible this month.

MARS:

Located in Aquarius, Mars is still quite amazing to behold, even after opposition.

JUPITER:

Jupiter will be in Leo and appears above the horizon just before the sun, so it is not too impressive yet.

SATURN:

Saturn is visible this month in the early morning hours, located in Gemini.

URANUS & NEPTUNE:

Uranus and Neptune are visible over the summer months, being in Capricorn. Finder charts are available in *Sky & Telescope* or the *RASC Observer's Handbook*.

PLUTO:

Pluto is located in Ophiuchus. You will need to a finder chart like those published in *Sky & Telescope* or the *RASC Observer's Handbook* to find Pluto.

METEOR SHOWERS:

There are no major showers this month

There are several minor meteor showers this summer. For details on these see <http://comets.amsmeteors.org/meteors/calendar.html>.

Astronomy in Philately: A View Of Mars



The planet Mars and the exploration of it has long been a fascination of humankind. This is illustrated in the world's stamps too. A case in point is a series of Hungarian postage stamps produced to show the exploration of our red neighbor in 1974. There were 6 stamps in the set released almost 30 years ago (March 11th). One of the stamps is particularly relevant given our focus on Mars these days.

This stamp shows a view of Mars from the Hale Telescope of the Mount Palomar Observatory on one side of the design and a close up of the 508 cm (200 inch) telescope on the other. This is a nice oversized stamp at 57 by 44 mm. It reminds me of the current close view of our celestial neighbor. It is the largest postal image of Mars I have seen. The image depicts both polar ice caps, along with many of the planets "mares" or seas. The Palomar telescope is impressive in it's own right, but the Red Planet takes centre stage both on this stamp and in our night sky for the next month.

Your Astronomical Philatelist
Rick Stankiewicz
stankiewiczr@nexicom.net

Starfest 2003 Report

As most of you know, Starfest is Canada's premiere star party. Started in 1982, the NYAA has been holding Starfest near Mount Forest since that time. I have been attending this star party off-and-on since 1993. This year, so far as I know, I was the only PAA member to attend, which is too bad, because it was a fantastic weekend.

Traditionally the party really gets going on the Friday evening, though people often show up earlier to take in the dark skies. This year was no exception. I arrived at the site at 1:00 PM, just in time to catch one of the first talks. In this case it was Dr. Doug Welch of McMaster University who was speaking on using the moon to do radio astronomy in the near future. His talk ended with a project that you can do in your basement (literally) to observe the sun using VLF radio waves.

Some of the other speakers that weekend were Alan Ward (of Moon Ward optics),



One of the more interesting home made scopes!



Hundreds gather to look for bargains at the swap tables

David Levy and of course Terrance Dickenson. David Levy gave a fantastic talk on his 40 years of observing. Terrance Dickenson gave a talk on how Mars was viewed over the centuries and suggested a explanation as to why so

many people saw the famous canals on the red planet during the last century.

Besides listening to the speakers, Starfest is a great place to buy that next toy for your collection. All the major



Wouldn't you want this in your backyard?

vendors of Southern Ontario were represented, with the exception of Perceptor. Even some American vendors like "Astro Cards" were represented. Saturday was "swap table" day. As you can see from the photos there were lots to be had by all.

Of course the highlight of the party was the dark skies. We were fortunate to have two very good nights of viewing. There was everything there from a 30" Obsession to Takahashis and more. There also were several solar scopes set up during the day, for solar viewing.



Takahashi Heaven!

Starfest over the years has always been a great star party, despite the weather. In years past they have had Al Naglar (founder of Televue), Jack Newton, Peter Cerevolo, Stephen James O'Meara, Don Parker, David Lane, Ivan Semeniuk and even an astronaut (Claude Nicollier) to speak to an enthusiastic crowd of astronomers.

I hope to see more of you there next year.

