



EXHIBIT D
Orbital Debris Assessment Report (ODAR)
Pelican Satellites 2-10

This report is presented in compliance with NASA-STD-8719.14C, APPENDIX A

Report Version: 7.0
May 27, 2025

DAS Software Version Used in Analysis: v3.2.6

A handwritten signature in blue ink, appearing to be "BL", on a white background.

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Self-assessment of the ODAR using the format in Appendix A.2 of NASA-STD-8719.14:

A self assessment is provided below in accordance with the assessment format provided in Appendix A.2 of NASA-STD-8719.14.

Orbital Debris Self-Assessment Report Evaluation: Pelican

Rqmnt #	Spacecraft			Comments
	Compliant	Not Compliant	Incomplete	
4.3-1.a	☒	☐	☐	No Debris Released in LEO.
4.3-1.b	☒	☐	☐	No Debris Released in LEO.
4.3-2	☒	☐	☐	No Debris Released in GEO.
4.4-1	☒	☐	☐	Compliant.
4.4-2	☒	☐	☐	Compliant.
4.4-3	☒	☐	☐	No Planned Breakups.
4.4-4	☒	☐	☐	No Planned Breakups.
4.5-1	☒	☐	☐	Compliant.
4.5-2	☒	☐	☐	No Critical Subsystems Needed for EOM Disposal.
4.6-1	☒	☐	☐	Atmospheric Entry.
4.6-2	☒	☐	☐	No Disposal Near GEO.
4.6-3	☒	☐	☐	No Disposal Between LEO and GEO.
4.6-4	☒	☐	☐	Compliant.
4.7-1	☒	☐	☐	Compliant.
4.8-1	☒	☐	☐	No Tethers Used.

Assessment Report Format:

ODAR Technical Sections Format Requirements:

This ODAR follows the format recommended in NASA-STD-8719.14C, Appendix A.1 and includes the content indicated at a minimum in each section 2 through 8 below for the Pelican spacecraft. Sections 9 through 14 apply to the launch platform and are not covered here.

ODAR Section 1: Program Management and Mission Overview

Project Manager: Planet Labs, PBC (“Planet”)

Foreign government or space agency participation: None

Initial Launch: Nov. 11, 2023

Mission Overview:

The first and second Pelican satellites were launched into 520-525 km circular sun-synchronous orbits as secondary payloads. Subsequent Pelican launches are expected to have 535 km or lower insertion orbits as secondary launch providers are providing lower altitude injection orbits. Accordingly, for purposes of this ODAR, Planet is assuming a maximum injection altitude of 535 km in assessing collision probability, orbital lifetime, and casualty probability. This ODAR reflects the updated nominal altitude (440 km) and range of inclinations (either SSO or 53 degrees) requested in Planet’s modification relating to Pelicans 2-10. The ODAR also reflects the addition of the L-band antenna, for which Planet simultaneously seeks authorization in the modification which, depending on business needs, Planet may put on some of Pelicans 5-10.

After launch, the Pelican spacecraft will be commissioned. During this period, 3-axis control and transmitters will be enabled and the solar arrays will be deployed.

Subsequently, the satellite will use onboard propulsion to maneuver to a target, operational 440 km +/- 25 km circular altitude. At the end of life, the satellite will enter a coarsely controlled attitude state and re-enter the atmosphere under the influence of natural orbital decay.

Planet provides this updated ODAR only with respect to the first 10 spacecraft intended to be launched under the initial design. The planned distribution of orbital inclinations for the initial 10 Pelican satellites is shown in Table 1.¹

¹ Planet requests authorization to operate up to six satellites of the first ten satellites in either SSO or 53 degree inclined orbits to enable a wider range of launch opportunities.

Table 1 - Planned orbital parameters for initial ten Pelican deployments

Range of insertion altitude (km)	Nominal operational altitude (km)²	Inclination (°)	Number of Spacecraft
525	350	97	1
250-535	440	97	3/4/5
250-535	440	53	6/5/4

ODAR Summary: No debris is released in normal operations; no credible scenario for breakups; the collision probability with other objects is compliant with NASA standards; and the estimated nominal decay lifetime due to atmospheric drag is under 5 years following end of mission operations (as calculated by DAS 3.2.6).

Mission duration:

Nominal mission duration per spacecraft is 5 years.

Launch and deployment profile, including all parking, transfer, and operational orbits with apogee, perigee, and inclination:

Due to a variety of launch options currently under consideration, a range of initial insertion orbits is presented in this analysis. A maximum semi-major axis of 6913 km (535 km above sea level) in both SSO (approximately 97°) and 53° inclined orbit is considered for all analyses. The satellites will transfer from the insertion orbit to the nominal 440 km +/- 25 km circular operational attitude using onboard electric propulsion. There are no parking orbits.

Protection of the International Space Station (“ISS”): Planet’s proposed nominal operating orbit for the initial Pelican satellites is above the orbital altitude of the ISS and will eventually require transiting through the ISS’s orbit at end-of-mission. The Pelican satellites use a propulsion system and have the ability to make collision avoidance maneuvers. Planet has routinely worked with the relevant ISS parties to assess and manage close approaches for many years and will also do so for Pelican flight operations. Planet has established processes that monitor conjunction data messages for potential close approaches and will initiate collision avoidance maneuvers as

² The first satellite was commissioned at 525 km and the lowering campaign has taken longer than the eighteen months originally envisioned. Planet anticipates that Pelican-1 will reach its nominal operational orbit of 350 km by approximately May 2026. Pelican-2 is expected to reach its nominal orbit of 440 km by September 2025. The remaining Pelican satellites will take approximately six months from insertion to reach nominal operational orbits.

necessary. Planet also routinely screens and adjusts all maneuvers to minimize conjunction probability prior to scheduling their upload and execution on spacecraft. Planet certifies that upon receipt of a space situational awareness conjunction warning (related to the ISS or any other spacecraft), Planet will review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including by contacting the operator of any active spacecraft involved in such a warning; sharing ephemeris data and other appropriate operational information with any such operator; and modifying space station attitude and/or operations.

ODAR Section 2: Spacecraft Description

Physical description of the spacecraft:

The Pelican 2 - 10 satellites are optical Earth imaging smallsats with a launch mass of no greater than 195 kg. Basic physical dimensions are 3000 mm x 1200 mm x 800 mm in the deployed configuration. There are two deployable solar arrays, each with dimensions 1200 mm x 850 mm.

Planet intends to equip some of the Pelican satellites with an L-Band transceiver, antenna, and support hardware for intersatellite links (the specific number to be dictated by business needs). The new hardware does not change the bounding envelope of the spacecraft.

Total satellite mass at launch, including all propellants and fluids: 195 kg

Dry mass of satellite at launch, excluding solid rocket motor propellants: 183 kg

Description of all propulsion systems (cold gas, mono-propellant, bi-propellant, electric, nuclear):

Electric propulsion, particularly, Hall Effect Thruster with xenon propellant.

Identification, including mass and pressure, of all fluids (liquids and gasses) planned to be on board and a description of the fluid loading plan or strategies, excluding fluids in sealed heat pipes:

Compressed xenon propellant maintained in a supercritical gaseous state using heaters. 12.3 kg of xenon propellant stored in two tanks that are pressurized to 205 atmospheres (absolute). Pressurization at Planet or vendor facilities has been completed for Pelican-1 and Pelican-2.

Fluids in Pressurized Batteries:

None. The satellites use unpressurized, standard COTS Lithium-Ion battery cells. Each battery has a height of 65mm, a diameter of 19mm, and a mass of 49 grams.

Description of attitude control system and indication of the normal attitude of the spacecraft with respect to the velocity vector:

The satellite's attitude control system consists of magnetorquers, reaction wheels, star cameras, magnetometers, photodiodes, and rate gyros. The nominal imaging attitude will be nadir +/- 30 degrees about the X and Y axes.

Description of any range safety or other pyrotechnic devices:

No pyrotechnic devices are used.

Description of the electrical generation and storage system:

Lithium-Ion battery cells are charged before payload integration and provide electrical energy during the mission. The cells are recharged by InGaAs solar cells mounted on the deployable and body mounted arrays. A battery cell protection circuit manages the

charging cycle, performs battery balancing, and protects against over and undercharge conditions.

Identification of any other sources of stored energy not noted above:

Two deployable solar arrays with small mechanical springs. Actively restrained at launch using a mechanical hold-down actuator.

Identification of any radioactive materials on board:

None.

ODAR Section 3: Assessment of Spacecraft Debris Released During Normal Operations

Identification of any object (>1 mm) expected to be released from the spacecraft any time after launch, including object dimensions, mass, and material:

There are no intentional releases.

Rationale/necessity for release of each object:

N/A.

Time of release of each object, relative to launch time:

N/A.

Release velocity of each object with respect to spacecraft:

N/A.

Expected orbital parameters (apogee, perigee, and inclination) of each object after release:

N/A.

Calculated orbital lifetime of each object, including time spent in Low Earth Orbit (LEO):

N/A.

Assessment of spacecraft compliance with Requirements 4.3-1 and 4.3-2 (per DAS v3.2.6)

4.3-1, Mission Related Debris Passing Through LEO:

COMPLIANT

4.3-2, Mission Related Debris Passing Near GEO:

COMPLIANT

ODAR Section 4: Assessment of Spacecraft Intentional Breakups and Potential for Explosions.

Potential causes of spacecraft breakup during deployment and mission operations:

There is no credible scenario that would result in spacecraft breakup during normal deployment and operations.

Summary of failure modes and effects analyses of all credible failure modes which may lead to an accidental explosion:

In-mission failure of a battery cell protection circuit could lead to a short circuit resulting in overheating and a very remote possibility of battery cell explosion. The battery safety systems discussed in the FMEA (see requirement 4.4-1 below) describe the combined faults that must occur for any of seven (7) independent, mutually exclusive failure modes to lead to explosion.

The deployment of the solar arrays will feature a simple spring and burn wire system with deployment commanded after launch during the commissioning period. The probability of detachment is negligible.

Detailed plan for any designed spacecraft breakup, including explosions and intentional collisions:

There are no planned breakups.

List of components which shall be passivated at End of Mission (EOM) including method of passivation and amount which cannot be passivated:

The batteries will be passivated at End of Mission by sending a command to disable battery charging.

At the start of the mission, there will be 12.3 kg of xenon onboard which will deplete over time as the propulsion system is used to maintain altitude. Any remaining xenon has minimal stored energy.

Rationale for all items which are required to be passivated, but cannot be due to their design:

The battery charge circuits include overcharge protection and a parallel design to limit the risk of battery failure. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy of these small batteries is such that while the spacecraft could be expected to vent gases, debris from the battery rupture should be contained within the vessel due to the lack of penetration energy.

Assessment of spacecraft compliance with Requirements 4.4-1 through 4.4-4:

Requirement 4.4-1: Limiting the risk to other space systems from accidental explosions during deployment and mission operations while in orbit about Earth or the Moon:

For each spacecraft and launch vehicle orbital stage employed for a mission, the program or project shall demonstrate, via failure mode and effects analyses or equivalent analyses, that the integrated probability of explosion for all credible failure modes of each spacecraft and launch vehicle is less than 0.001 (excluding small particle impacts).

Compliance statement:

Required Probability: 0.001

Expected probability: 0.000

Supporting Rationale and FMEA details:

Battery explosion:

Effect: All failure modes below might theoretically result in battery explosion with the possibility of orbital debris generation. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy, of the selected COTS batteries is such that while the spacecraft could be expected to vent gases, most debris from the battery rupture should be contained within the vessel due to the lack of penetration energy.

Probability: Extremely Low. It is believed to be a much less than 0.1% probability that multiple independent (not common mode) faults must occur for each failure mode to cause the ultimate effect (explosion).

Failure Mode 1: Internal short circuit.

Mitigation 1: Qualification and acceptance shock, vibration, thermal cycling, and vacuum tests followed by maximum system rate-limited charge and discharge to prove that no internal short circuit sensitivity exists, performed by Planet.

Combined faults required for realized failure: Environmental testing **AND** functional charge/discharge tests must both be ineffective to realize this failure mode.

Failure Mode 2: Internal thermal rise due to high load discharge rate.

Mitigation 2: Cells are tested in the lab for high-load discharge rates in a variety of flight-like configurations to determine the likelihood and impact of an out of control thermal rise in the cell. Cells are also tested in a hot environment to test the upper limit of the cells' capability. Cell selection and pack thermal design avoids potential failure from thermal rise.

Combined faults required for realized failure: Battery pack thermal design must be incorrect **AND** spacecraft thermal design must be incorrect **AND** external over-current detection and disconnect function must all fail to realize this failure mode.

Failure Mode 3: Excessive discharge rate or short circuit due to external device failure or terminal contact with conductors not at battery voltage levels (due to abrasion or inadequate proximity separation).

Mitigation 3: This failure mode is negated by a) qualification-tested short circuit protection on each external circuit, b) design of battery packs and insulators such that no contact with nearby board traces is possible without being caused by some other mechanical failure, c) obviation of such other mechanical failures by proto-qualification and acceptance environmental tests (shock, vibration, thermal cycling, and thermal-vacuum tests).

Combined faults required for realized failure: An external load must fail/short-circuit **AND** external over-current detection and disconnect function failure must all occur to realize this failure mode.

Failure Mode 4: Inoperable vents.

Mitigation 4: Internal battery vents are not blocked or inhibited by the battery pack design or the spacecraft.

Combined effects required for realized failure: Vents fail to burst **AND** battery assembler fails to manufacture battery per the design in such a way that the vents are blocked.

Failure Mode 5: Crushing.

Mitigation 5: This mode is negated by spacecraft design. There are no moving parts in the proximity of the batteries.

Combined faults required for realized failure: A catastrophic failure must occur in an external system **AND** the failure must cause a collision sufficient to crush the batteries leading to an internal short circuit **AND** the satellite must be in a naturally sustained orbit at the time the crushing occurs.

Failure Mode 6: Low level current leakage or short-circuit through battery pack case or due to moisture-based degradation of insulators.

Mitigation 6: These modes are negated by a) battery holder/case design made of non-conductive plastic, and b) operation in vacuum such that no moisture can affect insulators.

Combined faults required for realized failure: Abrasion or piercing failure of circuit board coating or wire insulators **AND** dislocation of battery packs **AND** failure of battery terminal insulators **AND** failure to detect such failure modes in environmental tests must occur to realize this failure mode.

Failure Mode 7: Excess temperatures due to orbital environment and high discharge combined.

Mitigation 7: The spacecraft thermal design will negate this possibility. Thermal rise will be analyzed in combination with space environment temperatures to show that batteries do not exceed normal allowable operating temperatures and are well below temperatures of concern for explosions.

Combined faults required for realized failure: Thermal analysis **AND** thermal design **AND** mission simulations in thermal-vacuum chamber testing **AND** over-current monitoring and control must all fail to realize this failure mode.

Requirement 4.4-2: Design for passivation after completion of mission operations while in orbit about Earth or the Moon:

Design of all spacecraft and launch vehicle orbital stages shall include the ability to deplete all onboard sources of stored energy and disconnect all energy generation sources when they are no longer required for mission operations or post-mission disposal or control to a level which cannot cause an explosion or deflagration large enough to release orbital debris or break up the spacecraft.

Compliance statement:

The battery charge circuits include overcharge protection and a parallel design to limit the risk of battery failure. However, in the unlikely event that a battery cell does explosively rupture, the small size, mass, and potential energy, of these small batteries is such that while the spacecraft could be expected to vent gases, most debris from the battery rupture should be contained within the vessel due to the lack of penetration energy. The batteries will be passivated at the end of operations by transmission of commands that disable battery charging.

The propulsion is an electric ion system with a gaseous propellant that ionizes only upon application of high voltage electrical power. In an inert state, there is no plausible mechanism for an uncontrolled release of energy and no passivation method is required. Planet plans, however, to fully deplete the propellant tanks before end of mission.

Requirement 4.4-3. Limiting the long-term risk to other space systems from planned breakups:

Compliance statement:

This requirement is not applicable. There are no planned breakups.

Requirement 4.4-4: Limiting the short-term risk to other space systems from planned breakups:

Compliance statement:

This requirement is not applicable. There are no planned breakups.

ODAR Section 5: Assessment of Spacecraft Potential for On-Orbit Collisions

Assessment of spacecraft compliance with Requirements 4.5-1 and 4.5-2 (per DAS v3.2.6, and calculation methods provided in NASA-STD-8719.14, section 4.5.4):

Requirement 4.5-1: Limiting debris generated by collisions with large objects when operating in Earth orbit:

For each spacecraft and launch vehicle orbital stage, the program or project shall demonstrate that, during the orbital lifetime of each spacecraft and orbital stage, the probability of accidental collision with space objects larger than 10 cm in diameter is less than 0.001. For the purpose of this assessment, 100 years is used as the maximum orbital lifetime for the storage disposal option.

