QUEEN'S UNIVERSITY ASTRONOMY CLUB
and the
ROYAL ASTRONOMICAL SOCIETY OF CANADA

Next meeting:
Tues. Nov. 9, 1976
8:00 pm, room 222
Ellis Hall

"Items of business" :

*******Remember designs for T-shirts if you are interested
Bring ideas for meetings

*******Consider whether you want to go on the Toronto "field trip"
Bring your own chair if you come late!

## THE VIKING 1 and 2 LANDINGS

The summer and early fall of 1976 brought new interest in Mars as two highly successful American unmanned probes landed on the planet. For those who have not been avidly following the reports in the press, a brief synopsis of the discoveries made so far by the two missions is perhaps in order.

Viking 1 landed on Mars on July 20, 1976, almost a year after being launched, the landing site being the plain of Chryse, on the Martian equator. The photographs it sent back by radio showed that Mars is indeed a red planet; they revealed a rolling landscape littered with rocks with occasional sand dunes and unexpectedly, a pink and surprisingly bright sky, presumably caused by red dust particles in the air, Instruments showed that temperatures varied from a low of -86°C just after dawn, to a high of -30°C. Winds were typically light, about 25 km/hr. Atmospheric pressure was about 13 mbar., in other words about 0.8% of atmospheric pressure on earth. The composition of Mars atmosphere was measured by Viking 1 indicating that it is composed of about 92% carbon dioxide, 5% nitrogen, 2% argon, and 1% other gases. The presence of nitrogen in the atmosphere had been previously unknown.

The Viking 2 probe, which landed on September 3 on a part of Mars known as Utopia, sent back information very similar to that of Viking 2. Temperatures were somewhat lower, and winds higher, which was not surprising, due to the location being more northerly (48° North). The Viking 2 orbiter sent back some interesting information also. It determined spectroscopically that Mars' polar caps are composed of water ice, not dry ice, as had been theorized. Also, it took some close-up photographs of Phobos, Mars' larger moon, which showed parallel grooves or rilles, on the surface which have yet to be explained.

The most controversial data to be received from both the Viking landers, however, are the results of the life-detecting tests. Both detected oxygen and carbon dioxide gas being given off from their tests: indicating the presence of microbial organisms, but no traces of organic material were found. Therefore, it seems impossible to determine whether the findings are the result of chemical reactions in the soil, or actually indicated the presence of life on Mars.

Chris Sergeant

NOTE: for any who did not hear Dr. Bridle last meeting, a former Queen's student is a Viking scientist, and we may be able to get him to lecture in the Spring, and thereby get firsthand (sort of) information about this.

Normally, the interesting events coming up are printed in the newsletter. I'm sorry that I did not get them in this time--come to the meeting to find out. ANYONE WHO HAS SOMETHING ( AN ARTICLE SOME NEWS, A JOKE) THAT THEY WOULD LIKE TO SEE PUT IN THE NEWSLETTER JUST GIVE IT TO ME, SUSAN MCDOUGALL, AT A MEETING, OR DROP IT BY MY HOUSE, 306 FRONTENAC ST. Thanks.

In keeping with the theme of this newsletter, we have--A Martian Joke:
Q. Why is Martian Poetry so hard to write?
A. Have you ever tried to rhyme logarithms?

<u>WE WILL BE LOOKING FORWARD TO SEEING YOU AT THE MEETING -- BRING A FRIEND!</u>