Clear Skies

Charles W. Baetsen
va3ngc@rac.ca

Two New Books on the PAA Library Shelf

The Astronomy Café offers the answers to 365 frequently asked questions on everything from our sun to the farthest reaches of the universe and beyond. Written by astrophysicist Dr. Sten Odenwald, the book even answers questions on what it's like to be a professional astronomer. Informative and highly readable, the book brings astronomy down to Earth. You can also visit Dr. Odenwald at the Astronomy Café web site at: <http://www.2ari.net/home/odenwald/cafe.html>.

Astronomy, The definitive guide lives up to its name by providing a little bit of information on a wide range of astronomical topics. In it you'll find sections on the early astronomers, early telescope development, the naming of constellations, modern day astronomers, light pollution, amateur observing equipment – both telescopes and binoculars, and even a brief section on astrophotography. Both the North and South Hemispheres are covered. Plus you'll find write ups and photographs on most of the more popular Messier objects. If you're looking for a good general guide to astronomy, this book, prepared under the direction of Robert Burnham, is a good one.

John Crossen
JohnCstargazer@aol.com

Amazing Space

In the hobby of astronomy we regularly encounter numbers which are beyond the means of human comprehension. Here are a few more to contemplate, and perhaps comprehend.

A neutron star is about the size of a mountain. However, it contains two or three times as much material as our sun. In fact, its density is so great that a tea-

spoonful of a neutron star would weigh more than a million railroad locomotives.

Quasars are thought to be the brightest objects in the universe. Their light often outshines that of a thousand galaxies such as our Milky Way. They are also so remote, that their light began heading towards our solar system, long before it was born. After all, our solar system is only about 4.5 billion years old. Given our expanding universe, quasars are much further away than 4.5 billion light years – therefore older – than our solar system.

If the collapsing core of an exploding star is about four times the mass of our sun, it does not stop compressing when it becomes a neutron star. Instead, it continues to collapse – or crush – itself out of existence. What remains is its gravity field, or what we call a black hole.

We currently know of 101 planets orbiting other suns. And the number seems to be growing just as fast as the technology responsible for their discovery. But these new solar systems are nothing new to the human mind. The philosopher Giordano Bruno once said: "Innumerable Earths orbit about other suns." That was in 1600 AD, over 400 years ago.

Mankind has journeyed to the Moon, and has proudly strutted this achievement over the years. But when it comes to traveling real distances, the Apollo 11 mission traveled just 1.3 light seconds compared to the 4 light hours it would take to reach the outer limits of our solar system. And to reach the next nearest star (after our Sun) would take 4.3 light years.

Jupiter is well known as the king of planets. In fact, our home planet would fit into Jupiter's great red spot about twice over. Were it possible to drive around Jupiter's equator in a car, the journey would require six months of non-stop, 24-hour-a-day motoring. The same trip circumscribing Earth would be over in about two weeks.

The sun is 109 times the diameter of planet Earth. Compared to us, that's big. But compared to the star Rigel in the constellation Orion, that's peewee. Rigel is 30 times the sun's diameter and is 50,000 times as powerful.

John Crossen
JohnCstargazer@aol.com

The above facts were gleaned from one of the PAA library's newest additions – Exploring the Night Sky by Terence Dickinson.

Classifieds

For Sale:



Tektites:

Have your very own Tektite at a very reasonable price! Tektites are glassy pieces of rock that are formed when meteorites or asteroids impact earth. Earthen material is fused together and ejected into space to fall back as, "Tektites". This may be the closest to a space object that you can own? These specimens come from China. For sale, are four nice sized and shaped specimens of the unusual varieties that Tektites are found in. Each one is unique. They are available for \$6.00 each. Each specimen comes with a sheet that tells the story of Tektites.

Contact Rick Stankiewicz
Phone (705) 295-6158
E-mail: stankiewiczr@nexicom.net,

Only while supplies last!