Large Object Impact and Debris Generation Probability:

Individual Collision Probability

The collision probabilities (P_c) for satellites in their injection orbits are shown in Table 2 and are COMPLIANT. This collision probability is calculated using NASA's DAS 3.2.6 software.

Table 2 - Calculated collision probability for Pelican spacecraft in their injection orbits of 535 km

Orbit Inclination (°)	P_c
97	1.74E-05
53	1.35E-05

For Pelican satellites 2-10 shown in Table 1, Table 3 shows the collision probabilities in the relevant operational orbits. Each Pelican satellite will fly in its operational orbit of 440km x 440km for around 4.75 years of its 5-year lifetime. Although each satellite will spend approximately three months in a low thrust spiral from its injection orbit to its operational orbit, Planet's latest analysis shows that the transfer orbit no longer contributes a greater probability of collision than the proposed operational orbit of 440 km. Planet therefore focuses its analysis in this ODAR on the operational orbit only. Values for these probabilities are calculated using DAS and are shown in Table 3 and in the logs in the Appendices.

Table 3 - Calculated collision probability for Pelican spacecraft in their operational orbits of 440 km

Orbit Inclination (°)	P _c
97	2.53E-05
53	1.71E-05

Note that these collision probabilities assume no collision avoidance maneuvers. However, collision avoidance will be a nominal part of operations for the five-year mission duration. The probability of collision for each satellite should be treated as zero when accounting for the propulsion system, as determined by the FCC.³ Planet expects to maintain the apogee/perigee of the Pelican satellites within +/- 25 km and the inclination within +/- 2°. The right ascension of the ascending node(s) (RAAN) for the SSO satellites will depend on the launch and will precess at a constant rate of approximately 1°/day to maintain sun synchronous orbit.

See DAS Analysis log at the end of this ODAR

Supporting Deployment and Collision Risk Analysis

The above collision probability is calculated using NASA's DAS 3.2.6 software.

Requirement 4.5-2: Limiting debris generated by collisions with small objects when operating in Earth or lunar orbit:

For each spacecraft, the program or project shall demonstrate that, during the mission of the spacecraft, the probability of accidental collision with orbital debris and meteoroids sufficient to prevent compliance with the applicable post-mission disposal requirements is less than 0.01.

The Pelican satellites will be deployed into low Earth orbits, and all Pelican satellites will be operated at low altitudes where the density of resident space objects is low, and therefore the probability of collisions, is low. Planet tracks and coordinates operations with NASA regarding the ISS and with other operators who are conducting orbital operations in this region of space. Our expected insertion altitude range is 250-535 km, and the nominal operational orbit is 440 km.

Small debris penetrations will not cause the satellite to break up but may cause the loss of function of the satellite. From an initial injection altitude of 535 km, the Pelican spacecraft will re-enter in approximately 5.38 - 6.84 years (depending on inclination)

³ See *Mitigation of Orbital Debris in the New Space Age*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd. 4156 35 (2020); see also 85 Fed. Reg. 52,455 (Aug. 25, 2020).

from an inert, uncontrolled state. From the Pelican operational orbit at 440 km at the end of imaging lifetime in 2030, the Pelican spacecraft will re-enter in 3.44 -3.47 years. Figures 1 through 4 demonstrate the evolution of the spacecraft altitude in such a state. No propulsive maneuvers, passivation activities, or other active commanding or function is required to meet re-entry and disposal requirements. Therefore, the probability that an individual space station will become a source of debris by collision with small debris or meteoroids that would cause loss of control and prevent disposal is zero, which is less than the 0.01 requirement.

Identification of all systems or components required to accomplish any post-mission disposal operation, including passivation and maneuvering:

None.

If possible, we will attempt to de-orbit the satellite at a faster rate using any remaining propellant and capability of the electric propulsion system. However, de-orbit within the estimated lifetime presented in this report is not dependent on a functional propulsion system.

ODAR Section 6: Assessment of Spacecraft Post-mission Disposal Plans and Procedures

6.1 Description of spacecraft disposal option selected:

The satellite will deorbit naturally by atmospheric re-entry.

6.2 Plan for any spacecraft maneuvers required to accomplish post-mission disposal:

No maneuvers are required for post-mission disposal.

At satellite end of life, the satellite may remain in a stable attitude given its aerodynamic features designed for VLEO operations and therefore, no assumption for increased drag or tumbling through de-orbit is made. If possible, any remaining operational capability of the propulsion system will be used to accelerate the rate of decay, but de-orbit within the estimated lifetime presented in this report is not dependent on a functional propulsion system.

6.3 Calculation of area-to-mass ratio after post-mission disposal, if the controlled reentry option is not selected:

Table 4 - Area to Mass Ratio Calculations for Pelican 2 - 10

	Pelican 2 - 10
EOL Mass (kg)	182
Average Cross Sectional Area (m ²)	2.055 ⁴
Area to Mass Ratio (m ² /kg)	0.0114

6.4 Assessment of spacecraft compliance with Requirements 4.6-1 through 4.6-5 (per DAS v 3.2.6 and NASA-STD-8719.14 section):

Requirement 4.6-1: Disposal for space structures passing through LEO:

Requirement 4.6-1. Natural reentry, direct reentry, or direct retrieval shall comply with the following:

a. Natural reentry: Leave the space structure in an orbit in which, using conservative projections for solar activity, atmospheric drag will limit the orbital lifetime to as short as practicable but no more than 25 years after the completion of mission.

⁴ The average cross-sectional area and area-to-mass ratio are different from the values Planet submitted in its August 2024 ODAR for the Pelican satellites. Although the size/mass of the Pelican satellite has not changed, Planet has adjusted its calculation approach, now relying on a formula recommended by NASA-STD-8719.14C, section 4.3.4.2.2, that Planet anticipates will better cover certain worst-case scenarios.

- b. Direct reentry: Maneuver the space structure into a controlled de-orbit trajectory as soon as practical after completion of mission.*
- c. Direct retrieval: Retrieve the space structure and remove it from orbit preferably at completion of mission, but no more than 5 years after completion of mission*

A summary of the expected lifetimes for the spacecraft in their injection and operational orbits is shown in Table 5. Plots following this show apogee and perigee altitude histories for the proposed injection and operational orbits at both SSO and 53 degree inclination. As shown in Table 5, for a 440 km operational orbit, the Pelican 2 - 10 design re-enters in less than four years, meeting the FCC's five-year deorbit requirement.

Table 5 - Expected Orbital Lifetimes from Injection and Operational Orbits for Pelicans 2-10

Orbit Altitude (km)	Conditions	Orbit Inclination (°)	Re-entry Lifetime (years)
535 x 535	2025 End of Mission	97	5.375
	Injection orbit with mission failure	53	6.841
440 x 440	2030 End of Imaging Mission	97	3.441
		53	3.471

Projected Re-entry Lifetime for Pelicans 2 - 10

Maximum Insertion Orbit - 535 km, SSO

BOL Orbit: 535 × 535 km, 97°

Mission duration: N/A

Orbit Lifetime: 5.375 years (*worst case mission failure*)

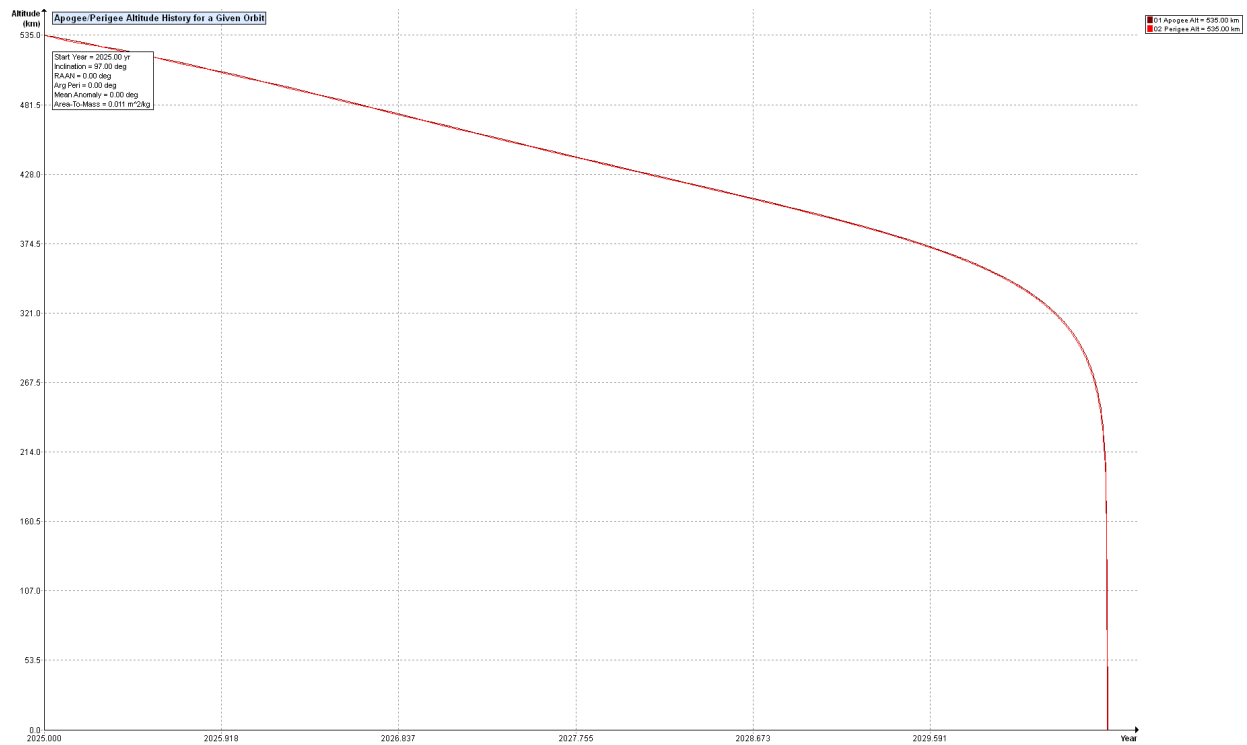


Figure 1 - Apogee and Perigee Lifetime History from 535 km Insertion Orbit, SSO

Maximum Insertion Orbit - 535 km, 53°

BOL Orbit: 535 × 535 km, 53°

Mission duration: N/A

Orbit Lifetime: 6.841 years (*worst case mission failure*)

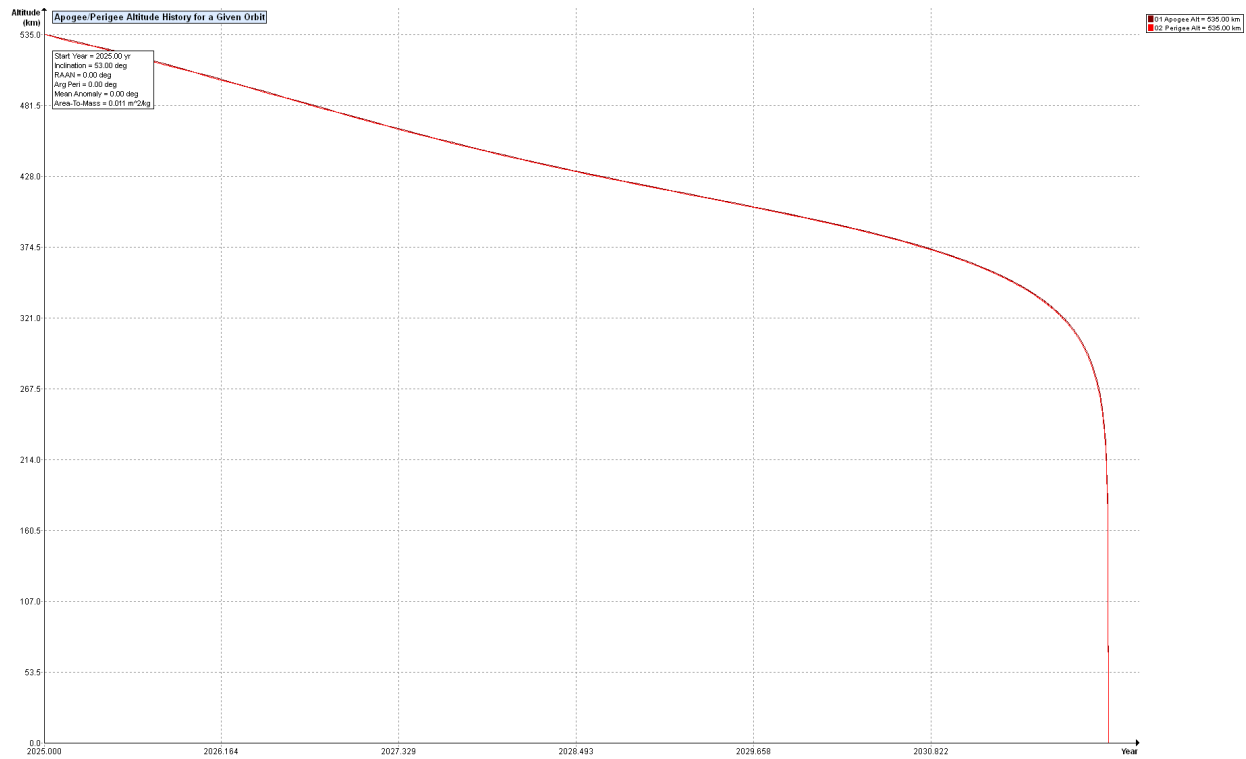


Figure 2 - Apogee and Perigee Lifetime History from 535 km Insertion Orbit, 53°

Requested Operational Orbit - 440km, 97° (SSO)

EOL Orbit: 440 km x 440 km x 97°

Mission Duration: 5 years (with propulsion)

Orbit Lifetime: 3.441 years (Following propellant depletion)

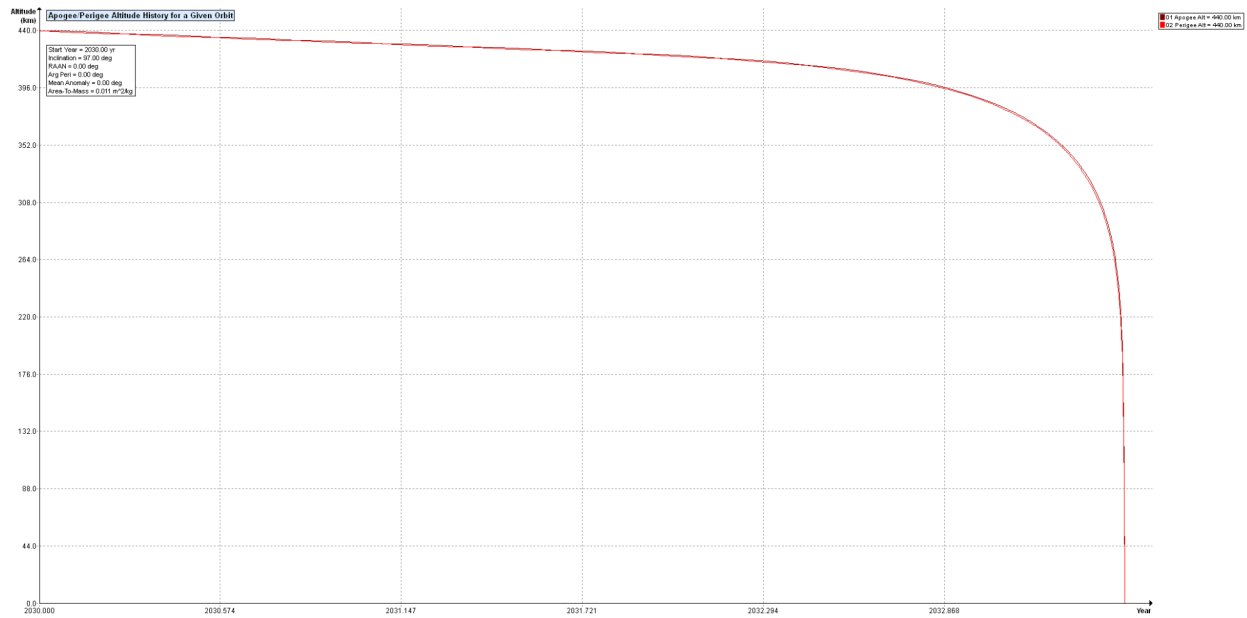


Figure 3 - Apogee and Perigee Lifetime History from 440 km Operational Orbit, SSO

Requested Operational Orbit - 440km, 53°

EOL Orbit: 440 km x 440 km x 53°

Mission Duration: 5 years (with propulsion)

Orbit Lifetime: 3.471 years (Following propellant depletion)

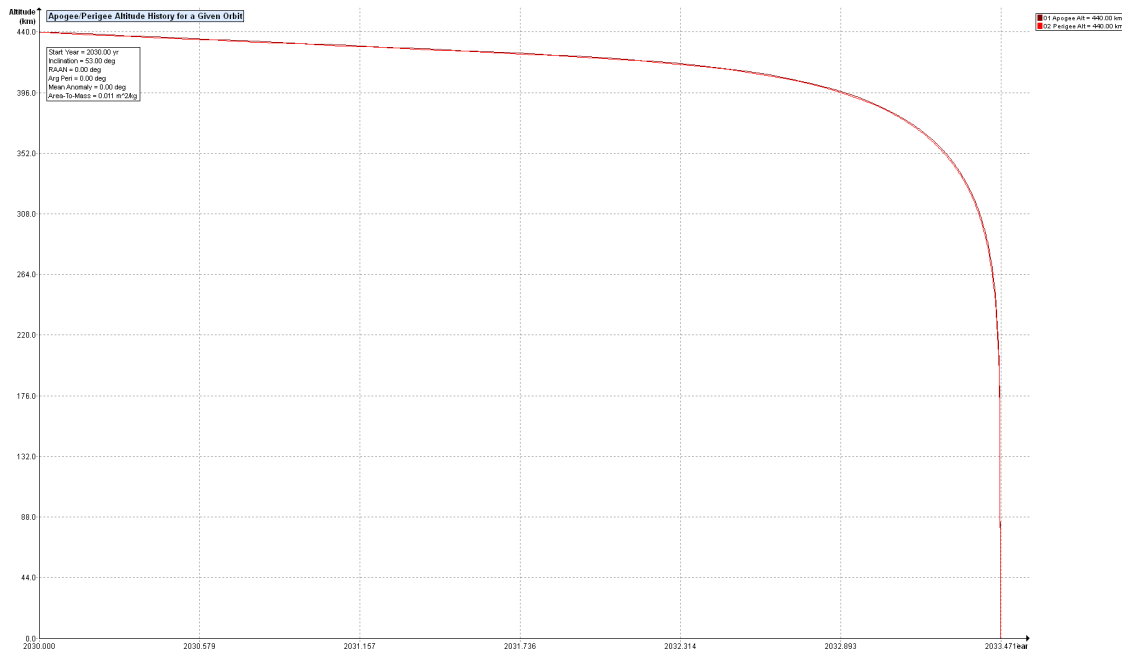


Figure 4 - Apogee and Perigee Lifetime History from 440 km Operational Orbit, 53°

DAS Analysis: The Pelican satellite re-entry is COMPLIANT for the proposed operational orbits.

