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Space Resources, the Enabler of the Earth-Moon Econosphere (5)

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ZENTIH-1: THEORETICAL DESIGN OF A MINING MISSION TO 511 DAVIDA

Abstract

Zenith-1 is a small team interstellar design competition entry with the primary mission of mining and refining metals on 511 Davida to be sold to buyers on Earth. This document includes orbital mechanics considerations for the crewed and uncrewed transits to and from 511 Davida. Iron, nickel, and cobalt will be the primary metals mined and refined on the settlement. The students responsible for this entry. Zenith-1 will function as a project under the theoretical Apogee Enterprises which aims to research, advance, and develop the aerospace industry through various space missions and settlements. This revenue from Zenith-1 will be transferred directly to Apogee Enterprises to further fund space endeavors and pay off investors who fund specific projects.

Zenith-1 will be tethered to asteroid 511 Davida by the central cylindrical tube of the settlement. This will allow the 3 tori to rotate and simulate a 1g environment. Zenith-1 will utilize nuclear fusion for energy and hydroponics as well, as STEM cell meat production for food sources. These three systems are very self-sustaining and utilize new technology that can greatly simplify space colonization.

Apogee Enterprises will function as a private organization that aims to research, advance, and develop the aerospace industry one mission at a time. Through satellites, rovers, manned missions, and space infrastructure Apogee Enterprises will be able to properly conduct research and develop new technologies. On Earth and in space Apogee Enterprises will function to better the space industry one step at a time.