ARTICLES

Submissions for *The Reflector* must be received by the date listed below. E-mail or “sneaker-net” (i.e., floppy disk) submissions are preferred (Microsoft Word, ASCII and most graphics formats are acceptable). Typed or hand-written submissions are acceptable provided they are legible (and not too long). Copyrighted materials will not be published without written permission from the copyright holder. Submissions may be edited for grammar, brevity, or clarity. Submissions will be published at the editor’s sole discretion. Depending on the volume of submissions, some articles may be published at a later date. Please submit any articles, thoughts, or ideas to this address:

Charles Baetsen
4094 Squair Rd
Orono, ON
L0B 1M0

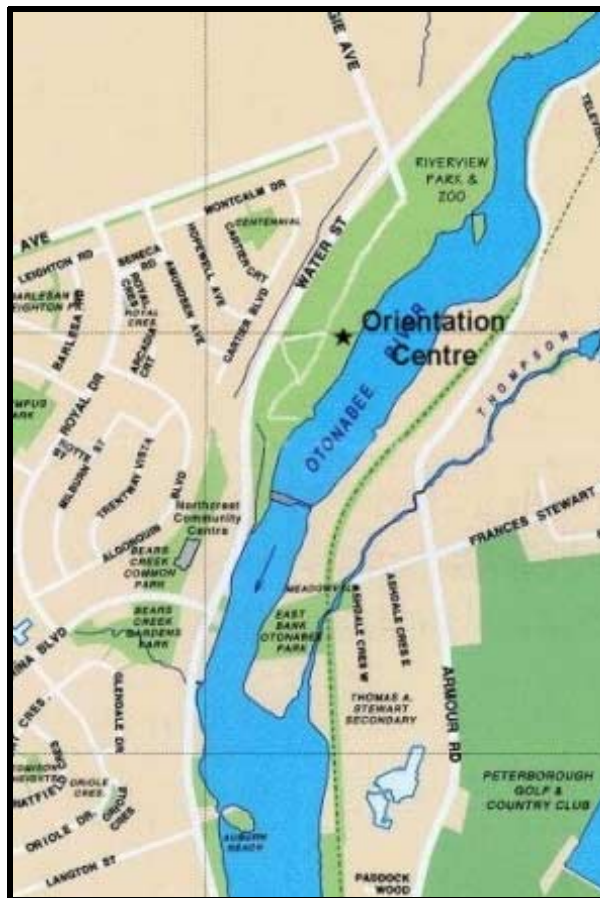
or via e-mail at:
va3ngc@rac.ca

**NEXT ISSUE'S
DEADLINE IS
Sept 29th, 2003**



MEETINGS

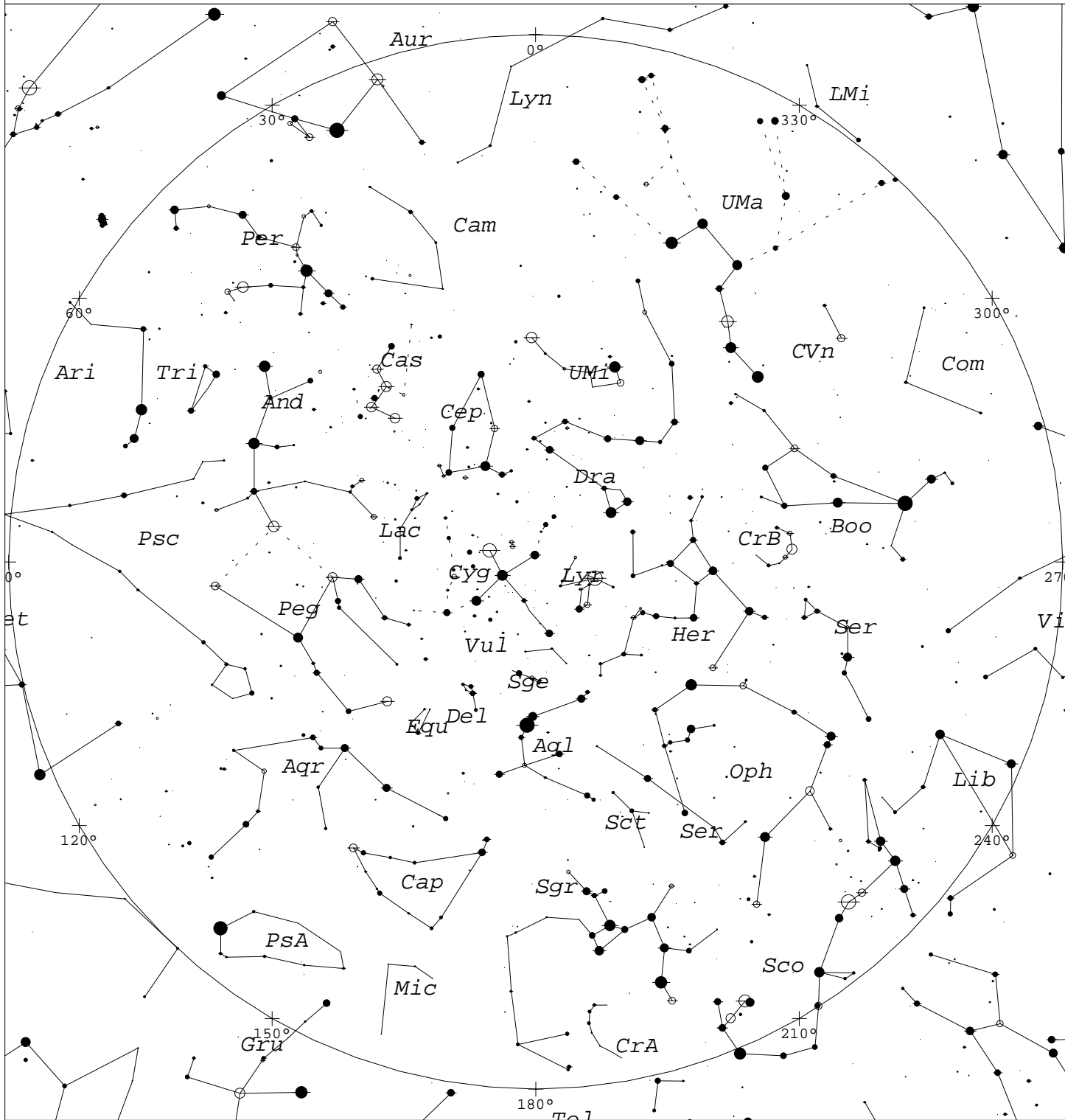
