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# On the Edge

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# Space Exploration and Production: Bankruptcy Perspectives

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Chances are that companies and investors racing to space to establish commercial operations — including tourism, human migration, colonization of space, and exploration and production (E&P) of space resources — might succeed in their endeavors. If the space resources E&P industry is anything like the oil and gas industry, there will be boom times, but also many down times where things in the industry go bust. Thus, just like we are seeing intermittent reoccurring waves of oil and gas company restructurings, we should also expect that companies participating in capital-intensive E&P activities in space will eventually land in bankruptcy court.

Now would be a good time for the bankruptcy bar to begin considering how space resources will and should be handled in bankruptcy. This article presents a general overview of the unsteady, underdeveloped and untested legal framework for E&P and private ownership of space resources, and a discussion of how existing law applicable to E&P projects on Earth might be useful in restructuring space mining projects and space resources in bankruptcy.

## Unsteady, Untested and Underdeveloped Space E&P Law

In November 2015, the U.S. Commercial Space Launch Competitiveness Act (the "Space Act") was signed into law.[2] The Space Act grants U.S. citizens the right to "possess, own, transport, use, and sell" an asteroid resource[3] or other space resource.[4]

Forty-eight years before it enacted the Space Act, the U.S. ratified the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (the "Outer Space Treaty"). Article I of the Outer Space Treaty provides for the communal and peaceful exploration and use of space and its resources.[5] Article II clarifies that nations bound by the treaty may not engage in national appropriation of space and its resources "by claim[s] of sovereignty, by means of use or occupation, or by any other means."[6] Because the treaty on its face does not specifically preclude private individuals and entities from owning space and its resources, the U.S. was free to promulgate the Space Act, which authorizes and promotes *laissez faire* private ownership of space resources by U.S. citizens, but not the U.S. government itself.

On April 6, 2020, an executive order further buttressed the force and intent of the Space Act.[7] The order explicitly rejects the notion that space and space resources are a global commons.[8] It also states that "Americans should have the right to engage in commercial exploration, recovery, and use of resources in outer space, consistent with applicable law."[9] The Secretary of State, moreover, is empowered to "take all appropriate actions to encourage international support for the public and private recovery and use of resources in outer space."[10] The Moon Agreement, which considers

1 This article represents the views of the author, and such views should not necessarily be imputed to Simmons Legal PLLC or its respective affiliates and clients.
2 51 U.S.C. §§ 51301-51303.
3 51 U.S.C. § 51301(1) (defining "asteroid resource" to mean "a space resource found on or within a single asteroid"); 51 U.S.C. § 51301(2)(A), (B) (defining "space resource" as "an abiotic resource in situ in outer space," and "water and minerals" are considered a space resource).
4 51 U.S.C. § 51303.
5 *See* Outer Space Treaty, Article I, *available at* treaties.un.org/doc/Publication/UNTS/Volume%20610/volume-610-I-8843-English.pdf (unless otherwise specified, all links in this article were last visited on Aug. 24, 2020).
6 *See* Outer Space Treaty, Article II.
7 *See* "Executive Order on Encouraging International Support for the Recovery and Use of Space Resources," White House Press Release (April 6, 2020), *available at* whitehouse.gov/presidential-actions/executive-order-encouraging-international-support-recovery-use-space-resources.
8 *Id.*
9 *Id.*
10 *Id.*

the exploration and use of the moon as the province of all mankind and to which the U.S. is not a party, was rejected "as reflecting or otherwise expressing customary international law."[11]

To promote international cooperation instead of conflict regarding activities in space, including E&P,[12] the U.S. proposed "bilateral Artemis Accords agreements, which will describe a shared vision for principles, grounded in the Outer Space Treaty of 1967, to create a safe and transparent environment which facilitates exploration, science, and commercial activities."[13] To date, these proposed bilateral Artemis Accords agreements have yet to be formulated and remain on the U.S.'s to-do list.

