

NASA

Sample Receiving Facility

Introduction

NASA has been planning for the eventual establishment of a Sample Receiving Facility (SRF). Unlike any other, this facility would be tasked with safely housing and researching samples collected from various celestial bodies that could contain microbial life. It is expected that the first returned samples would come from Mars, followed by missions to acquire samples from the outer Solar System (e.g. Enceladus).

Location Selection

In determining the location selection for a SRF, no official policy exists. However, there have been several reports that recommended parameters for SRF location selection. The following criterion is largely based on those reports:



Methane Ice Worm. Credit: NOAA

- **Evacuation/Containment Infrastructure** – Nearby airports, freeways/highways, and military-related infrastructure.
- **Population Density** – Populations of host area.
- **Biological Activity** – Nearby water sources, habitats, and wildlife.
- **Bio-Related Workforce** – Existing site employees or nearby bio-related workforce.
- **BSL-4 Lab** – Existing Biosafety Level-4 Lab nearby or within region.

NASA Center	Location	Evacuation / Containment Infrastructure	Population Density	Biological Activity	Bio-Related Workforce	BSL-4 Lab
Armstrong Flight Research Center	Edwards AFB	Extensive	Low	Low	No	No
Jet Propulsion Laboratory	Pasadena	Limited	High	High	Yes	No
Ames Research Center	Mountain View	Marginal	High	High	Yes	No



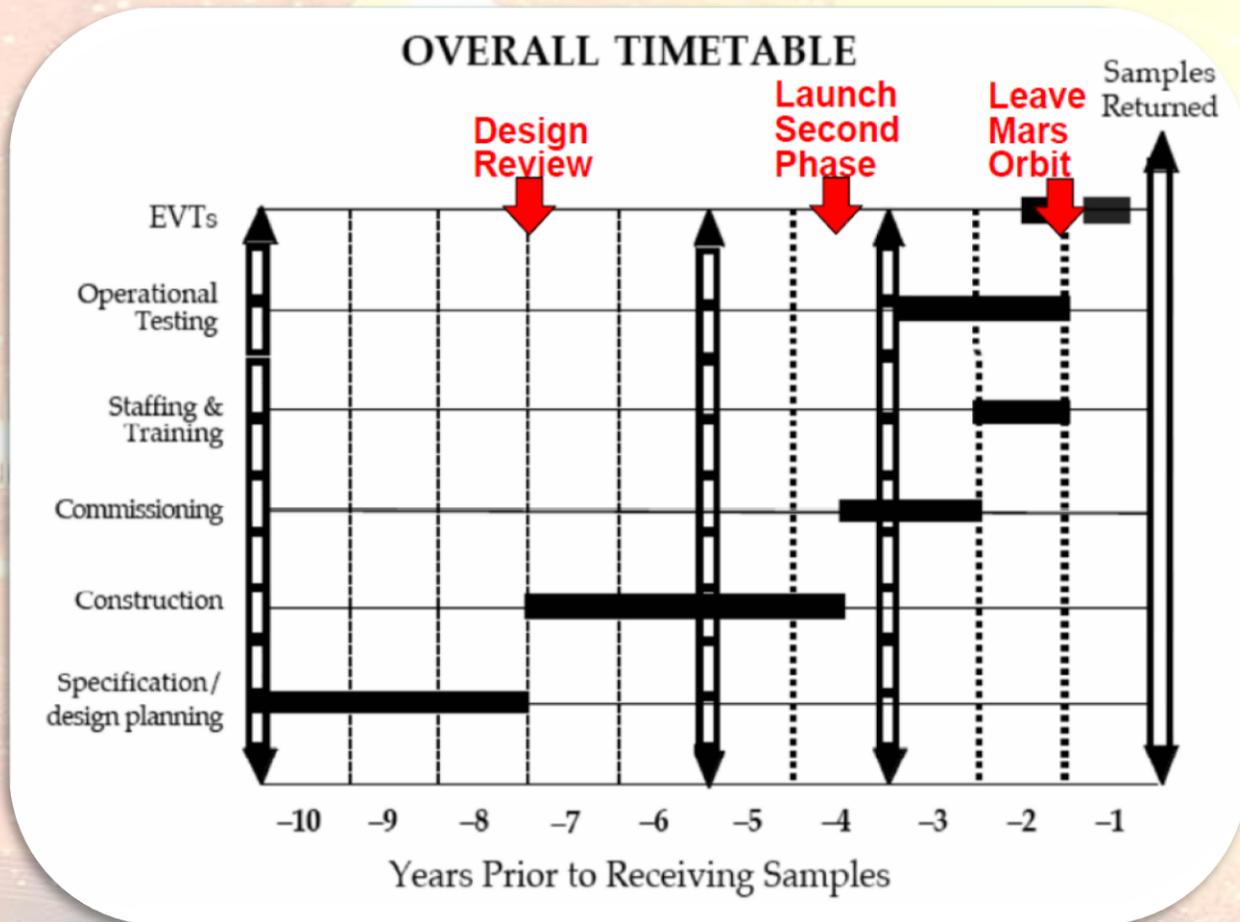
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Economic Benefits

There are several economic benefits that come with a SRF: high-paying jobs, tourism & hospitality activity (particularly when samples are on-site), and filming requests. It would also serve to inspire students into science, technology, engineering and math (STEM) careers.



Credit: USRA

Next Steps

Because no such facility currently exists, it would have to be built prior to any sample return mission. The date of the proposed Mars Sample Return mission is currently unknown. To accelerate this inevitability and ensure an SRF is located within California, engaging NASA with incentives (e.g. financial & workforce support) could be a first step.