

MINING LAW FOR OUTER SPACE: How Will it Work?

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SPACE LAW: An Overview

- **The 1967 Outer Space Treaty (OST):**
 - Prohibits territorial sovereignty
 - Nations cannot make territorial claims in space or on celestial bodies, and
 - Nations cannot grant or recognize permanent mining and property rights because it does not have territorial jurisdiction
 - However, nations' formal recognition of mining claims and property rights can be based upon the jurisdiction conferred by the OST, Article VIII (use it or lose it).



SPACE LAW: An Overview

- **The 1967 Outer Space Treaty (OST):**
 - Outer space, including the Moon and other celestial bodies, shall be free for exploration and *use* by all States (OST Article I, emphasis added)
 - Entities may only claim the area encompassed by their space objects and ongoing activities, plus a safety zone
 - All mining rights and national jurisdiction cease when there is no longer a presence (human, robotic, facilities, and/or mining equipment)



Elements of Prospective US Legislation: Mining Law

There is a tension between the free access provision and the jurisdiction provision in the OST.



Elements of Prospective US Legislation: Mining Law

- Spacefarers must protect the environment and prevent biological contamination of Earth and other celestial bodies (OST requirements).
- Space Pioneer Act will protect areas of historical, scientific and aesthetic interest on celestial bodies (*e.g.* Apollo 11 landing site) (applies to all spacefarers regardless of whether they file claims; will move and incorporate recent legislation).



A Legal Regime for Private Space Activities: General Approach

- The Space Pioneer Act will include mining law, property rights and salvage law.
- U.S. space mining laws can be consistent with and incorporated into the General Mining Act of 1872, subsequent statutory amendments, and related regulations.
- Will move and incorporate the Space Resource Exploration and Utilization Act of 2015 (part of the U.S. Commercial Space Launch Competitiveness Act)



Elements of Prospective US Legislation: Mining Law

- The Federal Land Policy and Management Act of 1976, 43 U.S.C. § 1744, “Recordation of mining claims” is an amendment to the General Mining Act. Other amending statutes are located in 30 U.S.C. § 28 *et seq.*
- These statutes specify the procedures and fees for filing and maintaining mining claims.
- Lode claim – hard rock deposit
- Placer claim – gravel/regolith



Elements of Prospective US Legislation: Mining Law

- First step is to “locate” your claim. This means placing physical markers on the ground if you are mining a planet or moon with a cartographic system (Moon & Mars) and to write a description of the location of the claim utilizing the cartographic coordinates. Tunnels are “located” on the surface above the tunnel.
- To “locate” an asteroid will require you to visit the asteroid and place a beacon, and provide the asteroid’s astronomical designation, the asteroid type, and solar-orbit parameters.



Elements of Prospective US Legislation: Mining Law

- Submit Notice of Location to Department of the Interior, Bureau of Land Management (claim initiated on date filed – “location date”).
- Within 90 days after location date pay location fee of \$TBD + maintenance fee of \$TBD.
- Following receipt of fees, BLM submits Notices of Claims to UN Office of Outer Space Affairs for inclusion in international space object registry.



Elements of Prospective US Legislation: Mining Law

Online Index of Objects Launched into Outer Space

Important Note: Information in square brackets ([and]) and highlighted in green has been obtained from other sources and has not been communicated officially to the United Nations. Reference to external websites does not imply endorsement by the United Nations Office for Outer Space Affairs (UNOOSA) of their contents. The views expressed are those of the authors and do not necessarily reflect the policies or views of UNOOSA. The hyperlinks are provided solely for informational purposes.



additional criteria:

UN Registered: **Yes** x

State / Organization: **United States of America** x

found 2791 Objects

Clear All Criteria

FILTER BY ...

State / Organization 1

UN Registered 1

Status 19

In Orbit 2

Launch Facility 20

Launch Year 61

Duplicate Registration 2

International Designator	National Designator	Name of Space Object	State/Organization	Date of Launch	GSO Location	UN Registered	Registration Document	Other Documents	Status	Change	Function of Space Object	Secretariat's Remarks	website
2018-079A		AEHF 4 (USA 288)	USA	2018-10-17		Yes	ST/SG/SER.E/877		[in GSO]		Spacecraft engaged in practical applications and uses of space technology such as weather or communications	The registration submission for this space object is presently being processed by the United Nations Secretariat.	

Elements of Prospective US Legislation: Mining Law

- Miner submits Environmental and Safety Plan to BLM. BLM must approve the Plan before miner can commence operations.
- Pay annual maintenance fee of \$TBD prior to September 1 of each calendar year following location date.
- Prior to December 31 of each calendar year following the location date, file:
 - A Notice of Intention to Hold the Mining Claim + Annual Report of Labor and Improvement Expenses



Elements of Prospective US Legislation: Mining Law

Due diligence requirements

- Commencing at 12:01 am on the first day of September after the date of location of a claim, the miner must expend \$TBD in “labor” and/or improvements in each one year period ending on August 31 at 12:00 midnight.
- Must file Annual Report of Labor and Improvement Expenses that contains specific info.
- “Labor” includes without limitation wages, money spent assessing the location and composition of minerals in the area of the mining claim, cost of housing on-site employees, and the expenses of operating mining equipment.



Elements of Prospective US Legislation: Mining Law

- Failure to submit Annual Report of Labor and Improvement Expenses and/or pay annual maintenance fees forfeits the claim and constitutes abandonment.
- Miner may at any time send a Notice of Claim Available for Contract Salvage or Sale to the BLM for transmittal to the U.S. and U.N. registries of space objects.
- At any time 90 days or more after a miner fails to submit its Annual Report and/or pay maintenance fees the BLM may on its own initiative submit a Notice of Claim Available for Contract Salvage or Sale to the U.S. and U.N. registries.



Elements of Prospective US Legislation: Mining Law

Resolution of Disputes

Dept. of the Interior, Office of Hearings and Appeals/Departmental Cases Hearings Division (claims relating to any aspect of claims location, size of approved safety zone, size of mining claim, conflicting claims, payment of fees, abandonment, etc.)



Interior Board of Land Appeals (“IBLA”)



U.S. District Court



Elements of Prospective US Legislation: Mining Law

Resolution of Disputes

- National legislation allows consistency between space mining law and terrestrial mining laws.
- This allows courts to cite analogous terrestrial legal precedents (minimizes cases of first impression).
- For example, a boundary dispute on the Moon should be no different from a boundary dispute on Earth and the courts should be able to cite terrestrial boundary-dispute cases as precedents. This provides greater legal certainty for miners and their investors.

