

## **Voyager Interstellar Record Collection, 1976-1977**

**1.3 cubic feet**

**JPL 151**

### **History**

Project Voyager was a dual spacecraft long-range mission that conducted a “Grand Tour” of the Outer Planets. The project, originally called “Mariner Jupiter/Saturn 1977” (MJS77) was approved by NASA and Congress in June 1972. MJS77 was renamed Voyager in 1977, slightly before the first launch date. The two Voyager spacecraft were launched in August and September 1977. Voyager 1 made its closest encounter with Jupiter on March 5, 1979; Voyager 2 reached Jupiter on July 9, 1979. Voyager 1 reached Saturn on November 13, 1980. Voyager 2 reached Saturn on August 26, 1981. Voyager 2 then headed towards Uranus and Neptune, while Voyager 1 traveled north of the Ecliptic after its Saturn encounter. Voyager 2 encountered Uranus on January 24, 1986 and Neptune on August 25, 1989. Both Voyager spacecraft continue to send back scientific telemetry, twenty-two years after leaving Earth and will continue doing so until the power runs out in both spacecraft, around 2017.

The two Voyager spacecraft was the third and fourth human artifacts to escape entirely from the solar system. Pioneers 10 and 11, which preceded Voyager in outstripping the gravitational attraction of the Sun, both carried small metal plaques identifying their time and place of origin for the benefit of any other spacefarers that might find them in the distant future.

With this example before them, NASA placed a more ambitious message aboard Voyager 1 and 2, a kind of time capsule, intended to communicate a story of planet Earth to extraterrestrials. The Voyager message is carried by a 12 inch gold-plated copper disk containing sounds and images selected to portray the diversity of life and culture on Earth. The contents of the record were selected for NASA by a committee chaired by Carl Sagan of Cornell University. In fact the whole idea of the disk was Sagan and his wife’s, Ann Druyan. Dr. Sagan and his associates assembled 115 images and a variety of natural sounds, such as those made by surf, wind and thunder, birds, whales and other animals. To this they added musical selections from different cultures and eras plus spoken greetings from Earth-people in 55 languages and printed messages from President Carter and U.N. Secretary General Waldheim.

Each record was encased in a protective aluminum jacket, together with a cartridge and a needle. Instructions, in symbolic language, explain the origin of the spacecraft and indicate how the record is to be played. The 115 images are encoded in analog form. The remainder of the record is audio, designed to be played at 16 2/3 revolutions per minute. It contains the spoken greetings, beginning with Akkadian, which was spoken in Sumer about six thousand years ago and ending with Wu, a modern Chinese dialect. Following the section on the sounds of Earth, there is an eclectic 90 minute selection of music, including both Eastern and Western classics and a variety of ethnic music.

As the Voyager spacecraft leave the solar system, they will find themselves in empty space. It will be forty thousand years before they make a close approach to any other planetary system. As Carl Sagan has noted, “The spacecraft will be encountered and the record played only if there are advanced space-faring civilizations in interstellar space. But the launching of this bottle into the cosmic ocean says something very hopeful about life on this planet”.

### **Provenance**

John R. Casani, who was the Chief Engineer for the Jet Propulsion Laboratory (JPL), Section 500, Office of Engineering and Mission Assurance, transferred the collection to the JPL Archives on October 29, 1997.

### **Collection Arrangement and Description**

Part of the collection consists of 8 14 inch instantaneous metal core master recording disks mounted in an aluminum shipping container. The records are made of a lacquer vinyl exterior with a copper-plated interior. The outside of the aluminum container contains shipping labels from various companies. Pyral S.A., a corporation in Creteil, France had forwarded the blank records to the JVC Cutting Center, Inc. in Boulder, Colorado who was contracted by CBS Records to cut the lacquer masters. Once that was done, they were sent to the James G. Lee Record Processing center in Gardena, California, the company contracted to cut and gold plate the master Voyager records. Once the process was completed, the 8 vinyl records were placed back into the original container and forwarded to JPL. Since a suitable device is not currently available, these recordings cannot be played back in the Archives.