## Restructuring Space Resource E&P Projects

Despite the unsteady and untested new U.S. space law and unformulated legal framework for space mining, space resource E&P plans are moving full steam ahead. In the interim while developing a framework, parties engaging in E&P of space resources, the courts and practitioners may look to existing legal frameworks for mining natural resources on Earth as guidance, to aid them in fashioning deal terms and craft laws and principles to govern space resource E&P, and to restructure bankrupt and/or insolvent space resource E&P projects and assets. There is helpful statutory and common law governing mining activities on Earth that may assist with restructuring space resource E&P projects and assets in bankruptcy.

### Does the Asset Become Property of the Estate?

Section 541(a)(1) of the Bankruptcy Code provides that in general, and with few exceptions delineated under § 541, all legal or equitable interests that the debtor holds in property as of the commencement of the bankruptcy case become property of the estate. Therefore, any interest the debtor has in space resources will likely be deemed property of the estate, and bankruptcy courts will have jurisdiction over those assets of the debtor. However, § 541(b)(4) specifically excludes from property of the estate all interests "of the debtor in liquid or gaseous hydrocarbons to the extent that" the debtor has transferred or agreed to transfer the interests pursuant to a farm-out or related agreement, or "the debtor has transferred such interest pursuant to a written conveyance of a production payment to an entity that does not participate in the operation of the property from which such production payment is transferred."[14]

Similar to oil and gas E&P, there might be instances in which the entity that stakes the initial ownership interest in space resources, such as an asteroid and its valuable minerals, might not be the entity that conducts the mining and extraction of those space resources. The E&P activities and operations might instead be farmed out to another entity.

Further, there likewise might be written conveyances of interests in production payments related to space-resource production. Thus, if arrangements similar to what happens in the oil and gas industry are made with respect to space resources, then Congress could amend the Bankruptcy Code to also exclude from property of the debtor's estate written transfers of interests in space resources and production payments related to space resources pursuant to farm-out, production payment conveyances, and functionally equivalent agreements and written instruments.

### Classification and Treatment of Space Resource Agreements and Other Assets

How an interest in property is classified is of utmost importance in restructuring assets in bankruptcy. This is especially so in the context of determining whether an agreement can be assumed or rejected by a debtor under § 365 of the Bankruptcy Code. The debtor may assume an agreement that is beneficial and reject[15] an agreement that is burdensome or otherwise not beneficial to the estate only if the agreement is an "executory contract" or "unexpired 'true' lease."[16]

Interpretation and characterization of agreements related to minerals and other natural resources often requires the analysis and interplay of both contractual and real property law. Courts have considered and determined the proper characterization of, among other mineral interests, oil and gas lease interests and oil and gas midstream gathering and transport agreements.

In addition, for agreements related to onshore mineral interests, courts generally apply state law to determine the proper characterization of the interest in the mineral or other natural resource.[17] Not all states consider agreements governing mining or gathering, processing and transporting natural resources as true leases and/or executory contracts.[18]

Moreover, federal law governs the determination of whether interests involving minerals on onshore federal lands and federally protected Native American Indian lands are executory contracts or true leases.[19] For the determination of the nature of interests in offshore oil and gas and other mineral leases, a court may apply the law of the state that is adjacent to the offshore leasing area, but only to the extent the state law is not inconsistent with federal law.[20]

11 *Id. See also* "Agreement Governing the Activities of States on the Moon and Other Celestial Bodies" (the "Moon Agreement"), *available at* unoosa.org/pdf/gares/ARES_34_68E.pdf.

12 Russia recently communicated that it views any U.S. party's seizure of territories in space similar to colonialism on Earth. Russia's criticism warns of future international dispute in the space resource E&P arena. *See, e.g.*, "Russia Condemns Trump's Space Mining Order," Safehaven (April 10, 2020), *available at* safehaven.com/news/Breaking-News/Russia-Condemns-Trumps-Space-Mining-Order.html. The U.S. has created the new U.S. Space Force to, among other things, "protect the United States in space." *See* National Defense Authorization Act for Fiscal Year 2020 § 952, *available at* govtrack.us/congress/bills/116/s1790/text.

