

By The DBI Staff Writer

Since the DBI tag line is, "Direct Shipping *Beyond* Limitation", I thought a little bit of focus on an object deep in space that is really *Beyond* our physical location might be a little fun for this months front article. Recently, Voyager 1, a deep space exploration vehicle came the closest to exiting our solar system than it has ever come. This by far, makes Voyager 1 the furthest a man-made object has gone in the history of mankind.

Launching in September of 1977, Voyager 1 was one of two deep space exploration vehicles that were launched around the same time; with Voyager 2 launching the month prior in August of 1977. Both vehicles were originally launched to study the outer planets of our solar system: Jupiter, Saturn, Uranus and Neptune. In 1980, after those missions were completed, both Voyagers 1 & 2 embarked upon an even more interesting mission of studying the boundaries of our solar system.

Voyager 1 is anywhere from a matter of days to just a few years from exiting our solar system.

The spacecraft is currently over 11 billion miles from earth in what has been described as a bizarre region at the edge of the solar system. In fact, the scientists theories were not able to predict anything close to what is occurring.

Its hard to tell how long it will really take Voyager 1 to exit the solar system because the deep space explorer has sent back information confounding the astrophysicists whose job it is to study the information that it sends back to earth every 17 hours. What is happening is that the sun produces a plasma of charged particles called the solar wind, which get blown supersonically from its atmosphere at more than 10,356 miles per second. The closer to the sun you are the higher the intensity of the charged particles that are flying around you. Eventually as you approach the end of our solar system you begin to enter the interstellar medium - a completely different flow of particles expelled from the deadly explosions of massive stars from deep in outer space. The extremely energetic ions created in these bursts are known as galactic cosmic rays and they are



Voyager 1 lifts off aboard a Titan IIIE on Monday, Sept. 5, 1977

mostly blocked from coming into the solar system by the solar wind. Researchers know that Voyager 1 entered the edge of the solar wind in 2003, when the spacecraft's instruments indicated the particles around it were moving subsonically, having slowed down after traveling far from the sun. Then, about a year ago, everything got really quiet around the probe. Voyager 1's instruments indicated that the solar wind suddenly dropped by a factor of 1,000, to the point where it was virtually undetectable. This transition happened extremely fast, merely taking a few days.

At the same time, the measurement of galactic cosmic rays increased significantly, which would be just as the physicist's expected if the vehicle were outside the solar wind. It looked almost as if Voyager 1 had left the sun's influence. The problem is, if the solar wind was completely gone, galactic cosmic rays should be streaming in from all directions. Instead, Voyager found them coming from one direction. Furthermore, even though the solar particles had dropped off, the probe hasn't measured any real change in the magnetic fields around it. No one is entirely sure what is going on. Astronomer Merav Opher of Boston University says that, "In some sense we have touched the intergalactic medium, but we're still inside the sun's house." Extending this analogy, Adam Mann with the tech magazine, Wired says that, "it's almost as if Voyager was going outside, but instead found itself standing in the fover of the sun's home with an open door that allows wind to blow in from the galaxy. Not only were scientists not expecting this foyer to exist, they have no idea how long the probe will stay inside of it. The probe could travel some months or years before it reaches interstellar space. Whenever it does exit our solar system, it will be the first man made object to travel outside of our solar home. And if it happens to be found by other intelligent life in the universe, the scientists that sent Voyager's 1 & 2 on their way, also created something called the "Golden Disc" that was placed on each vehicle. The disc will explain the vehicles place of origin, greetings from our planet, sounds and sights of earth and instructions on how to find us. Hopefully, they'll be friendly aliens and not the hostile sort. The disc is actually a gold plated copper version of the old school vinyl record. All of the information is recorded in an analog format. The back side of this gold LP has all of the aforementioned info along with instructions on how to play the disc. You can see a photo of both sides of the LP and an explanation of all of the symbols on page 2 of our newsletter. If you're interested in an interactive experience of what's on the golden disc, you can visit www.goldenrecord.org. In the mean time we await the big news that Voyager 1 has exited our neighborhood and truly gone Beyond where none of us have gone before! When that happens, DBInsider Focus will send an update in one of our future newsletters, and begin plans to set up a new terminal in interstellar space!

Juicing

Fruits and vegetables are excellent sources of a wide range of vitamins, minerals, enzymes, and other nutrients including phytochemicals (compounds that have been shown to combat cancer). No supplement pill can contain all of the healthful substances found in these foods. A rich assortment of fruits and vegetables should be included in the diet. It is recommended that you consume two glasses of live juices a day for health maintenance, four glasses if want to speed healing and recovery from illness. Live juice contains the whole fruit or vegetable excluding the fiber which is indigestible. It contains virtually all of the plants' health promot-



Glynis Jorritsma

ing components. I always feel a boost of energy and an improved sense of well-being when juicing.

A Breakdown of the Instructions on the back of the of the "Sounds of Earth" Golden Disc.



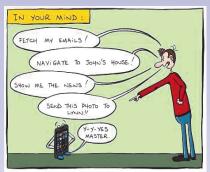
US on Highway Diesel Fuel Prices for California:

7/01/13: \$4.015 per gallon 7/08/13: \$4.026 per gallon 7/15/13: \$4.065 per gallon



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