From Pelican's operational orbit, re-entry lifetime is projected to be approximately three years as shown in Table 5, meeting the requirement of the FCC rule to be less than five years and as short as practicable.⁵ From an insertion orbit, the re-entry timeline is calculated to be approximately 6.84 years or less. Spacecraft failure is the only envisioned reason that a Pelican spacecraft would not be lowered to its operational orbit.

Requirement 4.6-2. Storage and Earth escape.

Analysis: Not applicable.

Requirement 4.6-3. Long-term re-entry for space structures in MEO, Tundra Orbits, highly inclined GEO, and other orbits.

Analysis: Not applicable.

Requirement 4.6-4. Reliability of Post-mission Disposal Operations

Analysis: Not applicable.

⁵ 47 C.F.R. § 25.114(d)(14)(vii)(D)(1).

ODAR Section 7: Assessment of Spacecraft Reentry Hazards

Assessment of spacecraft compliance with Requirement 4.7-1:

Requirement 4.7-1: Limit the risk of human casualty:

The potential for human casualty is assumed for any object with an impacting kinetic energy in excess of 15 joules:

a) *For uncontrolled reentry, the risk of human casualty from surviving debris shall not exceed 0.0001 (1:10,000).*

Probability of Risk to Human Casualty:

Planet examined for this filing: (1) the addition of new L-band antenna hardware, and (2) the impact of the proposed new insertion orbit of no higher than 535 km and the operational orbit of 440 km, including at 53° inclination, on risk to human casualty. The results demonstrate that the L-band antenna hardware fully demises upon reentry and the anticipated casualty risk of Pelican satellites 2 - 10 under the updated design and at the proposed new insertion and operational orbits of 535 km and 440 km, respectively, including for 53° inclination, remains compliant with the Commission's rules.

The results of the updated DAS analyses are summarized in Table 6 and full DAS logs are attached in the appendices.

Table 6: Updated Casualty Risk of Pelicans 2 - 10 using DAS 3.2.6

Orbit	Pelican 2 - Pelican 10
Injection Orbit 535 km, SSO	1:21,500
Injection Orbit 535 km, 53°	1:14,400
Operational Orbit 440 km, SSO	1:21,000
Operational Orbit 440 km, 53°	1:14,300

As Table 6 shows, the casualty probability for each individual Pelican 2-10 spacecraft launched meets the 1:10,000 requirement.

In both the SSO and 53° inclined cases, the difference in projected casualty rates of a higher altitude orbit compared to a lower altitude orbit is driven by differing global population projections based on the extra time required to de-orbit. Inclined orbits similarly increase the projected casualty rates due to global population densities being higher along the track of the satellite while the number of components above the energy threshold stays the same.⁶

Requirements 4.7-1b, and 4.7-1c are not applicable as the Pelican satellite does not use controlled reentry.

⁶ In addition to the change in altitude and inclination, please note that Planet also updated the material for structural components related to the telescope from general titanium to a more specific alloy, which is more accurate for the Pelican satellite.

ODAR Section 8: Assessment for Tether Missions

Not applicable. There are no tethers in the Pelican mission.

END of ODAR

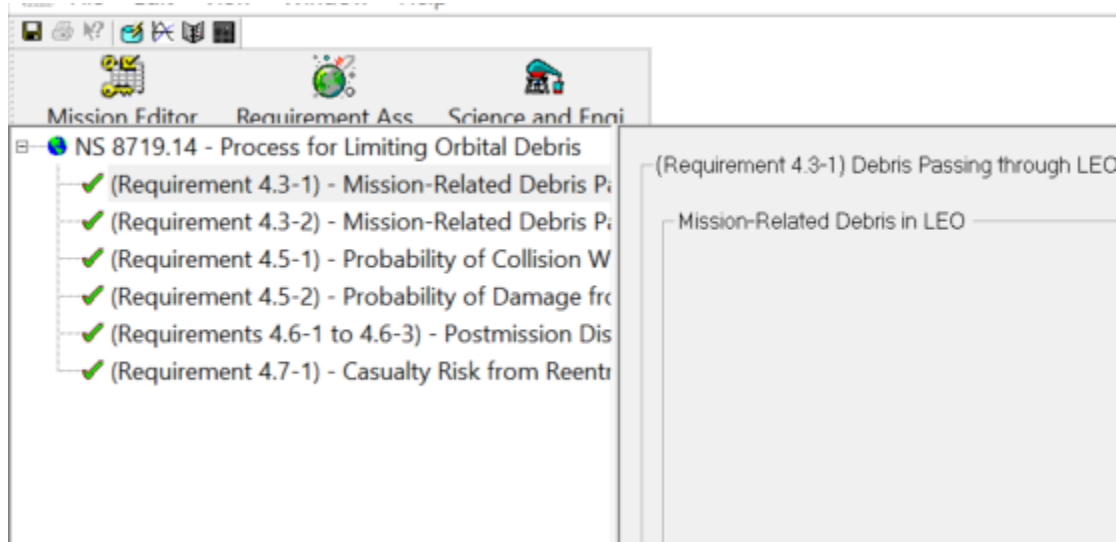
(DAS Logs start next page)

APPENDIX A

DAS Logs

Sun-Synchronous Operational Orbit

440 km x 440 km x 97° (SSO) DAS GUI Results



440 km x 440 km x 97 (SSO) DAS Logs (Operational Orbit)

05 21 2025; 13:45:20PM	Activity Log Started	
05 21 2025; 13:45:20PM	Opened Project	
C:\Users\dominic\Documents\DAS3.2.6\Pelican-IDRS\		
05 21 2025; 13:45:33PM	Project Data Saved To File	
05 21 2025; 13:45:35PM	Project Data Saved To File	
05 21 2025; 13:45:37PM	Project Data Saved To File	
05 21 2025; 13:45:43PM	Project Data Saved To File	
05 21 2025; 13:45:50PM	Mission Editor Changes Applied	
05 21 2025; 13:45:50PM	Project Data Saved To File	
05 21 2025; 13:45:50PM	Project Data Saved To File	
05 21 2025; 13:45:54PM	Processing Requirement 4.3-1:	Return Status : Not Run

=====
No Project Data Available
=====

===== End of Requirement 4.3-1 =====

05 21 2025; 13:45:56PM Processing Requirement 4.3-2: Return Status : Passed

=====

No Project Data Available

=====

===== End of Requirement 4.3-2 =====

05 21 2025; 13:52:21PM Processing Requirement 4.5-1: Return Status : Passed

=====

Run Data

=====

****INPUT****

Space Structure Name = Pelican
Space Structure Type = Payload
Perigee Altitude = 440.000 (km)
Apogee Altitude = 440.000 (km)
Inclination = 97.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0110 (m²/kg)
Start Year = 2025.000 (yr)
Initial Mass = 195.500 (kg)
Final Mass = 182.700 (kg)
Duration = 5.000 (yr)
Station-Kept = True
Abandoned = True
Long-Term Reentry = False

****OUTPUT****

Collision Probability = 2.9531E-05
Returned Message: Normal Processing
Date Range Message: Normal Date Range
Status = Pass

=====

===== End of Requirement 4.5-1 =====

05 21 2025; 13:52:24PM Project Data Saved To File
05 21 2025; 13:52:29PM Requirement 4.5-2: Compliant

===== End of Requirement 4.5-2 =====

05 21 2025; 13:52:30PM Processing Requirement 4.6 Return Status : Passed

=====
Project Data
=====

****INPUT****

Space Structure Name = Pelican
Space Structure Type = Payload

Perigee Altitude = 440.000000 (km)
Apogee Altitude = 440.000000 (km)
Inclination = 97.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.011000 (m²/kg)
Start Year = 2025.000000 (yr)
Initial Mass = 195.500000 (kg)
Final Mass = 182.700000 (kg)
Duration = 5.000000 (yr)
Station Kept = True
Abandoned = True
PMD Perigee Altitude = 440.000000 (km)
PMD Apogee Altitude = 440.000000 (km)
PMD Inclination = 97.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)
Long-Term Reentry = False

****OUTPUT****

Suggested Perigee Altitude = 440.000000 (km)
Suggested Apogee Altitude = 440.000000 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2033 (yr)

Requirement = 61
Compliance Status = Pass

=====

===== End of Requirement 4.6 =====

05 21 2025; 13:52:37PM *****Processing Requirement 4.7-1

Return Status : Passed

*****INPUT****

Item Number = 1

name = Pelican

quantity = 1

parent = 0

materialID = 5

type = Box

Aero Mass = 182.699997

Thermal Mass = 182.699997

Diameter/Width = 0.600000

Length = 1.000000

Height = 0.600000

name = LVI Structure Deck

quantity = 1

parent = 1

materialID = 5

type = Box

Aero Mass = 9.220000

Thermal Mass = 9.220000

Diameter/Width = 0.550000

Length = 0.550000

Height = 0.011000

name = Structural Brackets

quantity = 16

parent = 1

materialID = 5

type = Box

Aero Mass = 0.218000

Thermal Mass = 0.218000

Diameter/Width = 0.050000

Length = 0.080000

Height = 0.020000

name = Avionics Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 2.600000
Thermal Mass = 2.600000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.045000

name = Structural Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 2.200000
Thermal Mass = 2.200000
Diameter/Width = 0.600000
Length = 0.800000
Height = 0.027500

name = Avionics Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.797000
Thermal Mass = 0.797000
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.025000

name = Hardware
quantity = 200
parent = 1
materialID = 54
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.012000
Length = 0.020000

name = SA Release Mechanism
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.388000
Thermal Mass = 0.388000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RBF Panel
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.067000
Thermal Mass = 0.067000
Diameter/Width = 0.050000
Length = 0.050000

name = MLI Blankets
quantity = 5
parent = 1
materialID = 44
type = Flat Plate
Aero Mass = 0.142000
Thermal Mass = 0.142000
Diameter/Width = 0.100000
Length = 0.200000

name = Heat Straps
quantity = 4
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.130000
Thermal Mass = 0.130000
Diameter/Width = 0.020000
Length = 0.050000

name = Heaters
quantity = 20
parent = 1

materialID = 19
type = Flat Plate
Aero Mass = 0.026000
Thermal Mass = 0.026000
Diameter/Width = 0.025000
Length = 0.050000

name = Temp Sensors
quantity = 25
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.010000
Length = 0.020000

name = LVI Ring
quantity = 1
parent = 1
materialID = -17
type = Flat Plate
Aero Mass = 0.704000
Thermal Mass = 0.704000
Diameter/Width = 0.375000
Length = 0.375000

name = Trim Mass
quantity = 20
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.050000
Thermal Mass = 0.050000
Diameter/Width = 0.025000
Length = 0.015000

name = Solar Panel +Z+Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000

Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Z-Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Solar Panel -Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Power Electronics
quantity = 4
parent = 1
materialID = -2
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.080000
Length = 0.215000
Height = 0.010000

name = Avionics Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 6.530000
Thermal Mass = 6.530000
Diameter/Width = 0.150000
Length = 0.325000
Height = 0.050000

name = Payload Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 5.820000
Thermal Mass = 5.820000
Diameter/Width = 0.150000
Length = 0.300000
Height = 0.050000

name = RF TTC Antennas
quantity = 10
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.040000
Length = 0.050000

name = RF Payload Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 1.440000
Thermal Mass = 1.440000
Diameter/Width = 0.125000
Length = 0.350000

name = RF Harness
quantity = 12

parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = RF Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.390000
Thermal Mass = 0.390000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RTC Rx Antenna LGA
quantity = 3
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.082000
Thermal Mass = 0.082000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Rx Antenna HGA
quantity = 1
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.104000
Thermal Mass = 0.104000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Tx Antenna
quantity = 1
parent = 1
materialID = -2
type = Cylinder

Aero Mass = 0.084000
Thermal Mass = 0.084000
Diameter/Width = 0.030000
Length = 0.030000

name = GPS Antennas
quantity = 2
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.050000
Length = 0.075000

name = Upconverter
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.600000
Thermal Mass = 0.600000
Diameter/Width = 0.050000
Length = 0.100000
Height = 0.050000

name = PA
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.200000
Thermal Mass = 1.200000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.050000

name = L Band Transceiver
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.100000
Thermal Mass = 1.100000

Diameter/Width = 0.065000
Length = 0.100000
Height = 0.065000

name = L Band Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = L Band Bracket
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.200000
Thermal Mass = 0.200000
Diameter/Width = 0.080000
Length = 0.200000
Height = 0.010000

name = L Band Antenna
quantity = 1
parent = 1
materialID = -2
type = Box
Aero Mass = 0.085000
Thermal Mass = 0.085000
Diameter/Width = 0.040000
Length = 0.080000
Height = 0.010000

name = Reaction Wheels
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 3.210000
Thermal Mass = 3.210000
Diameter/Width = 0.103000

Length = 0.050000

name = RW Bracket

quantity = 4

parent = 1

materialID = 5

type = Cylinder

Aero Mass = 0.509000

Thermal Mass = 0.509000

Diameter/Width = 0.080000

Length = 0.040000

name = TR

quantity = 3

parent = 1

materialID = 19

type = Cylinder

Aero Mass = 0.910000

Thermal Mass = 0.910000

Diameter/Width = 0.025000

Length = 0.225000

name = ST

quantity = 4

parent = 1

materialID = 5

type = Box

Aero Mass = 0.310000

Thermal Mass = 0.310000

Diameter/Width = 0.050000

Length = 0.050000

Height = 0.050000

name = ST Bracket

quantity = 4

parent = 1

materialID = 5

type = Box

Aero Mass = 0.170000

Thermal Mass = 0.170000

Diameter/Width = 0.050000

Length = 0.050000

Height = 0.025000

name = IMU
quantity = 3
parent = 1
materialID = 19
type = Box
Aero Mass = 0.010000
Thermal Mass = 0.010000
Diameter/Width = 0.010000
Length = 0.024000
Height = 0.010000

name = Magnetometers
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.037000
Thermal Mass = 0.037000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.025000

name = ST Compute
quantity = 4
parent = 1
materialID = 23
type = Box
Aero Mass = 0.277000
Thermal Mass = 0.277000
Diameter/Width = 0.075000
Length = 0.075000
Height = 0.030000

name = PPU
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.100000
Length = 0.150000
Height = 0.037500

name = Tanks
quantity = 2
parent = 1
materialID = -8
type = Cylinder
Aero Mass = 4.110000
Thermal Mass = 4.110000
Diameter/Width = 0.265000
Length = 0.750000

name = Plumbing
quantity = 18
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.004000
Thermal Mass = 0.004000
Diameter/Width = 0.005000
Length = 0.050000

name = Brackets
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.134000
Thermal Mass = 0.134000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.030000

name = Thruster
quantity = 1
parent = 1
materialID = 66
type = Cylinder
Aero Mass = 0.870000
Thermal Mass = 0.870000
Diameter/Width = 0.090000
Length = 0.040000

name = Radiator
quantity = 1
parent = 1

materialID = 5
type = Flat Plate
Aero Mass = 0.410000
Thermal Mass = 0.410000
Diameter/Width = 0.125000
Length = 0.125000

name = Pressure Components
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.251000
Thermal Mass = 0.251000
Diameter/Width = 0.025000
Length = 0.075000

name = Mechanical Misc
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.143000
Thermal Mass = 0.143000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = Prop Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.033000
Thermal Mass = 0.033000
Diameter/Width = 0.005000
Length = 0.200000

name = Payload Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 0.463000

Thermal Mass = 0.463000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.015000

name = Payload Closeout Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 1.206000
Thermal Mass = 1.206000
Diameter/Width = 0.500000
Length = 0.570000
Height = 0.025000

name = Payload Bracket
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 4.910000
Thermal Mass = 4.910000
Diameter/Width = 0.100000
Length = 0.250000
Height = 0.075000

name = Payload Support Structure
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 2.090000
Thermal Mass = 2.090000
Diameter/Width = 0.060000
Length = 0.250000
Height = 0.050000

name = M1
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 12.775000

Thermal Mass = 12.775000
Diameter/Width = 0.375000
Length = 0.375000
Height = 0.035000

name = Actuator Bar
quantity = 9
parent = 1
materialID = 66
type = Box
Aero Mass = 0.002000
Thermal Mass = 0.002000
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.000400

name = M1 Flexure
quantity = 9
parent = 1
materialID = 65
type = Box
Aero Mass = 0.041300
Thermal Mass = 0.041300
Diameter/Width = 0.020000
Length = 0.070000
Height = 0.010000

name = AI Actuator Base
quantity = 9
parent = 1
materialID = 5
type = Box
Aero Mass = 0.095700
Thermal Mass = 0.095700
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.020000

name = Telescope Main Tube
quantity = 1
parent = 1
materialID = -9
type = Cylinder
Aero Mass = 11.934000

