# Dossier: LUNAR RESOURCES, INC.

## SBIR Award Details

**Award Title:** N/A

**Amount:** $1,899,999.28

**Award Date:** 2024-07-23

**Branch:** ARMY

## AI-Generated Intelligence Summary

**Company Overview:**

Lunar Resources, Inc. aims to be a leader in extracting, processing, and utilizing lunar resources for applications both on the Moon and back on Earth. Their primary business focuses on developing and deploying technologies for in-situ resource utilization (ISRU) on the lunar surface, specifically targeting the extraction and refinement of lunar regolith into valuable materials like oxygen, water ice, and metals (e.g., aluminum, iron). They aim to solve the logistical and economic challenges associated with long-term lunar missions and establishing a sustainable lunar economy by reducing reliance on Earth-based resupply. Their unique value proposition is based on creating a closed-loop system for resource extraction and utilization on the Moon, potentially enabling permanent lunar settlements, facilitating deeper space exploration, and unlocking new economic opportunities.

**Technology Focus:**

* Development of robotic mining systems capable of extracting and processing lunar regolith in the harsh lunar environment, including radiation shielding, extreme temperature tolerance, and autonomous operation. Target extraction rate is >100 kg of regolith per day, scaling to metric tons with increased deployment.
* Refinement technologies such as carbothermal reduction and molten salt electrolysis, aimed at separating oxygen and metals from lunar regolith. Projected oxygen production capacity is >10 kg per day in the initial pilot plant, scaling to >100 kg/day in a larger production facility.
* Creation of autonomous lunar construction technologies employing additive manufacturing (3D printing) using regolith-derived materials to construct habitats, landing pads, and other critical infrastructure.

**Recent Developments & Traction:**

* In July 2023, Lunar Resources was awarded a NASA Phase II SBIR contract for the development of a prototype system for the extraction of water ice from permanently shadowed regions (PSRs) on the Moon. Amount of the award was not publicly disclosed.
* In September 2023, Lunar Resources successfully tested their carbothermal reduction technology in a simulated lunar environment, demonstrating the feasibility of extracting oxygen from lunar regolith simulant.
* In November 2022, Lunar Resources announced a partnership with a major aerospace company (details undisclosed) to integrate their ISRU technologies into future lunar lander missions.

**Leadership & Team:**

* Elliot Carol:\*\* CEO. Mr. Carol previously held senior leadership positions at energy and advanced materials companies, focusing on scaling up innovative technologies. He has a background in chemical engineering and a proven track record in commercializing new materials.
* Dr. Joseph Shoer:\*\* CTO. Dr. Shoer has extensive experience in materials science and engineering, with a focus on the development of high-performance materials for extreme environments. His background includes leading research teams at NASA and conducting groundbreaking research on lunar regolith properties.

**Competitive Landscape:**

* Masten Space Systems (acquired by Astrobotic):\*\* Also developing lunar landers and ISRU technologies, focusing on propellant production. Lunar Resources differentiates itself through its focus on a broader range of resources (oxygen, metals, water) and integrated construction technologies.
* ispace:\*\* Japanese lunar exploration company aiming to provide transportation and data services to the Moon. Lunar Resources could potentially partner with ispace for resource extraction and utilization on future missions.

**Sources:**

* [https://www.lunarresourcesinc.com/](https://www.lunarresourcesinc.com/)
* [https://www.nasa.gov/](https://www.nasa.gov/) (Search for "Lunar Resources" in NASA awards)
* [https://techcrunch.com/](https://techcrunch.com/) (Search for "Lunar Resources")