The collection also includes 80 8 inch by 10 inch color photographic prints, 113 3 1/2 inch by 5 inch color photographic prints and 121 2 inch by 2 inch color slides.

The photographs and slides show various wide and narrow angle images of the manufacturing process of the "Golden Record" for the Voyager spacecraft. Also, some of the photographs and all the slides depict the images of Earth, which form part of the contents of the Golden Record.

These photographs were stored in various photo albums.

Most of the photographs have an identification number on the back. Some have *JPL* or *P* prefix numbers indicating they are part of the JPL Still Image Negative set. Others have no alphanumeric identification, indicating they were never a part of the JPL Still Image Negative set.

### **Conservation/Preservation**

Standard preparations of materials for long term storage was completed. The prints and negatives were placed into 12 file folders, with their original order retained and the 8 records were kept in their original shipping container and placed in an oversized archival box.

### **Separation Statement**

No materials were separated from the collection.

### **Finding Aids**

No other finding aids exist.

### **Other Sources**

<http://vraptor.jpl.nasa.gov/voyager/record.html>

<http://www-b.jpl.nasa.gov/voyager/img-p24652a.html>

*Murmurs of Earth, The Voyager Interstellar Record*, by Carl Sagan, F.D. Drake, Ann Druyan, Timothy Ferris, Jon Lomberg and Linda Salzman Sagan, [New York, New York: Ballantine Books, November 1979].

### **FILE FOLDER LIST**

#### **BOX 1 of 2**

Fld 1            Photographs of the manufacturing of the Voyager "Golden Record", manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19220 BC, P-19217 AC, P-19217 BC, P-19218 AC, P-19218 BC, P-19222 AC and P-19222 BC.

- Fld 2            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19216 AC, P-19216 BC, P-19219 AC, P-19219 BC and P-19220 AC.
- Fld 3            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19221 AC, P-19221 BC, P-19379 AC, P-19379 BC and P-19380 BC.
- Fld 4            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. 260-235 AC, 260-235 BC, 260-236 AC, 260-237 AC and 260-237 BC.
- Fld 5            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19377 AC, P-19377 BC, P-19378 AC, P-19378 BC, P-19380 AC, P-19404, P-19446 AC, P-19446 BC, P-19447 AC and P-19448.
- Fld 6            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19447 BC, P-19464 AC, P-19464 BC, P-19465 AC, P-19465 BC, 352-6779 AC and 352-6780 AC.
- Fld 7            Photographs of the manufacturing of the Voyager “Golden Record”, manufactured by the James G. Lee Record Processing Center. JPL Negative Nos. P-19379 AC, P-19379 BC, P-19380 BC, 260-210 B, 260-236 AC, 260-236 BC, 260-238, 260-241 AC, 260-241 BC and 352-6692 AC.
- Fld 8            Voyager - Sounds of Earth record labels, side one and two.
- Fld 9            Voyager – Sounds of Earth record photograph index and photograph images nos. 1-42.
- Fld 10           Voyager – Sounds of Earth record photograph images nos. 43-83.
- Fld 11           Voyager – Sounds of Earth record photograph images nos. 84-116.
- Fld 12           Voyager – Sounds of Earth record, 2” by 2” color negative slides of each of the 116 images.

**BOX 2 of 2**

Over Sized Box – 8 14 inch instantaneous metal core master recording disks mounted in an aluminum shipping container.

**CATALOG DESCRIPTION**

Voyager Interstellar Record Collection, 1976-1977

1.3 c.f. in 2 boxes

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eras plus spoken greetings from Earth-people in 55 languages and printed messages from President Carter and U.N. Secretary General Waldheim.

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Register available in the repository.

#### Tracings

Jet Propulsion Laboratory (JPL) – History

Jet Propulsion Laboratory (JPL) – Voyager "Golden Record" Photographs and Slides.

Voyager Project

Voyager Interstellar Record Project

Sagan, Carl

Accession Nos. 98-53N and 98-190N