Thermal Mass = 11.934000
Diameter/Width = 0.500000
Length = 0.495000

name = Telescope Main Back Rib
quantity = 1
parent = 1
materialID = -10
type = Box
Aero Mass = 7.375000
Thermal Mass = 7.375000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.100000

name = Metering Rods
quantity = 3
parent = 1
materialID = -11
type = Cylinder
Aero Mass = 0.381900
Thermal Mass = 0.381900
Diameter/Width = 0.025000
Length = 0.502000

name = Spider Main Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.016000
Thermal Mass = 1.016000
Diameter/Width = 0.200000
Length = 0.200000
Height = 0.010000

name = Spider Hood
quantity = 1
parent = 1
materialID = -12
type = Box
Aero Mass = 0.000000
Thermal Mass = 0.000000
Diameter/Width = 0.150000

Length = 0.150000
Height = 0.040000

name = M2
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 0.795900
Thermal Mass = 0.795900
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.030000

name = Spider Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.062400
Thermal Mass = 0.062400
Diameter/Width = 0.152000
Length = 0.152000
Height = 0.001000

name = M2 Front Support
quantity = 1
parent = 1
materialID = 72
type = Box
Aero Mass = 0.045600
Thermal Mass = 0.045600
Diameter/Width = 0.015000
Length = 0.025000
Height = 0.015000

name = M1 Heater Plate
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.711000
Thermal Mass = 1.711000
Diameter/Width = 0.350000

Length = 0.350000
Height = 0.005000

name = Bipod Flexures
quantity = 3
parent = 1
materialID = 65
type = Box
Aero Mass = 0.282700
Thermal Mass = 0.282700
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.008000

name = Tail Back Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 3.000000
Thermal Mass = 3.000000
Diameter/Width = 0.537000
Length = 0.537000
Height = 0.004000

name = Center Hood
quantity = 1
parent = 1
materialID = -15
type = Cylinder
Aero Mass = 0.215600
Thermal Mass = 0.215600
Diameter/Width = 0.136000
Length = 0.230000

name = Tail Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 2.228900
Thermal Mass = 2.228900
Diameter/Width = 0.190000
Length = 0.374000

Height = 0.012000

name = Fold Mirror Chassis

quantity = 1

parent = 1

materialID = 5

type = Box

Aero Mass = 0.417100

Thermal Mass = 0.417100

Diameter/Width = 0.109000

Length = 0.146000

Height = 0.010000

name = Fold Mirror

quantity = 2

parent = 1

materialID = 71

type = Box

Aero Mass = 0.314800

Thermal Mass = 0.314800

Diameter/Width = 0.100000

Length = 0.100000

Height = 0.016000

name = Fold Mirror Housing

quantity = 2

parent = 1

materialID = 5

type = Box

Aero Mass = 0.086800

Thermal Mass = 0.086800

Diameter/Width = 0.110000

Length = 0.110000

Height = 0.005000

name = Fold Mirror Cover

quantity = 2

parent = 1

materialID = 5

type = Box

Aero Mass = 0.052800

Thermal Mass = 0.052800

Diameter/Width = 0.110000

Length = 0.110000

Height = 0.005000

name = Lenses Mount
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.196800
Thermal Mass = 0.196800
Diameter/Width = 0.060000
Length = 0.075000
Height = 0.031000

name = Lens 1
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.135000
Thermal Mass = 0.135000
Diameter/Width = 0.092000
Length = 0.092000
Height = 0.010000

name = Focus House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.099400
Thermal Mass = 0.099400
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.015000

name = Lens 2 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.219000
Thermal Mass = 0.219000
Diameter/Width = 0.100000
Length = 0.100000

Height = 0.014000

name = Lens 2

quantity = 1

parent = 1

materialID = -13

type = Box

Aero Mass = 0.123600

Thermal Mass = 0.123600

Diameter/Width = 0.077000

Length = 0.077000

Height = 0.013600

name = Lens 3

quantity = 1

parent = 1

materialID = -14

type = Box

Aero Mass = 0.230700

Thermal Mass = 0.230700

Diameter/Width = 0.085400

Length = 0.085400

Height = 0.016000

name = Lens 3 Housing

quantity = 1

parent = 1

materialID = 5

type = Box

Aero Mass = 0.054900

Thermal Mass = 0.054900

Diameter/Width = 0.090000

Length = 0.090000

Height = 0.012500

name = Det and Lens Cover

quantity = 2

parent = 1

materialID = 5

type = Box

Aero Mass = 0.058600

Thermal Mass = 0.058600

Diameter/Width = 0.010000

Length = 0.300000

Height = 0.010000

name = Det House Flex
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.389900
Thermal Mass = 1.389900
Diameter/Width = 0.160000
Length = 0.388000
Height = 0.010000

name = Lens 4
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.103500
Thermal Mass = 0.103500
Diameter/Width = 0.089000
Length = 0.089000
Height = 0.006900

name = Det Window House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.035900
Thermal Mass = 0.035900
Diameter/Width = 0.106000
Length = 0.106000
Height = 0.009000

name = Star Tracker Base
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.258300
Thermal Mass = 0.258300
Diameter/Width = 0.101000
Length = 0.120000

Height = 0.010000

name = Rod Det Flex

quantity = 2

parent = 1

materialID = -5

type = Box

Aero Mass = 0.120000

Thermal Mass = 0.120000

Diameter/Width = 0.060000

Length = 0.141000

Height = 0.005000

name = Focus Mechanism

quantity = 1

parent = 1

materialID = 5

type = Box

Aero Mass = 0.500000

Thermal Mass = 0.500000

Diameter/Width = 0.078000

Length = 0.088000

Height = 0.030000

*****OUTPUT****

Item Number = 1

name = Pelican

Demise Altitude = 77.998592

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = LVI Structure Deck

Demise Altitude = 70.694706

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Structural Brackets

Demise Altitude = 75.491654

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Avionics Deck
Demise Altitude = 76.244758
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Panels
Demise Altitude = 76.857542
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Brackets
Demise Altitude = 73.367549
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Hardware
Demise Altitude = 75.319242
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = SA Release Mechanism
Demise Altitude = 74.252611
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RBF Panel
Demise Altitude = 76.134753
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = MLI Blankets
Demise Altitude = 77.789721
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heat Straps

Demise Altitude = 74.376876
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heaters
Demise Altitude = 77.113483
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Temp Sensors
Demise Altitude = 76.723688
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Ring
Demise Altitude = 77.042936
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Trim Mass
Demise Altitude = 72.731077
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z+Y
Demise Altitude = 76.890225
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z-Y
Demise Altitude = 76.890225
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Y
Demise Altitude = 76.649006
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Solar Panel -Y

Demise Altitude = 76.649006

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Power Electronics

Demise Altitude = 71.573978

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Avionics Box

Demise Altitude = 67.854229

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Payload Box

Demise Altitude = 68.334072

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RF TTC Antennas

Demise Altitude = 76.100384

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RF Payload Antenna

Demise Altitude = 74.273247

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RF Harness

Demise Altitude = 77.630986

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RF Brackets
Demise Altitude = 74.233793
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna LGA
Demise Altitude = 74.702056
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna HGA
Demise Altitude = 73.875410
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Tx Antenna
Demise Altitude = 74.621448
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = GPS Antennas
Demise Altitude = 76.891118
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Upconverter
Demise Altitude = 74.278011
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PA
Demise Altitude = 71.910029
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Transceiver

Demise Altitude = 72.667323
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Harness
Demise Altitude = 77.630986
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Bracket
Demise Altitude = 77.016526
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Antenna
Demise Altitude = 76.654648
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Reaction Wheels
Demise Altitude = 57.407713
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RW Bracket
Demise Altitude = 71.681085
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = TR
Demise Altitude = 72.547525
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST
Demise Altitude = 74.448809
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = ST Bracket

Demise Altitude = 75.222993

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = IMU

Demise Altitude = 77.317383

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Magnetometers

Demise Altitude = 77.321495

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = ST Compute

Demise Altitude = 75.495768

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = PPU

Demise Altitude = 72.171619

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Tanks

Demise Altitude = 77.181124

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Plumbing

Demise Altitude = 77.305074

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Brackets
Demise Altitude = 75.813281
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Thruster
Demise Altitude = 64.212542
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Radiator
Demise Altitude = 75.341176
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Pressure Components
Demise Altitude = 69.542710
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Mechanical Misc
Demise Altitude = 75.643713
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Prop Harness
Demise Altitude = 77.313264
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Deck
Demise Altitude = 77.673218
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Closeout Panels

Demise Altitude = 77.085624
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Bracket
Demise Altitude = 74.248152
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Support Structure
Demise Altitude = 75.540817
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1
Demise Altitude = 0.000000
Debris Casualty Area = 0.739708
Impact Kinetic Energy = 22322.731126

name = Actuator Bar
Demise Altitude = 77.924424
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Flexure
Demise Altitude = 75.282106
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AI Actuator Base
Demise Altitude = 76.581554
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Tube
Demise Altitude = 73.287602
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Telescope Main Back Rib
Demise Altitude = 73.424721
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Metering Rods
Demise Altitude = 73.603229
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Main Chassis
Demise Altitude = 74.947790
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Hood
Demise Altitude = 77.998592
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2
Demise Altitude = 69.580134
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Cover
Demise Altitude = 77.703855
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2 Front Support
Demise Altitude = 74.851575
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Heater Plate
Demise Altitude = 75.585468
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Bipod Flexures
Demise Altitude = 0.000000
Debris Casualty Area = 1.155125
Impact Kinetic Energy = 156.092435

name = Tail Back Cover
Demise Altitude = 75.599662
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Center Hood
Demise Altitude = 77.406449
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tail Chassis
Demise Altitude = 74.214491
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Chassis
Demise Altitude = 75.782405
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror
Demise Altitude = 73.492097
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Housing

Demise Altitude = 77.352040
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Cover
Demise Altitude = 77.605774
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lenses Mount
Demise Altitude = 76.060357
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 1
Demise Altitude = 0.000000
Debris Casualty Area = 0.377404
Impact Kinetic Energy = 39.973742

name = Focus House
Demise Altitude = 77.123484
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2 Housing
Demise Altitude = 76.322731
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2
Demise Altitude = 0.000000
Debris Casualty Area = 0.363084
Impact Kinetic Energy = 43.055247

name = Lens 3
Demise Altitude = 76.625380
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Lens 3 Housing
Demise Altitude = 77.496687
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det and Lens Cover
Demise Altitude = 77.486020
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det House Flex
Demise Altitude = 75.416671
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 4
Demise Altitude = 0.000000
Debris Casualty Area = 0.372572
Impact Kinetic Energy = 26.447103

name = Det Window House
Demise Altitude = 77.732886
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Star Tracker Base
Demise Altitude = 76.266221
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

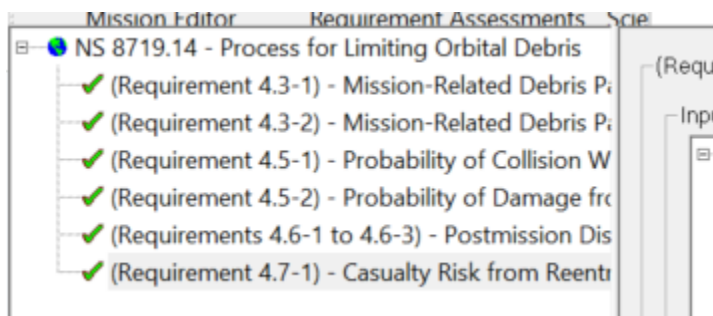
name = Rod Det Flex
Demise Altitude = 0.000000
Debris Casualty Area = 0.752354
Impact Kinetic Energy = 35.973255

name = Focus Mechanism
Demise Altitude = 74.164203
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

===== End of Requirement 4.7-1 =====
05 21 2025; 13:52:37PM Project Data Saved To File

Sun-Synchronous Injection Orbit

535 km x 535 km x 97° (SSO) DAS GUI Results



535 km x 535 km x 97° (SSO) DAS Logs (Injection Orbit):

05 23 2025; 14:24:59PM Activity Log Started
05 23 2025; 14:24:59PM Opened Project
C:\Users\dominic\Documents\DAS3.2.6\Pelican-IDRS\
05 23 2025; 14:25:22PM Project Data Saved To File
05 23 2025; 14:25:24PM Mission Editor Changes Applied
05 23 2025; 14:25:24PM Project Data Saved To File
05 23 2025; 14:25:24PM Project Data Saved To File
05 23 2025; 14:33:16PM Processing Requirement 4.5-1: Return Status : Passed

=====
Run Data
=====

INPUT

Space Structure Name = Pelican
Space Structure Type = Payload
Perigee Altitude = 535.000 (km)
Apogee Altitude = 535.000 (km)
Inclination = 97.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0110 (m²/kg)
Start Year = 2025.000 (yr)
Initial Mass = 195.500 (kg)
Final Mass = 182.700 (kg)
Duration = 0.250 (yr)
Station-Kept = False
Abandoned = True
Long-Term Reentry = False

****OUTPUT****

Collision Probability = 1.7418E-05
Returned Message: Normal Processing
Date Range Message: Normal Date Range
Status = Pass

=====

===== End of Requirement 4.5-1 =====

05 23 2025; 14:34:00PM Processing Requirement 4.6 Return Status : Passed

=====

Project Data

=====

****INPUT****

Space Structure Name = Pelican
Space Structure Type = Payload

Perigee Altitude = 535.000000 (km)
Apogee Altitude = 535.000000 (km)
Inclination = 97.000000 (deg)
RAAN = 0.000000 (deg)

Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.011000 (m²/kg)
Start Year = 2025.000000 (yr)
Initial Mass = 195.500000 (kg)
Final Mass = 182.700000 (kg)
Duration = 0.250000 (yr)
Station Kept = False
Abandoned = True
PMD Perigee Altitude = 527.865100 (km)
PMD Apogee Altitude = 528.335223 (km)
PMD Inclination = 97.007617 (deg)
PMD RAAN = 83.509004 (deg)
PMD Argument of Perigee = 106.797351 (deg)
PMD Mean Anomaly = 0.000000 (deg)
Long-Term Reentry = False

****OUTPUT****

Suggested Perigee Altitude = 527.865100 (km)
Suggested Apogee Altitude = 528.335223 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2030 (yr)
Requirement = 61
Compliance Status = Pass

=====

===== End of Requirement 4.6 =====
05 23 2025; 14:34:06PM *****Processing Requirement 4.7-1
Return Status : Passed

*******INPUT******

Item Number = 1

name = Pelican
quantity = 1
parent = 0
materialID = 5
type = Box
Aero Mass = 182.699997
Thermal Mass = 182.699997
Diameter/Width = 0.600000

Length = 1.000000
Height = 0.600000

name = LVI Structure Deck
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 9.220000
Thermal Mass = 9.220000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.011000

name = Structural Brackets
quantity = 16
parent = 1
materialID = 5
type = Box
Aero Mass = 0.218000
Thermal Mass = 0.218000
Diameter/Width = 0.050000
Length = 0.080000
Height = 0.020000

name = Avionics Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 2.600000
Thermal Mass = 2.600000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.045000

name = Structural Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 2.200000
Thermal Mass = 2.200000
Diameter/Width = 0.600000

