

## Lunar Ore reserves Standard (Lors 101)

This work introduces the current development of the Lunar Ore Reserves Standards (LORS101). These standards aim to provide a consistent guide to Lunar resource explorers, miners, investors, and any concerned party interested in the estimation of Lunar resources (mineral and volatiles) quantities, evaluation of Lunar resource projects, and to report results within a comprehensive classification framework. The LORS-101 classification framework considers geological uncertainty, project and technology maturity, together with socio-political and LORS-101 also includes a glossary for SRU or In Situ Resource Utilisation (ISRU) which is the use of natural resources from the Moon, Mars and other bodies for use in situ or elsewhere in the Solar System, and makes a comparison to similar definitions currently used in the Oil & Gas and Mining Industry. The SRU technologies will provide the for humankind to explore further into space, and For this all of SRU technology stages are necessary to use . One of the key challenges is the unique cross-disciplinary nature of SRU; it integrates space systems, robotics, materials handling and beneficiation, and chemical process engineering. This is supported by knowledge of the lunar or planetary geology, including mineralogy, physical characteristics, and the variability in local materials. Combining such diverse fields in a coordinated way requires the use of a universal framework that will enable integration of operations and comparison of technologies, and will define a global terminology to be used across all fields. One of the important items that need to be addressed prior to SRU activities is the creation of standards for the estimation and public reporting of; space exploration results, space resource evaluations, and space reserves estimation.

Lunar Ore Reserves Standards 101 (LORS-101), E.D, Carlos, a First Code for the Reporting of Lunar Exploration Results, Lunar Resources, and Lunar Reserves, c-espejel@ispace-inc.com

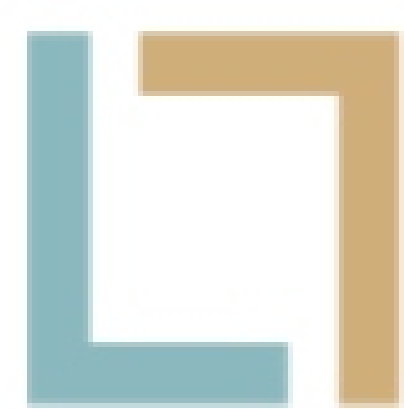
K.Hadle r, D.J.P.Martin, J. Carpenter, J.J.Cilliers, A.Morse, S.Starr, J.N.Rasera, K.Seweryn, P.Reiss, A,Meurisse, 2020, A universal framework for Space Resource Utilisation (SRU) 2020, Planetary and Space Science, Volume 182, 104811.

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The space resources (e.g. water, H, He, O, Fe, Al, Ti, etc.) are hosted on Earth's Moon, planets, asteroids. The Lunar Ore Reserves Standards (LORS101) aim to provide a consistent guide to Lunar resource explorers, miners, investors, and any concerned party interested in the estimation of Lunar resources (mineral and volatiles) quantities. The Lunar Ore Lunar Ore Reserves Standards (LORS101) classification framework considers geological uncertainty, project and technology maturity, together with socio-political and economic viability. The Lunar resources currently of the interest are in the form of minerals, ices, glasses, and within the regolith such as mineral, and Oil & Gas . LORS-101 considers as foundation the existing and very mature Earth standards (CRIRSCO) for the Mineral, and Oil & Gas extraction industries.

Lors -101 is a collaborative project which organisations, and research institutions.