The Peterborough Astronomical Association meets every second Friday at the Peterborough **Zoo Orientation Centre** (Next to the PUC Water Treatment Plant) at **7:30 pm**.



1 CALENDAR OF EVENTS 1

September 3, 2003	First Quarter (☾)
September 5, 2003	General Meeting — Topic to be announced
September 10, 2003	Full Moon (☉)
September 18, 2003	Last Quarter (☾)
September 19, 2003	General Meeting — Topic to be announced
September 25, 2003	New Moon (●)
October 3, 2003	General Meeting — Topic to be announced

September Skies



STARS		SYMBOLS		
● <1	• 3.5	● Multiple star	☐ Dark nebula	△ Radio source
● 1.5	• 4	○ Variable star	⊕ Globular cluster	× X-ray source
● 2	• 4.5	☄ Comet	○ Open cluster	○ Other object
● 2.5	• >5	☉ Galaxy	○ Planetary nebula	
• 3		☐ Bright nebula	⊗ Quasar	

Local Time: 21:00:00 1-Sep-2002
 Location: 43° 39' 0" N 75° 0' 0" W

UTC: 02:00:00 2-Sep-2002
 RA: 19h44m13s Dec: +43° 38' Field: 182.0°

Sidereal Time: 19:44:12
 Julian Day: 2452519.5833