Length = 0.800000
Height = 0.027500

name = Avionics Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.797000
Thermal Mass = 0.797000
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.025000

name = Hardware
quantity = 200
parent = 1
materialID = 54
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.012000
Length = 0.020000

name = SA Release Mechanism
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.388000
Thermal Mass = 0.388000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RBF Panel
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.067000
Thermal Mass = 0.067000
Diameter/Width = 0.050000
Length = 0.050000

name = MLI Blankets
quantity = 5
parent = 1
materialID = 44
type = Flat Plate
Aero Mass = 0.142000
Thermal Mass = 0.142000
Diameter/Width = 0.100000
Length = 0.200000

name = Heat Straps
quantity = 4
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.130000
Thermal Mass = 0.130000
Diameter/Width = 0.020000
Length = 0.050000

name = Heaters
quantity = 20
parent = 1
materialID = 19
type = Flat Plate
Aero Mass = 0.026000
Thermal Mass = 0.026000
Diameter/Width = 0.025000
Length = 0.050000

name = Temp Sensors
quantity = 25
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.010000
Length = 0.020000

name = LVI Ring
quantity = 1
parent = 1

materialID = -17
type = Flat Plate
Aero Mass = 0.704000
Thermal Mass = 0.704000
Diameter/Width = 0.375000
Length = 0.375000

name = Trim Mass
quantity = 20
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.050000
Thermal Mass = 0.050000
Diameter/Width = 0.025000
Length = 0.015000

name = Solar Panel +Z+Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Z-Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000

Diameter/Width = 0.625000
Length = 0.950000

name = Solar Panel -Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Power Electronics
quantity = 4
parent = 1
materialID = -2
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.080000
Length = 0.215000
Height = 0.010000

name = Avionics Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 6.530000
Thermal Mass = 6.530000
Diameter/Width = 0.150000
Length = 0.325000
Height = 0.050000

name = Payload Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 5.820000
Thermal Mass = 5.820000
Diameter/Width = 0.150000
Length = 0.300000

Height = 0.050000

name = RF TTC Antennas
quantity = 10
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.040000
Length = 0.050000

name = RF Payload Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 1.440000
Thermal Mass = 1.440000
Diameter/Width = 0.125000
Length = 0.350000

name = RF Harness
quantity = 12
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = RF Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.390000
Thermal Mass = 0.390000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RTC Rx Antenna LGA

quantity = 3
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.082000
Thermal Mass = 0.082000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Rx Antenna HGA
quantity = 1
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.104000
Thermal Mass = 0.104000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Tx Antenna
quantity = 1
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.084000
Thermal Mass = 0.084000
Diameter/Width = 0.030000
Length = 0.030000

name = GPS Antennas
quantity = 2
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.050000
Length = 0.075000

name = Upconverter
quantity = 1
parent = 1
materialID = 5
type = Box

Aero Mass = 0.600000
Thermal Mass = 0.600000
Diameter/Width = 0.050000
Length = 0.100000
Height = 0.050000

name = PA
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.200000
Thermal Mass = 1.200000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.050000

name = L Band Transceiver
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.100000
Thermal Mass = 1.100000
Diameter/Width = 0.065000
Length = 0.100000
Height = 0.065000

name = L Band Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = L Band Bracket
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.200000

Thermal Mass = 0.200000
Diameter/Width = 0.080000
Length = 0.200000
Height = 0.010000

name = L Band Antenna
quantity = 1
parent = 1
materialID = -2
type = Box
Aero Mass = 0.085000
Thermal Mass = 0.085000
Diameter/Width = 0.040000
Length = 0.080000
Height = 0.010000

name = Reaction Wheels
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 3.210000
Thermal Mass = 3.210000
Diameter/Width = 0.103000
Length = 0.050000

name = RW Bracket
quantity = 4
parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.509000
Thermal Mass = 0.509000
Diameter/Width = 0.080000
Length = 0.040000

name = TR
quantity = 3
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.910000
Thermal Mass = 0.910000
Diameter/Width = 0.025000

Length = 0.225000

name = ST

quantity = 4

parent = 1

materialID = 5

type = Box

Aero Mass = 0.310000

Thermal Mass = 0.310000

Diameter/Width = 0.050000

Length = 0.050000

Height = 0.050000

name = ST Bracket

quantity = 4

parent = 1

materialID = 5

type = Box

Aero Mass = 0.170000

Thermal Mass = 0.170000

Diameter/Width = 0.050000

Length = 0.050000

Height = 0.025000

name = IMU

quantity = 3

parent = 1

materialID = 19

type = Box

Aero Mass = 0.010000

Thermal Mass = 0.010000

Diameter/Width = 0.010000

Length = 0.024000

Height = 0.010000

name = Magnetometers

quantity = 2

parent = 1

materialID = 5

type = Box

Aero Mass = 0.037000

Thermal Mass = 0.037000

Diameter/Width = 0.040000

Length = 0.050000

Height = 0.025000

name = ST Compute

quantity = 4

parent = 1

materialID = 23

type = Box

Aero Mass = 0.277000

Thermal Mass = 0.277000

Diameter/Width = 0.075000

Length = 0.075000

Height = 0.030000

name = PPU

quantity = 1

parent = 1

materialID = 5

type = Box

Aero Mass = 1.500000

Thermal Mass = 1.500000

Diameter/Width = 0.100000

Length = 0.150000

Height = 0.037500

name = Tanks

quantity = 2

parent = 1

materialID = -8

type = Cylinder

Aero Mass = 4.110000

Thermal Mass = 4.110000

Diameter/Width = 0.265000

Length = 0.750000

name = Plumbing

quantity = 18

parent = 1

materialID = 58

type = Cylinder

Aero Mass = 0.004000

Thermal Mass = 0.004000

Diameter/Width = 0.005000

Length = 0.050000

name = Brackets
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.134000
Thermal Mass = 0.134000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.030000

name = Thruster
quantity = 1
parent = 1
materialID = 66
type = Cylinder
Aero Mass = 0.870000
Thermal Mass = 0.870000
Diameter/Width = 0.090000
Length = 0.040000

name = Radiator
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.410000
Thermal Mass = 0.410000
Diameter/Width = 0.125000
Length = 0.125000

name = Pressure Components
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.251000
Thermal Mass = 0.251000
Diameter/Width = 0.025000
Length = 0.075000

name = Mechanical Misc
quantity = 8
parent = 1

materialID = 5
type = Box
Aero Mass = 0.143000
Thermal Mass = 0.143000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = Prop Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.033000
Thermal Mass = 0.033000
Diameter/Width = 0.005000
Length = 0.200000

name = Payload Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 0.463000
Thermal Mass = 0.463000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.015000

name = Payload Closeout Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 1.206000
Thermal Mass = 1.206000
Diameter/Width = 0.500000
Length = 0.570000
Height = 0.025000

name = Payload Bracket
quantity = 1
parent = 1
materialID = 8

type = Box
Aero Mass = 4.910000
Thermal Mass = 4.910000
Diameter/Width = 0.100000
Length = 0.250000
Height = 0.075000

name = Payload Support Structure
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 2.090000
Thermal Mass = 2.090000
Diameter/Width = 0.060000
Length = 0.250000
Height = 0.050000

name = M1
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 12.775000
Thermal Mass = 12.775000
Diameter/Width = 0.375000
Length = 0.375000
Height = 0.035000

name = Actuator Bar
quantity = 9
parent = 1
materialID = 66
type = Box
Aero Mass = 0.002000
Thermal Mass = 0.002000
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.000400

name = M1 Flexure
quantity = 9
parent = 1
materialID = 65

type = Box
Aero Mass = 0.041300
Thermal Mass = 0.041300
Diameter/Width = 0.020000
Length = 0.070000
Height = 0.010000

name = AI Actuator Base
quantity = 9
parent = 1
materialID = 5
type = Box
Aero Mass = 0.095700
Thermal Mass = 0.095700
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.020000

name = Telescope Main Tube
quantity = 1
parent = 1
materialID = -9
type = Cylinder
Aero Mass = 11.934000
Thermal Mass = 11.934000
Diameter/Width = 0.500000
Length = 0.495000

name = Telescope Main Back Rib
quantity = 1
parent = 1
materialID = -10
type = Box
Aero Mass = 7.375000
Thermal Mass = 7.375000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.100000

name = Metering Rods
quantity = 3
parent = 1
materialID = -11
type = Cylinder

Aero Mass = 0.381900
Thermal Mass = 0.381900
Diameter/Width = 0.025000
Length = 0.502000

name = Spider Main Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.016000
Thermal Mass = 1.016000
Diameter/Width = 0.200000
Length = 0.200000
Height = 0.010000

name = Spider Hood
quantity = 1
parent = 1
materialID = -12
type = Box
Aero Mass = 0.000000
Thermal Mass = 0.000000
Diameter/Width = 0.150000
Length = 0.150000
Height = 0.040000

name = M2
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 0.795900
Thermal Mass = 0.795900
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.030000

name = Spider Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.062400

Thermal Mass = 0.062400
Diameter/Width = 0.152000
Length = 0.152000
Height = 0.001000

name = M2 Front Support
quantity = 1
parent = 1
materialID = 72
type = Box
Aero Mass = 0.045600
Thermal Mass = 0.045600
Diameter/Width = 0.015000
Length = 0.025000
Height = 0.015000

name = M1 Heater Plate
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.711000
Thermal Mass = 1.711000
Diameter/Width = 0.350000
Length = 0.350000
Height = 0.005000

name = Bipod Flexures
quantity = 3
parent = 1
materialID = 65
type = Box
Aero Mass = 0.282700
Thermal Mass = 0.282700
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.008000

name = Tail Back Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 3.000000

Thermal Mass = 3.000000
Diameter/Width = 0.537000
Length = 0.537000
Height = 0.004000

name = Center Hood
quantity = 1
parent = 1
materialID = -15
type = Cylinder
Aero Mass = 0.215600
Thermal Mass = 0.215600
Diameter/Width = 0.136000
Length = 0.230000

name = Tail Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 2.228900
Thermal Mass = 2.228900
Diameter/Width = 0.190000
Length = 0.374000
Height = 0.012000

name = Fold Mirror Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.417100
Thermal Mass = 0.417100
Diameter/Width = 0.109000
Length = 0.146000
Height = 0.010000

name = Fold Mirror
quantity = 2
parent = 1
materialID = 71
type = Box
Aero Mass = 0.314800
Thermal Mass = 0.314800

Diameter/Width = 0.100000
Length = 0.100000
Height = 0.016000

name = Fold Mirror Housing
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.086800
Thermal Mass = 0.086800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Fold Mirror Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.052800
Thermal Mass = 0.052800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Lenses Mount
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.196800
Thermal Mass = 0.196800
Diameter/Width = 0.060000
Length = 0.075000
Height = 0.031000

name = Lens 1
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.135000
Thermal Mass = 0.135000

Diameter/Width = 0.092000
Length = 0.092000
Height = 0.010000

name = Focus House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.099400
Thermal Mass = 0.099400
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.015000

name = Lens 2 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.219000
Thermal Mass = 0.219000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.014000

name = Lens 2
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.123600
Thermal Mass = 0.123600
Diameter/Width = 0.077000
Length = 0.077000
Height = 0.013600

name = Lens 3
quantity = 1
parent = 1
materialID = -14
type = Box
Aero Mass = 0.230700
Thermal Mass = 0.230700

Diameter/Width = 0.085400
Length = 0.085400
Height = 0.016000

name = Lens 3 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.054900
Thermal Mass = 0.054900
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.012500

name = Det and Lens Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.058600
Thermal Mass = 0.058600
Diameter/Width = 0.010000
Length = 0.300000
Height = 0.010000

name = Det House Flex
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.389900
Thermal Mass = 1.389900
Diameter/Width = 0.160000
Length = 0.388000
Height = 0.010000

name = Lens 4
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.103500
Thermal Mass = 0.103500

Diameter/Width = 0.089000
Length = 0.089000
Height = 0.006900

name = Det Window House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.035900
Thermal Mass = 0.035900
Diameter/Width = 0.106000
Length = 0.106000
Height = 0.009000

name = Star Tracker Base
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.258300
Thermal Mass = 0.258300
Diameter/Width = 0.101000
Length = 0.120000
Height = 0.010000

name = Rod Det Flex
quantity = 2
parent = 1
materialID = -5
type = Box
Aero Mass = 0.120000
Thermal Mass = 0.120000
Diameter/Width = 0.060000
Length = 0.141000
Height = 0.005000

name = Focus Mechanism
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.500000
Thermal Mass = 0.500000

Diameter/Width = 0.078000
Length = 0.088000
Height = 0.030000

*****OUTPUT****

Item Number = 1

name = Pelican
Demise Altitude = 77.998592
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Structure Deck
Demise Altitude = 70.694706
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Brackets
Demise Altitude = 75.491654
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Deck
Demise Altitude = 76.244758
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Panels
Demise Altitude = 76.857542
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Brackets
Demise Altitude = 73.367549
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Hardware

Demise Altitude = 75.319242
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = SA Release Mechanism
Demise Altitude = 74.252611
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RBF Panel
Demise Altitude = 76.134753
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = MLI Blankets
Demise Altitude = 77.789721
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heat Straps
Demise Altitude = 74.376876
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heaters
Demise Altitude = 77.113483
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Temp Sensors
Demise Altitude = 76.723688
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Ring
Demise Altitude = 77.042936
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Trim Mass

Demise Altitude = 72.731077

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Solar Panel +Z+Y

Demise Altitude = 76.890225

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Solar Panel +Z-Y

Demise Altitude = 76.890225

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Solar Panel +Y

Demise Altitude = 76.649006

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Solar Panel -Y

Demise Altitude = 76.649006

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Power Electronics

Demise Altitude = 71.573978

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Avionics Box

Demise Altitude = 67.854229

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Payload Box
Demise Altitude = 68.334072
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF TTC Antennas
Demise Altitude = 76.100384
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Payload Antenna
Demise Altitude = 74.273247
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Harness
Demise Altitude = 77.630986
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Brackets
Demise Altitude = 74.233793
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna LGA
Demise Altitude = 74.702056
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna HGA
Demise Altitude = 73.875410
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Tx Antenna

Demise Altitude = 74.621448
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = GPS Antennas
Demise Altitude = 76.891118
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Upconverter
Demise Altitude = 74.278011
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PA
Demise Altitude = 71.910029
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Transceiver
Demise Altitude = 72.667323
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Harness
Demise Altitude = 77.630986
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Bracket
Demise Altitude = 77.016526
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Antenna
Demise Altitude = 76.654648
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Reaction Wheels
Demise Altitude = 57.407713
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RW Bracket
Demise Altitude = 71.681085
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = TR
Demise Altitude = 72.547525
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST
Demise Altitude = 74.448809
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Bracket
Demise Altitude = 75.222993
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = IMU
Demise Altitude = 77.317383
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Magnetometers
Demise Altitude = 77.321495
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Compute
Demise Altitude = 75.495768
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PPU
Demise Altitude = 72.171619
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tanks
Demise Altitude = 77.181124
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Plumbing
Demise Altitude = 77.305074
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Brackets
Demise Altitude = 75.813281
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Thruster
Demise Altitude = 64.212542
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Radiator
Demise Altitude = 75.341176
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Pressure Components

Demise Altitude = 69.542710
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Mechanical Misc
Demise Altitude = 75.643713
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Prop Harness
Demise Altitude = 77.313264
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Deck
Demise Altitude = 77.673218
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Closeout Panels
Demise Altitude = 77.085624
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Bracket
Demise Altitude = 74.248152
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Support Structure
Demise Altitude = 75.540817
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1
Demise Altitude = 0.000000
Debris Casualty Area = 0.739708

Impact Kinetic Energy = 22322.731126

name = Actuator Bar
Demise Altitude = 77.924424
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Flexure
Demise Altitude = 75.282106
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AI Actuator Base
Demise Altitude = 76.581554
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Tube
Demise Altitude = 73.287602
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Back Rib
Demise Altitude = 73.424721
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Metering Rods
Demise Altitude = 73.603229
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Main Chassis
Demise Altitude = 74.947790
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Hood
Demise Altitude = 77.998592
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2
Demise Altitude = 69.580134
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Cover
Demise Altitude = 77.703855
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2 Front Support
Demise Altitude = 74.851575
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Heater Plate
Demise Altitude = 75.585468
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Bipod Flexures
Demise Altitude = 0.000000
Debris Casualty Area = 1.155125
Impact Kinetic Energy = 156.092435

name = Tail Back Cover
Demise Altitude = 75.599662
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Center Hood

Demise Altitude = 77.406449
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tail Chassis
Demise Altitude = 74.214491
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Chassis
Demise Altitude = 75.782405
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror
Demise Altitude = 73.492097
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Housing
Demise Altitude = 77.352040
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Cover
Demise Altitude = 77.605774
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lenses Mount
Demise Altitude = 76.060357
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 1
Demise Altitude = 0.000000
Debris Casualty Area = 0.377404

Impact Kinetic Energy = 39.973742

name = Focus House
Demise Altitude = 77.123484
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2 Housing
Demise Altitude = 76.322731
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2
Demise Altitude = 0.000000
Debris Casualty Area = 0.363084
Impact Kinetic Energy = 43.055247

name = Lens 3
Demise Altitude = 76.625380
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 3 Housing
Demise Altitude = 77.496687
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det and Lens Cover
Demise Altitude = 77.486020
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det House Flex
Demise Altitude = 75.416671
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 4
Demise Altitude = 0.000000
Debris Casualty Area = 0.372572
Impact Kinetic Energy = 26.447103

name = Det Window House
Demise Altitude = 77.732886
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Star Tracker Base
Demise Altitude = 76.266221
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Rod Det Flex
Demise Altitude = 0.000000
Debris Casualty Area = 0.752354
Impact Kinetic Energy = 35.973255

name = Focus Mechanism
Demise Altitude = 74.164203
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

===== End of Requirement 4.7-1 =====

05 23 2025; 14:34:06PM Project Data Saved To File
05 23 2025; 14:35:01PM Project Data Saved To File
05 23 2025; 14:35:07PM Requirement 4.5-2: Compliant

===== End of Requirement 4.5-2 =====

05 23 2025; 14:35:11PM Processing Requirement 4.3-2: Return Status : Passed

=====

No Project Data Available

=====

===== End of Requirement 4.3-2 =====

05 23 2025; 14:35:13PM Processing Requirement 4.3-1: Return Status : Not Run

=====

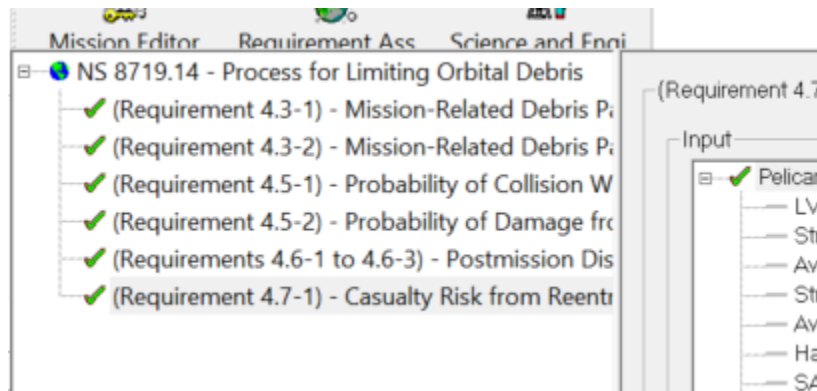
No Project Data Available

=====

===== End of Requirement 4.3-1 =====

53° Operational Orbit

440 km x 440 km x 53° DAS GUI Results



440 km x 440 km x 53 DAS Logs (Operational Orbit)

05 21 2025; 13:18:23PM Activity Log Started

05 21 2025; 13:18:23PM Opened Project

C:\Users\dominic\Documents\DAS3.2.6\Pelican-IDRS\

05 21 2025; 13:18:35PM Project Data Saved To File

05 21 2025; 13:18:37PM Project Data Saved To File

05 21 2025; 13:18:40PM Mission Editor Changes Applied

05 21 2025; 13:18:40PM Project Data Saved To File

05 21 2025; 13:18:40PM Project Data Saved To File

05 21 2025; 13:18:44PM Processing Requirement 4.6 Return Status : Passed

=====

Project Data

=====

INPUT

Space Structure Name = Pelican

Space Structure Type = Payload

Perigee Altitude = 440.000000 (km)
Apogee Altitude = 440.000000 (km)
Inclination = 53.000000 (deg)
RAAN = 0.000000 (deg)
Argument of Perigee = 0.000000 (deg)
Mean Anomaly = 0.000000 (deg)
Area-To-Mass Ratio = 0.011000 (m²/kg)
Start Year = 2025.000000 (yr)
Initial Mass = 195.500000 (kg)
Final Mass = 182.700000 (kg)
Duration = 5.000000 (yr)
Station Kept = True
Abandoned = True
PMD Perigee Altitude = 440.000000 (km)
PMD Apogee Altitude = 440.000000 (km)
PMD Inclination = 53.000000 (deg)
PMD RAAN = 0.000000 (deg)
PMD Argument of Perigee = 0.000000 (deg)
PMD Mean Anomaly = 0.000000 (deg)
Long-Term Reentry = False

****OUTPUT****

Suggested Perigee Altitude = 440.000000 (km)
Suggested Apogee Altitude = 440.000000 (km)
Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2033 (yr)
Requirement = 61
Compliance Status = Pass

=====

===== End of Requirement 4.6 =====

05 21 2025; 13:18:48PM Project Data Saved To File

05 21 2025; 13:18:53PM Requirement 4.5-2: Compliant

===== End of Requirement 4.5-2 =====

05 21 2025; 13:26:34PM Processing Requirement 4.5-1: Return Status : Passed

=====

Run Data

=====

INPUT

Space Structure Name = Pelican
Space Structure Type = Payload
Perigee Altitude = 440.000 (km)
Apogee Altitude = 440.000 (km)
Inclination = 53.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0110 (m²/kg)
Start Year = 2025.000 (yr)
Initial Mass = 195.500 (kg)
Final Mass = 182.700 (kg)
Duration = 5.000 (yr)
Station-Kept = True
Abandoned = True
Long-Term Reentry = False

OUTPUT

Collision Probability = 1.7149E-05
Returned Message: Normal Processing
Date Range Message: Normal Date Range
Status = Pass

=====

===== End of Requirement 4.5-1 =====

05 21 2025; 13:27:25PM *****Processing Requirement 4.7-1
Return Status : Passed

*****INPUT****

Item Number = 1

name = Pelican
quantity = 1
parent = 0
materialID = 5
type = Box

Aero Mass = 182.699997
Thermal Mass = 182.699997
Diameter/Width = 0.600000
Length = 1.000000
Height = 0.600000

name = LVI Structure Deck
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 9.220000
Thermal Mass = 9.220000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.011000

name = Structural Brackets
quantity = 16
parent = 1
materialID = 5
type = Box
Aero Mass = 0.218000
Thermal Mass = 0.218000
Diameter/Width = 0.050000
Length = 0.080000
Height = 0.020000

name = Avionics Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 2.600000
Thermal Mass = 2.600000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.045000

name = Structural Panels
quantity = 4
parent = 1
materialID = -17
type = Box

Aero Mass = 2.200000
Thermal Mass = 2.200000
Diameter/Width = 0.600000
Length = 0.800000
Height = 0.027500

name = Avionics Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.797000
Thermal Mass = 0.797000
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.025000

name = Hardware
quantity = 200
parent = 1
materialID = 54
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.012000
Length = 0.020000

name = SA Release Mechanism
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.388000
Thermal Mass = 0.388000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RBF Panel
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.067000

Thermal Mass = 0.067000
Diameter/Width = 0.050000
Length = 0.050000

name = MLI Blankets
quantity = 5
parent = 1
materialID = 44
type = Flat Plate
Aero Mass = 0.142000
Thermal Mass = 0.142000
Diameter/Width = 0.100000
Length = 0.200000

name = Heat Straps
quantity = 4
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.130000
Thermal Mass = 0.130000
Diameter/Width = 0.020000
Length = 0.050000

name = Heaters
quantity = 20
parent = 1
materialID = 19
type = Flat Plate
Aero Mass = 0.026000
Thermal Mass = 0.026000
Diameter/Width = 0.025000
Length = 0.050000

name = Temp Sensors
quantity = 25
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.010000
Length = 0.020000

name = LVI Ring
quantity = 1
parent = 1
materialID = -17
type = Flat Plate
Aero Mass = 0.704000
Thermal Mass = 0.704000
Diameter/Width = 0.375000
Length = 0.375000

name = Trim Mass
quantity = 20
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.050000
Thermal Mass = 0.050000
Diameter/Width = 0.025000
Length = 0.015000

name = Solar Panel +Z+Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Z-Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Y
quantity = 1
parent = 1
materialID = -16

type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Solar Panel -Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Power Electronics
quantity = 4
parent = 1
materialID = -2
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.080000
Length = 0.215000
Height = 0.010000

name = Avionics Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 6.530000
Thermal Mass = 6.530000
Diameter/Width = 0.150000
Length = 0.325000
Height = 0.050000

name = Payload Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 5.820000

Thermal Mass = 5.820000
Diameter/Width = 0.150000
Length = 0.300000
Height = 0.050000

name = RF TTC Antennas
quantity = 10
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.040000
Length = 0.050000

name = RF Payload Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 1.440000
Thermal Mass = 1.440000
Diameter/Width = 0.125000
Length = 0.350000

name = RF Harness
quantity = 12
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = RF Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.390000
Thermal Mass = 0.390000
Diameter/Width = 0.050000
Length = 0.060000

Height = 0.050000

name = RTC Rx Antenna LGA

quantity = 3

parent = 1

materialID = -2

type = Cylinder

Aero Mass = 0.082000

Thermal Mass = 0.082000

Diameter/Width = 0.030000

Length = 0.030000

name = RTC Rx Antenna HGA

quantity = 1

parent = 1

materialID = -2

type = Cylinder

Aero Mass = 0.104000

Thermal Mass = 0.104000

Diameter/Width = 0.030000

Length = 0.030000

name = RTC Tx Antenna

quantity = 1

parent = 1

materialID = -2

type = Cylinder

Aero Mass = 0.084000

Thermal Mass = 0.084000

Diameter/Width = 0.030000

Length = 0.030000

name = GPS Antennas

quantity = 2

parent = 1

materialID = -2

type = Flat Plate

Aero Mass = 0.060000

Thermal Mass = 0.060000

Diameter/Width = 0.050000

Length = 0.075000

name = Upconverter

quantity = 1

parent = 1
materialID = 5
type = Box
Aero Mass = 0.600000
Thermal Mass = 0.600000
Diameter/Width = 0.050000
Length = 0.100000
Height = 0.050000

name = PA
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.200000
Thermal Mass = 1.200000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.050000

name = L Band Transceiver
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.100000
Thermal Mass = 1.100000
Diameter/Width = 0.065000
Length = 0.100000
Height = 0.065000

name = L Band Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = L Band Bracket
quantity = 1
parent = 1

materialID = 5
type = Box
Aero Mass = 0.200000
Thermal Mass = 0.200000
Diameter/Width = 0.080000
Length = 0.200000
Height = 0.010000

name = L Band Antenna
quantity = 1
parent = 1
materialID = -2
type = Box
Aero Mass = 0.085000
Thermal Mass = 0.085000
Diameter/Width = 0.040000
Length = 0.080000
Height = 0.010000

name = Reaction Wheels
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 3.210000
Thermal Mass = 3.210000
Diameter/Width = 0.103000
Length = 0.050000

name = RW Bracket
quantity = 4
parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.509000
Thermal Mass = 0.509000
Diameter/Width = 0.080000
Length = 0.040000

name = TR
quantity = 3
parent = 1
materialID = 19
type = Cylinder

Aero Mass = 0.910000
Thermal Mass = 0.910000
Diameter/Width = 0.025000
Length = 0.225000

name = ST
quantity = 4
parent = 1
materialID = 5
type = Box
Aero Mass = 0.310000
Thermal Mass = 0.310000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.050000

name = ST Bracket
quantity = 4
parent = 1
materialID = 5
type = Box
Aero Mass = 0.170000
Thermal Mass = 0.170000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = IMU
quantity = 3
parent = 1
materialID = 19
type = Box
Aero Mass = 0.010000
Thermal Mass = 0.010000
Diameter/Width = 0.010000
Length = 0.024000
Height = 0.010000

name = Magnetometers
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.037000

Thermal Mass = 0.037000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.025000

name = ST Compute
quantity = 4
parent = 1
materialID = 23
type = Box
Aero Mass = 0.277000
Thermal Mass = 0.277000
Diameter/Width = 0.075000
Length = 0.075000
Height = 0.030000

name = PPU
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.100000
Length = 0.150000
Height = 0.037500

name = Tanks
quantity = 2
parent = 1
materialID = -8
type = Cylinder
Aero Mass = 4.110000
Thermal Mass = 4.110000
Diameter/Width = 0.265000
Length = 0.750000

name = Plumbing
quantity = 18
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.004000
Thermal Mass = 0.004000

Diameter/Width = 0.005000
Length = 0.050000

name = Brackets
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.134000
Thermal Mass = 0.134000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.030000

name = Thruster
quantity = 1
parent = 1
materialID = 66
type = Cylinder
Aero Mass = 0.870000
Thermal Mass = 0.870000
Diameter/Width = 0.090000
Length = 0.040000

name = Radiator
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.410000
Thermal Mass = 0.410000
Diameter/Width = 0.125000
Length = 0.125000

name = Pressure Components
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.251000
Thermal Mass = 0.251000
Diameter/Width = 0.025000
Length = 0.075000

name = Mechanical Misc
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.143000
Thermal Mass = 0.143000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = Prop Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.033000
Thermal Mass = 0.033000
Diameter/Width = 0.005000
Length = 0.200000

name = Payload Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 0.463000
Thermal Mass = 0.463000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.015000

name = Payload Closeout Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 1.206000
Thermal Mass = 1.206000
Diameter/Width = 0.500000
Length = 0.570000
Height = 0.025000

name = Payload Bracket

quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 4.910000
Thermal Mass = 4.910000
Diameter/Width = 0.100000
Length = 0.250000
Height = 0.075000

name = Payload Support Structure
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 2.090000
Thermal Mass = 2.090000
Diameter/Width = 0.060000
Length = 0.250000
Height = 0.050000

name = M1
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 12.775000
Thermal Mass = 12.775000
Diameter/Width = 0.375000
Length = 0.375000
Height = 0.035000

name = Actuator Bar
quantity = 9
parent = 1
materialID = 66
type = Box
Aero Mass = 0.002000
Thermal Mass = 0.002000
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.000400

name = M1 Flexure

quantity = 9
parent = 1
materialID = 65
type = Box
Aero Mass = 0.041300
Thermal Mass = 0.041300
Diameter/Width = 0.020000
Length = 0.070000
Height = 0.010000

name = AI Actuator Base
quantity = 9
parent = 1
materialID = 5
type = Box
Aero Mass = 0.095700
Thermal Mass = 0.095700
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.020000

name = Telescope Main Tube
quantity = 1
parent = 1
materialID = -9
type = Cylinder
Aero Mass = 11.934000
Thermal Mass = 11.934000
Diameter/Width = 0.500000
Length = 0.495000

name = Telescope Main Back Rib
quantity = 1
parent = 1
materialID = -10
type = Box
Aero Mass = 7.375000
Thermal Mass = 7.375000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.100000

name = Metering Rods
quantity = 3

parent = 1
materialID = -11
type = Cylinder
Aero Mass = 0.381900
Thermal Mass = 0.381900
Diameter/Width = 0.025000
Length = 0.502000

name = Spider Main Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.016000
Thermal Mass = 1.016000
Diameter/Width = 0.200000
Length = 0.200000
Height = 0.010000

name = Spider Hood
quantity = 1
parent = 1
materialID = -12
type = Box
Aero Mass = 0.000000
Thermal Mass = 0.000000
Diameter/Width = 0.150000
Length = 0.150000
Height = 0.040000

name = M2
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 0.795900
Thermal Mass = 0.795900
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.030000

name = Spider Cover
quantity = 1
parent = 1

materialID = 5
type = Box
Aero Mass = 0.062400
Thermal Mass = 0.062400
Diameter/Width = 0.152000
Length = 0.152000
Height = 0.001000

name = M2 Front Support
quantity = 1
parent = 1
materialID = 72
type = Box
Aero Mass = 0.045600
Thermal Mass = 0.045600
Diameter/Width = 0.015000
Length = 0.025000
Height = 0.015000

name = M1 Heater Plate
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.711000
Thermal Mass = 1.711000
Diameter/Width = 0.350000
Length = 0.350000
Height = 0.005000

name = Bipod Flexures
quantity = 3
parent = 1
materialID = 65
type = Box
Aero Mass = 0.282700
Thermal Mass = 0.282700
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.008000

name = Tail Back Cover
quantity = 1
parent = 1

materialID = 5
type = Box
Aero Mass = 3.000000
Thermal Mass = 3.000000
Diameter/Width = 0.537000
Length = 0.537000
Height = 0.004000

name = Center Hood
quantity = 1
parent = 1
materialID = -15
type = Cylinder
Aero Mass = 0.215600
Thermal Mass = 0.215600
Diameter/Width = 0.136000
Length = 0.230000

name = Tail Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 2.228900
Thermal Mass = 2.228900
Diameter/Width = 0.190000
Length = 0.374000
Height = 0.012000

name = Fold Mirror Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.417100
Thermal Mass = 0.417100
Diameter/Width = 0.109000
Length = 0.146000
Height = 0.010000

name = Fold Mirror
quantity = 2
parent = 1
materialID = 71

type = Box
Aero Mass = 0.314800
Thermal Mass = 0.314800
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.016000

name = Fold Mirror Housing
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.086800
Thermal Mass = 0.086800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Fold Mirror Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.052800
Thermal Mass = 0.052800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Lenses Mount
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.196800
Thermal Mass = 0.196800
Diameter/Width = 0.060000
Length = 0.075000
Height = 0.031000

name = Lens 1
quantity = 1
parent = 1
materialID = -13

type = Box
Aero Mass = 0.135000
Thermal Mass = 0.135000
Diameter/Width = 0.092000
Length = 0.092000
Height = 0.010000

name = Focus House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.099400
Thermal Mass = 0.099400
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.015000

name = Lens 2 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.219000
Thermal Mass = 0.219000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.014000

name = Lens 2
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.123600
Thermal Mass = 0.123600
Diameter/Width = 0.077000
Length = 0.077000
Height = 0.013600

name = Lens 3
quantity = 1
parent = 1
materialID = -14

type = Box
Aero Mass = 0.230700
Thermal Mass = 0.230700
Diameter/Width = 0.085400
Length = 0.085400
Height = 0.016000

name = Lens 3 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.054900
Thermal Mass = 0.054900
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.012500

name = Det and Lens Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.058600
Thermal Mass = 0.058600
Diameter/Width = 0.010000
Length = 0.300000
Height = 0.010000

name = Det House Flex
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.389900
Thermal Mass = 1.389900
Diameter/Width = 0.160000
Length = 0.388000
Height = 0.010000

name = Lens 4
quantity = 1
parent = 1
materialID = -13

type = Box
Aero Mass = 0.103500
Thermal Mass = 0.103500
Diameter/Width = 0.089000
Length = 0.089000
Height = 0.006900

name = Det Window House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.035900
Thermal Mass = 0.035900
Diameter/Width = 0.106000
Length = 0.106000
Height = 0.009000

name = Star Tracker Base
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.258300
Thermal Mass = 0.258300
Diameter/Width = 0.101000
Length = 0.120000
Height = 0.010000

name = Rod Det Flex
quantity = 2
parent = 1
materialID = -5
type = Box
Aero Mass = 0.120000
Thermal Mass = 0.120000
Diameter/Width = 0.060000
Length = 0.141000
Height = 0.005000

name = Focus Mechanism
quantity = 1
parent = 1
materialID = 5

type = Box
Aero Mass = 0.500000
Thermal Mass = 0.500000
Diameter/Width = 0.078000
Length = 0.088000
Height = 0.030000

*****OUTPUT****

Item Number = 1

name = Pelican
Demise Altitude = 77.995631
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Structure Deck
Demise Altitude = 69.278018
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Brackets
Demise Altitude = 75.175536
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Deck
Demise Altitude = 75.872702
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Panels
Demise Altitude = 76.622603
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Brackets
Demise Altitude = 72.746838
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Hardware
Demise Altitude = 74.931476
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = SA Release Mechanism
Demise Altitude = 73.788414
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RBF Panel
Demise Altitude = 75.890650
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = MLI Blankets
Demise Altitude = 77.756992
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heat Straps
Demise Altitude = 73.897140
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Heaters
Demise Altitude = 76.981248
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Temp Sensors
Demise Altitude = 76.548233
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Ring
Demise Altitude = 76.877241
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Trim Mass
Demise Altitude = 71.882799
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z+Y
Demise Altitude = 76.666441
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z-Y
Demise Altitude = 76.666441
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Y
Demise Altitude = 76.360934
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel -Y
Demise Altitude = 76.360934
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Power Electronics
Demise Altitude = 70.695317
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Box
Demise Altitude = 66.487780

Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Box
Demise Altitude = 67.028302
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF TTC Antennas
Demise Altitude = 75.845315
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Payload Antenna
Demise Altitude = 73.733212
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Harness
Demise Altitude = 77.576786
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Brackets
Demise Altitude = 73.769535
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna LGA
Demise Altitude = 74.271893
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna HGA
Demise Altitude = 73.350004
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Tx Antenna
Demise Altitude = 74.190977
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = GPS Antennas
Demise Altitude = 76.735345
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Upconverter
Demise Altitude = 73.823570
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PA
Demise Altitude = 71.116543
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Transceiver
Demise Altitude = 72.021080
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Harness
Demise Altitude = 77.576786
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Bracket
Demise Altitude = 76.885935
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Antenna
Demise Altitude = 76.468825
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Reaction Wheels
Demise Altitude = 55.389532
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RW Bracket
Demise Altitude = 70.917294
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = TR
Demise Altitude = 71.833928
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST
Demise Altitude = 74.008937
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Bracket
Demise Altitude = 74.870224
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = IMU
Demise Altitude = 77.217953
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Magnetometers
Demise Altitude = 77.232937

Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Compute
Demise Altitude = 75.147979
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PPU
Demise Altitude = 71.422895
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tanks
Demise Altitude = 77.078921
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Plumbing
Demise Altitude = 77.161692
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Brackets
Demise Altitude = 75.537713
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Thruster
Demise Altitude = 62.785388
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Radiator
Demise Altitude = 74.969611
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Pressure Components
Demise Altitude = 68.217598
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Mechanical Misc
Demise Altitude = 75.344246
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Prop Harness
Demise Altitude = 77.219241
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Deck
Demise Altitude = 77.580668
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Closeout Panels
Demise Altitude = 76.915486
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Bracket
Demise Altitude = 73.775283
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Support Structure
Demise Altitude = 75.226418
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1
Demise Altitude = 0.000000
Debris Casualty Area = 0.739708
Impact Kinetic Energy = 22320.947260

name = Actuator Bar
Demise Altitude = 77.896319
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Flexure
Demise Altitude = 74.598116
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AI Actuator Base
Demise Altitude = 76.402047
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Tube
Demise Altitude = 72.617979
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Back Rib
Demise Altitude = 72.418859
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Metering Rods
Demise Altitude = 72.683329
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Main Chassis
Demise Altitude = 74.498331

Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Hood
Demise Altitude = 77.995631
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2
Demise Altitude = 68.170059
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Cover
Demise Altitude = 77.659682
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2 Front Support
Demise Altitude = 74.439246
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Heater Plate
Demise Altitude = 75.191342
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Bipod Flexures
Demise Altitude = 0.000000
Debris Casualty Area = 1.155125
Impact Kinetic Energy = 156.098972

name = Tail Back Cover
Demise Altitude = 75.172216
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Center Hood
Demise Altitude = 77.322858
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tail Chassis
Demise Altitude = 73.655960
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Chassis
Demise Altitude = 75.473979
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror
Demise Altitude = 72.721406
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Housing
Demise Altitude = 77.263768
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Fold Mirror Cover
Demise Altitude = 77.548418
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lenses Mount
Demise Altitude = 75.811711
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 1
Demise Altitude = 0.000000
Debris Casualty Area = 0.377404
Impact Kinetic Energy = 39.972158

name = Focus House
Demise Altitude = 77.002105
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2 Housing
Demise Altitude = 76.094210
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2
Demise Altitude = 0.000000
Debris Casualty Area = 0.363084
Impact Kinetic Energy = 43.055810

name = Lens 3
Demise Altitude = 76.445514
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 3 Housing
Demise Altitude = 77.431060
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det and Lens Cover
Demise Altitude = 77.419529
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det House Flex
Demise Altitude = 75.036337

Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 4
Demise Altitude = 0.000000
Debris Casualty Area = 0.372572
Impact Kinetic Energy = 26.447985

name = Det Window House
Demise Altitude = 77.692656
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Star Tracker Base
Demise Altitude = 76.032254
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Rod Det Flex
Demise Altitude = 0.000000
Debris Casualty Area = 0.752354
Impact Kinetic Energy = 35.973700

name = Focus Mechanism
Demise Altitude = 73.667126
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

===== End of Requirement 4.7-1 =====

05 21 2025; 13:27:25PM Project Data Saved To File

05 21 2025; 13:27:31PM Processing Requirement 4.3-1: Return Status : Not Run

=====

No Project Data Available

=====

===== End of Requirement 4.3-1 =====

05 21 2025; 13:27:32PM Processing Requirement 4.3-2: Return Status : Passed

=====

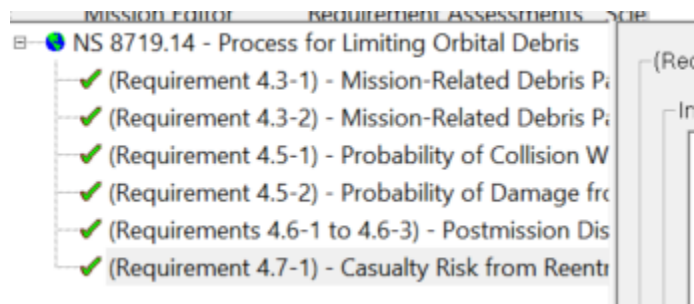
No Project Data Available

=====

===== End of Requirement 4.3-2 =====

53° Injection Orbit

535 km x 535 km x 53° DAS GUI Results



535 km x 535 km x 53° DAS Logs (Injection Orbit):

05 23 2025; 14:38:34PM Activity Log Started

05 23 2025; 14:38:34PM Opened Project

C:\Users\dominic\Documents\DAS3.2.6\Pelican-IDRS\

05 23 2025; 14:38:54PM Project Data Saved To File

05 23 2025; 14:38:56PM Mission Editor Changes Applied

05 23 2025; 14:38:56PM Project Data Saved To File

05 23 2025; 14:38:56PM Project Data Saved To File

05 23 2025; 14:38:58PM Processing Requirement 4.3-1: Return Status : Not Run

=====

No Project Data Available

=====

===== End of Requirement 4.3-1 =====

05 23 2025; 14:39:00PM Processing Requirement 4.3-2: Return Status : Passed

=====

No Project Data Available

=====

===== End of Requirement 4.3-2 =====

05 23 2025; 14:45:15PM Processing Requirement 4.5-1: Return Status : Passed

=====

Run Data

=====

****INPUT****

Space Structure Name = Pelican
Space Structure Type = Payload
Perigee Altitude = 535.000 (km)
Apogee Altitude = 535.000 (km)
Inclination = 53.000 (deg)
RAAN = 0.000 (deg)
Argument of Perigee = 0.000 (deg)
Mean Anomaly = 0.000 (deg)
Final Area-To-Mass Ratio = 0.0110 (m²/kg)
Start Year = 2025.000 (yr)
Initial Mass = 195.500 (kg)
Final Mass = 182.700 (kg)
Duration = 0.250 (yr)
Station-Kept = False
Abandoned = True
Long-Term Reentry = False

****OUTPUT****

Collision Probability = 1.3538E-05
Returned Message: Normal Processing
Date Range Message: Normal Date Range
Status = Pass

=====

===== End of Requirement 4.5-1 =====

05 23 2025; 14:45:31PM Project Data Saved To File
05 23 2025; 14:45:37PM Requirement 4.5-2: Compliant

===== End of Requirement 4.5-2 =====

05 23 2025; 14:45:40PM Processing Requirement 4.6 Return Status : Passed

=====

Project Data

=====

****INPUT****

Space Structure Name = Pelican

Space Structure Type = Payload

Perigee Altitude = 535.000000 (km)

Apogee Altitude = 535.000000 (km)

Inclination = 53.000000 (deg)

RAAN = 0.000000 (deg)

Argument of Perigee = 0.000000 (deg)

Mean Anomaly = 0.000000 (deg)

Area-To-Mass Ratio = 0.011000 (m²/kg)

Start Year = 2025.000000 (yr)

Initial Mass = 195.500000 (kg)

Final Mass = 182.700000 (kg)

Duration = 0.250000 (yr)

Station Kept = False

Abandoned = True

PMD Perigee Altitude = 528.106105 (km)

PMD Apogee Altitude = 528.860103 (km)

PMD Inclination = 52.998282 (deg)

PMD RAAN = 306.077564 (deg)

PMD Argument of Perigee = 54.926241 (deg)

PMD Mean Anomaly = 0.000000 (deg)

Long-Term Reentry = False

****OUTPUT****

Suggested Perigee Altitude = 528.106105 (km)

Suggested Apogee Altitude = 528.860103 (km)

Returned Error Message = Passes LEO reentry orbit criteria.

Released Year = 2032 (yr)

Requirement = 61

Compliance Status = Pass

=====

===== End of Requirement 4.6 =====
05 23 2025; 14:45:47PM *****Processing Requirement 4.7-1
Return Status : Passed

*****INPUT****

Item Number = 1

name = Pelican
quantity = 1
parent = 0
materialID = 5
type = Box
Aero Mass = 182.699997
Thermal Mass = 182.699997
Diameter/Width = 0.600000
Length = 1.000000
Height = 0.600000

name = LVI Structure Deck
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 9.220000
Thermal Mass = 9.220000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.011000

name = Structural Brackets
quantity = 16
parent = 1
materialID = 5
type = Box
Aero Mass = 0.218000
Thermal Mass = 0.218000
Diameter/Width = 0.050000
Length = 0.080000
Height = 0.020000

name = Avionics Deck
quantity = 1
parent = 1

materialID = -17
type = Box
Aero Mass = 2.600000
Thermal Mass = 2.600000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.045000

name = Structural Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 2.200000
Thermal Mass = 2.200000
Diameter/Width = 0.600000
Length = 0.800000
Height = 0.027500

name = Avionics Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.797000
Thermal Mass = 0.797000
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.025000

name = Hardware
quantity = 200
parent = 1
materialID = 54
type = Cylinder
Aero Mass = 0.017000
Thermal Mass = 0.017000
Diameter/Width = 0.012000
Length = 0.020000

name = SA Release Mechanism
quantity = 2
parent = 1
materialID = 5

type = Box
Aero Mass = 0.388000
Thermal Mass = 0.388000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RBF Panel
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.067000
Thermal Mass = 0.067000
Diameter/Width = 0.050000
Length = 0.050000

name = MLI Blankets
quantity = 5
parent = 1
materialID = 44
type = Flat Plate
Aero Mass = 0.142000
Thermal Mass = 0.142000
Diameter/Width = 0.100000
Length = 0.200000

name = Heat Straps
quantity = 4
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.130000
Thermal Mass = 0.130000
Diameter/Width = 0.020000
Length = 0.050000

name = Heaters
quantity = 20
parent = 1
materialID = 19
type = Flat Plate
Aero Mass = 0.026000
Thermal Mass = 0.026000

Diameter/Width = 0.025000
Length = 0.050000

name = Temp Sensors
quantity = 25
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.012000
Thermal Mass = 0.012000
Diameter/Width = 0.010000
Length = 0.020000

name = LVI Ring
quantity = 1
parent = 1
materialID = -17
type = Flat Plate
Aero Mass = 0.704000
Thermal Mass = 0.704000
Diameter/Width = 0.375000
Length = 0.375000

name = Trim Mass
quantity = 20
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.050000
Thermal Mass = 0.050000
Diameter/Width = 0.025000
Length = 0.015000

name = Solar Panel +Z+Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Z-Y

quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.260000
Thermal Mass = 2.260000
Diameter/Width = 0.550000
Length = 0.950000

name = Solar Panel +Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Solar Panel -Y
quantity = 1
parent = 1
materialID = -16
type = Flat Plate
Aero Mass = 2.890000
Thermal Mass = 2.890000
Diameter/Width = 0.625000
Length = 0.950000

name = Power Electronics
quantity = 4
parent = 1
materialID = -2
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.080000
Length = 0.215000
Height = 0.010000

name = Avionics Box
quantity = 1
parent = 1
materialID = 5

type = Box
Aero Mass = 6.530000
Thermal Mass = 6.530000
Diameter/Width = 0.150000
Length = 0.325000
Height = 0.050000

name = Payload Box
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 5.820000
Thermal Mass = 5.820000
Diameter/Width = 0.150000
Length = 0.300000
Height = 0.050000

name = RF TTC Antennas
quantity = 10
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.040000
Length = 0.050000

name = RF Payload Antenna
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 1.440000
Thermal Mass = 1.440000
Diameter/Width = 0.125000
Length = 0.350000

name = RF Harness
quantity = 12
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000

Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = RF Brackets
quantity = 6
parent = 1
materialID = 5
type = Box
Aero Mass = 0.390000
Thermal Mass = 0.390000
Diameter/Width = 0.050000
Length = 0.060000
Height = 0.050000

name = RTC Rx Antenna LGA
quantity = 3
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.082000
Thermal Mass = 0.082000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Rx Antenna HGA
quantity = 1
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.104000
Thermal Mass = 0.104000
Diameter/Width = 0.030000
Length = 0.030000

name = RTC Tx Antenna
quantity = 1
parent = 1
materialID = -2
type = Cylinder
Aero Mass = 0.084000
Thermal Mass = 0.084000
Diameter/Width = 0.030000
Length = 0.030000

name = GPS Antennas
quantity = 2
parent = 1
materialID = -2
type = Flat Plate
Aero Mass = 0.060000
Thermal Mass = 0.060000
Diameter/Width = 0.050000
Length = 0.075000

name = Upconverter
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.600000
Thermal Mass = 0.600000
Diameter/Width = 0.050000
Length = 0.100000
Height = 0.050000

name = PA
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.200000
Thermal Mass = 1.200000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.050000

name = L Band Transceiver
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.100000
Thermal Mass = 1.100000
Diameter/Width = 0.065000
Length = 0.100000
Height = 0.065000

name = L Band Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.030000
Thermal Mass = 0.030000
Diameter/Width = 0.003000
Length = 0.500000

name = L Band Bracket
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.200000
Thermal Mass = 0.200000
Diameter/Width = 0.080000
Length = 0.200000
Height = 0.010000

name = L Band Antenna
quantity = 1
parent = 1
materialID = -2
type = Box
Aero Mass = 0.085000
Thermal Mass = 0.085000
Diameter/Width = 0.040000
Length = 0.080000
Height = 0.010000

name = Reaction Wheels
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 3.210000
Thermal Mass = 3.210000
Diameter/Width = 0.103000
Length = 0.050000

name = RW Bracket
quantity = 4

parent = 1
materialID = 5
type = Cylinder
Aero Mass = 0.509000
Thermal Mass = 0.509000
Diameter/Width = 0.080000
Length = 0.040000

name = TR
quantity = 3
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.910000
Thermal Mass = 0.910000
Diameter/Width = 0.025000
Length = 0.225000

name = ST
quantity = 4
parent = 1
materialID = 5
type = Box
Aero Mass = 0.310000
Thermal Mass = 0.310000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.050000

name = ST Bracket
quantity = 4
parent = 1
materialID = 5
type = Box
Aero Mass = 0.170000
Thermal Mass = 0.170000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = IMU
quantity = 3
parent = 1
materialID = 19

type = Box
Aero Mass = 0.010000
Thermal Mass = 0.010000
Diameter/Width = 0.010000
Length = 0.024000
Height = 0.010000

name = Magnetometers
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.037000
Thermal Mass = 0.037000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.025000

name = ST Compute
quantity = 4
parent = 1
materialID = 23
type = Box
Aero Mass = 0.277000
Thermal Mass = 0.277000
Diameter/Width = 0.075000
Length = 0.075000
Height = 0.030000

name = PPU
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.500000
Thermal Mass = 1.500000
Diameter/Width = 0.100000
Length = 0.150000
Height = 0.037500

name = Tanks
quantity = 2
parent = 1
materialID = -8

type = Cylinder
Aero Mass = 4.110000
Thermal Mass = 4.110000
Diameter/Width = 0.265000
Length = 0.750000

name = Plumbing
quantity = 18
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.004000
Thermal Mass = 0.004000
Diameter/Width = 0.005000
Length = 0.050000

name = Brackets
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.134000
Thermal Mass = 0.134000
Diameter/Width = 0.040000
Length = 0.050000
Height = 0.030000

name = Thruster
quantity = 1
parent = 1
materialID = 66
type = Cylinder
Aero Mass = 0.870000
Thermal Mass = 0.870000
Diameter/Width = 0.090000
Length = 0.040000

name = Radiator
quantity = 1
parent = 1
materialID = 5
type = Flat Plate
Aero Mass = 0.410000
Thermal Mass = 0.410000

Diameter/Width = 0.125000
Length = 0.125000

name = Pressure Components
quantity = 4
parent = 1
materialID = 58
type = Cylinder
Aero Mass = 0.251000
Thermal Mass = 0.251000
Diameter/Width = 0.025000
Length = 0.075000

name = Mechanical Misc
quantity = 8
parent = 1
materialID = 5
type = Box
Aero Mass = 0.143000
Thermal Mass = 0.143000
Diameter/Width = 0.050000
Length = 0.050000
Height = 0.025000

name = Prop Harness
quantity = 2
parent = 1
materialID = 19
type = Cylinder
Aero Mass = 0.033000
Thermal Mass = 0.033000
Diameter/Width = 0.005000
Length = 0.200000

name = Payload Deck
quantity = 1
parent = 1
materialID = -17
type = Box
Aero Mass = 0.463000
Thermal Mass = 0.463000
Diameter/Width = 0.550000
Length = 0.550000
Height = 0.015000

name = Payload Closeout Panels
quantity = 4
parent = 1
materialID = -17
type = Box
Aero Mass = 1.206000
Thermal Mass = 1.206000
Diameter/Width = 0.500000
Length = 0.570000
Height = 0.025000

name = Payload Bracket
quantity = 1
parent = 1
materialID = 8
type = Box
Aero Mass = 4.910000
Thermal Mass = 4.910000
Diameter/Width = 0.100000
Length = 0.250000
Height = 0.075000

name = Payload Support Structure
quantity = 2
parent = 1
materialID = 8
type = Box
Aero Mass = 2.090000
Thermal Mass = 2.090000
Diameter/Width = 0.060000
Length = 0.250000
Height = 0.050000

name = M1
quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 12.775000
Thermal Mass = 12.775000
Diameter/Width = 0.375000
Length = 0.375000
Height = 0.035000

name = Actuator Bar
quantity = 9
parent = 1
materialID = 66
type = Box
Aero Mass = 0.002000
Thermal Mass = 0.002000
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.000400

name = M1 Flexure
quantity = 9
parent = 1
materialID = 65
type = Box
Aero Mass = 0.041300
Thermal Mass = 0.041300
Diameter/Width = 0.020000
Length = 0.070000
Height = 0.010000

name = AI Actuator Base
quantity = 9
parent = 1
materialID = 5
type = Box
Aero Mass = 0.095700
Thermal Mass = 0.095700
Diameter/Width = 0.030000
Length = 0.080000
Height = 0.020000

name = Telescope Main Tube
quantity = 1
parent = 1
materialID = -9
type = Cylinder
Aero Mass = 11.934000
Thermal Mass = 11.934000
Diameter/Width = 0.500000
Length = 0.495000

name = Telescope Main Back Rib
quantity = 1
parent = 1
materialID = -10
type = Box
Aero Mass = 7.375000
Thermal Mass = 7.375000
Diameter/Width = 0.600000
Length = 0.600000
Height = 0.100000

name = Metering Rods
quantity = 3
parent = 1
materialID = -11
type = Cylinder
Aero Mass = 0.381900
Thermal Mass = 0.381900
Diameter/Width = 0.025000
Length = 0.502000

name = Spider Main Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.016000
Thermal Mass = 1.016000
Diameter/Width = 0.200000
Length = 0.200000
Height = 0.010000

name = Spider Hood
quantity = 1
parent = 1
materialID = -12
type = Box
Aero Mass = 0.000000
Thermal Mass = 0.000000
Diameter/Width = 0.150000
Length = 0.150000
Height = 0.040000

name = M2

quantity = 1
parent = 1
materialID = 71
type = Box
Aero Mass = 0.795900
Thermal Mass = 0.795900
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.030000

name = Spider Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.062400
Thermal Mass = 0.062400
Diameter/Width = 0.152000
Length = 0.152000
Height = 0.001000

name = M2 Front Support
quantity = 1
parent = 1
materialID = 72
type = Box
Aero Mass = 0.045600
Thermal Mass = 0.045600
Diameter/Width = 0.015000
Length = 0.025000
Height = 0.015000

name = M1 Heater Plate
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 1.711000
Thermal Mass = 1.711000
Diameter/Width = 0.350000
Length = 0.350000
Height = 0.005000

name = Bipod Flexures

quantity = 3
parent = 1
materialID = 65
type = Box
Aero Mass = 0.282700
Thermal Mass = 0.282700
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.008000

name = Tail Back Cover
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 3.000000
Thermal Mass = 3.000000
Diameter/Width = 0.537000
Length = 0.537000
Height = 0.004000

name = Center Hood
quantity = 1
parent = 1
materialID = -15
type = Cylinder
Aero Mass = 0.215600
Thermal Mass = 0.215600
Diameter/Width = 0.136000
Length = 0.230000

name = Tail Chassis
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 2.228900
Thermal Mass = 2.228900
Diameter/Width = 0.190000
Length = 0.374000
Height = 0.012000

name = Fold Mirror Chassis
quantity = 1

parent = 1
materialID = 5
type = Box
Aero Mass = 0.417100
Thermal Mass = 0.417100
Diameter/Width = 0.109000
Length = 0.146000
Height = 0.010000

name = Fold Mirror
quantity = 2
parent = 1
materialID = 71
type = Box
Aero Mass = 0.314800
Thermal Mass = 0.314800
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.016000

name = Fold Mirror Housing
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.086800
Thermal Mass = 0.086800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Fold Mirror Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.052800
Thermal Mass = 0.052800
Diameter/Width = 0.110000
Length = 0.110000
Height = 0.005000

name = Lenses Mount
quantity = 1

parent = 1
materialID = 5
type = Box
Aero Mass = 0.196800
Thermal Mass = 0.196800
Diameter/Width = 0.060000
Length = 0.075000
Height = 0.031000

name = Lens 1
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.135000
Thermal Mass = 0.135000
Diameter/Width = 0.092000
Length = 0.092000
Height = 0.010000

name = Focus House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.099400
Thermal Mass = 0.099400
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.015000

name = Lens 2 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.219000
Thermal Mass = 0.219000
Diameter/Width = 0.100000
Length = 0.100000
Height = 0.014000

name = Lens 2
quantity = 1

parent = 1
materialID = -13
type = Box
Aero Mass = 0.123600
Thermal Mass = 0.123600
Diameter/Width = 0.077000
Length = 0.077000
Height = 0.013600

name = Lens 3
quantity = 1
parent = 1
materialID = -14
type = Box
Aero Mass = 0.230700
Thermal Mass = 0.230700
Diameter/Width = 0.085400
Length = 0.085400
Height = 0.016000

name = Lens 3 Housing
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.054900
Thermal Mass = 0.054900
Diameter/Width = 0.090000
Length = 0.090000
Height = 0.012500

name = Det and Lens Cover
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.058600
Thermal Mass = 0.058600
Diameter/Width = 0.010000
Length = 0.300000
Height = 0.010000

name = Det House Flex
quantity = 1

parent = 1
materialID = 5
type = Box
Aero Mass = 1.389900
Thermal Mass = 1.389900
Diameter/Width = 0.160000
Length = 0.388000
Height = 0.010000

name = Lens 4
quantity = 1
parent = 1
materialID = -13
type = Box
Aero Mass = 0.103500
Thermal Mass = 0.103500
Diameter/Width = 0.089000
Length = 0.089000
Height = 0.006900

name = Det Window House
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.035900
Thermal Mass = 0.035900
Diameter/Width = 0.106000
Length = 0.106000
Height = 0.009000

name = Star Tracker Base
quantity = 2
parent = 1
materialID = 5
type = Box
Aero Mass = 0.258300
Thermal Mass = 0.258300
Diameter/Width = 0.101000
Length = 0.120000
Height = 0.010000

name = Rod Det Flex
quantity = 2

parent = 1
materialID = -5
type = Box
Aero Mass = 0.120000
Thermal Mass = 0.120000
Diameter/Width = 0.060000
Length = 0.141000
Height = 0.005000

name = Focus Mechanism
quantity = 1
parent = 1
materialID = 5
type = Box
Aero Mass = 0.500000
Thermal Mass = 0.500000
Diameter/Width = 0.078000
Length = 0.088000
Height = 0.030000

*****OUTPUT****

Item Number = 1

name = Pelican
Demise Altitude = 77.995631
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Structure Deck
Demise Altitude = 69.278018
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Structural Brackets
Demise Altitude = 75.175536
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Deck
Demise Altitude = 75.872702
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Structural Panels

Demise Altitude = 76.622603

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Avionics Brackets

Demise Altitude = 72.746838

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Hardware

Demise Altitude = 74.931476

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = SA Release Mechanism

Demise Altitude = 73.788414

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RBF Panel

Demise Altitude = 75.890650

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = MLI Blankets

Demise Altitude = 77.756992

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Heat Straps

Demise Altitude = 73.897140

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Heaters
Demise Altitude = 76.981248
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Temp Sensors
Demise Altitude = 76.548233
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = LVI Ring
Demise Altitude = 76.877241
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Trim Mass
Demise Altitude = 71.882799
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z+Y
Demise Altitude = 76.666441
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Z-Y
Demise Altitude = 76.666441
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel +Y
Demise Altitude = 76.360934
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Solar Panel -Y

Demise Altitude = 76.360934
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Power Electronics
Demise Altitude = 70.695317
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Avionics Box
Demise Altitude = 66.487780
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Box
Demise Altitude = 67.028302
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF TTC Antennas
Demise Altitude = 75.845315
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Payload Antenna
Demise Altitude = 73.733212
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Harness
Demise Altitude = 77.576786
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RF Brackets
Demise Altitude = 73.769535
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna LGA
Demise Altitude = 74.271893
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Rx Antenna HGA
Demise Altitude = 73.350004
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RTC Tx Antenna
Demise Altitude = 74.190977
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = GPS Antennas
Demise Altitude = 76.735345
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Upconverter
Demise Altitude = 73.823570
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PA
Demise Altitude = 71.116543
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Transceiver
Demise Altitude = 72.021080
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Harness
Demise Altitude = 77.576786
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Bracket
Demise Altitude = 76.885935
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = L Band Antenna
Demise Altitude = 76.468825
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Reaction Wheels
Demise Altitude = 55.389532
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = RW Bracket
Demise Altitude = 70.917294
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = TR
Demise Altitude = 71.833928
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST
Demise Altitude = 74.008937
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Bracket

Demise Altitude = 74.870224
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = IMU
Demise Altitude = 77.217953
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Magnetometers
Demise Altitude = 77.232937
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = ST Compute
Demise Altitude = 75.147979
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = PPU
Demise Altitude = 71.422895
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Tanks
Demise Altitude = 77.078921
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Plumbing
Demise Altitude = 77.161692
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Brackets
Demise Altitude = 75.537713
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Thruster

Demise Altitude = 62.785388

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Radiator

Demise Altitude = 74.969611

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Pressure Components

Demise Altitude = 68.217598

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Mechanical Misc

Demise Altitude = 75.344246

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Prop Harness

Demise Altitude = 77.219241

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Payload Deck

Demise Altitude = 77.580668

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Payload Closeout Panels

Demise Altitude = 76.915486

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Payload Bracket
Demise Altitude = 73.775283
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Payload Support Structure
Demise Altitude = 75.226418
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1
Demise Altitude = 0.000000
Debris Casualty Area = 0.739708
Impact Kinetic Energy = 22320.947260

name = Actuator Bar
Demise Altitude = 77.896319
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Flexure
Demise Altitude = 74.598116
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = AI Actuator Base
Demise Altitude = 76.402047
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Tube
Demise Altitude = 72.617979
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Telescope Main Back Rib

Demise Altitude = 72.418859
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Metering Rods
Demise Altitude = 72.683329
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Main Chassis
Demise Altitude = 74.498331
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Hood
Demise Altitude = 77.995631
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2
Demise Altitude = 68.170059
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Spider Cover
Demise Altitude = 77.659682
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M2 Front Support
Demise Altitude = 74.439246
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = M1 Heater Plate
Demise Altitude = 75.191342
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Bipod Flexures

Demise Altitude = 0.000000

Debris Casualty Area = 1.155125

Impact Kinetic Energy = 156.098972

name = Tail Back Cover

Demise Altitude = 75.172216

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Center Hood

Demise Altitude = 77.322858

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Tail Chassis

Demise Altitude = 73.655960

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Fold Mirror Chassis

Demise Altitude = 75.473979

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Fold Mirror

Demise Altitude = 72.721406

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Fold Mirror Housing

Demise Altitude = 77.263768

Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

name = Fold Mirror Cover
Demise Altitude = 77.548418
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lenses Mount
Demise Altitude = 75.811711
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 1
Demise Altitude = 0.000000
Debris Casualty Area = 0.377404
Impact Kinetic Energy = 39.972158

name = Focus House
Demise Altitude = 77.002105
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2 Housing
Demise Altitude = 76.094210
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 2
Demise Altitude = 0.000000
Debris Casualty Area = 0.363084
Impact Kinetic Energy = 43.055810

name = Lens 3
Demise Altitude = 76.445514
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 3 Housing

Demise Altitude = 77.431060
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det and Lens Cover
Demise Altitude = 77.419529
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Det House Flex
Demise Altitude = 75.036337
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Lens 4
Demise Altitude = 0.000000
Debris Casualty Area = 0.372572
Impact Kinetic Energy = 26.447985

name = Det Window House
Demise Altitude = 77.692656
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Star Tracker Base
Demise Altitude = 76.032254
Debris Casualty Area = 0.000000
Impact Kinetic Energy = 0.000000

name = Rod Det Flex
Demise Altitude = 0.000000
Debris Casualty Area = 0.752354
Impact Kinetic Energy = 35.973700

name = Focus Mechanism
Demise Altitude = 73.667126
Debris Casualty Area = 0.000000

Impact Kinetic Energy = 0.000000

===== End of Requirement 4.7-1 =====

05 23 2025; 14:45:47PM Project Data Saved To File