13 *See* "The Artemis Accords: Principles for a Safe, Peaceful, and Prosperous Future," NASA, *available at* nasa.gov/specials/artemis-accords/index.html.

14 *See* 11 U.S.C. § 541(b)(4).

15 If the lease is considered a "rental agreement to use real property," then, even if rejection is granted, the lessee may stay in possession of the lease pursuant to the protections afforded lessees under 11 U.S.C. § 365(h)(1)(A)(ii).

16 *See, e.g., In re The Great Atlantic & Pacific Tea Co.*, 544 B.R. 43, 48-49 (Bankr. S.D.N.Y. 2016). *See also* 11 U.S.C. § 365(a).

17 *See, e.g., In re Sandridge Energy Inc.*, Case No. 16-32488, Adv. No. 16-3223, 2018 WL 889357, at *9 (Bankr. S.D. Tex. Feb. 5, 2018).

18 *See generally* Camisha L. Simmons, "Is That Exploration and Production Lease Really a Lease?," XXXVII *ABI Journal* 12, 50-51, 82, December 2018, *available at* abi.org/abi-journal. *See also Sabine Oil & Gas Corp. v. Nordheim Eagle Ford Gathering LLC (In re Sabine Oil & Gas Corp.)*, 734 Fed. App'x 64 (2d Cir. 2018) (affirming bankruptcy and district courts' determination that under Texas law, interests related to minerals already extracted from ground were not real property, but personal property interests); *cf., Monarch Midstream LLC v. Badlands Prod. Co. (In re Badlands Energy Inc.)*, 608 B.R. 854, 869-7 (Bankr. D. Colo. 2019) (finding that under Utah law, gathering and processing agreement was in nature of real property interest given that dedication in agreement covered and affected nonextracted minerals); *Alta Mesa Holdings LP v. Kingfisher Midstream LLC (In re Alta Mesa Res. Inc.)*, 613 B.R. 90 (Bankr. S.D. Tex. 2019) (concluding that under Oklahoma law, subject-gathering agreements created covenants running with land).

19 *See, e.g., Bolack v. Underwood*, 340 F.2d 816, 819-20 (10th Cir. 1965).

20 *See* 43 U.S.C. § 1333(a)(2)(A).

However, the question of what law is applicable to the determination of classification and treatment of interests in space resources remains unaddressed. To ensure uniformity, Congress may consider codifying in an amended Bankruptcy Code and/or other federal statutes, such as the Space Act itself, the classification and treatment of property rights and interests in space resources.

## Abandonment/Decommissioning Liability

It is foreseeable that a company engaged in space resource E&P may seek to abandon burdensome and unprofitable outer space mining projects, assets and related decommissioning obligations. Section 554 of the Bankruptcy Code, as currently drafted, allows for the trustee or debtor-in-possession to "abandon any property of the estate that is burdensome to the estate or that is of inconsequential value and benefit to the estate."[21] Section 365 also allows for the rejection of burdensome executory contracts and unexpired leases associated with the abandoned assets and obligations.[22]

There is a legal framework for determining whether burdensome property and the attendant decommissioning obligation might be abandoned by a debtor in bankruptcy.[23] The public's health and safety is a paramount consideration. Although space is currently not colonized and populated by humans, space resource E&P activities might have detrimental environmental effects that could reach and impact Earth. Thus, courts would likely still need to conduct some sort of public health and safety analysis when determining whether to grant abandonment of assets and decommissioning obligations of space resource E&P projects.

## Other Legal Issues

Although beyond the scope of this article, laws addressing lien and other issues for E&P projects on Earth currently exist and may prove helpful to space resource E&P.

## Conclusion

Asteroid mining and space resource E&P is one of the newest pursuits of investors seeking vast wealth. Rapidly emerging, evolving and advancing technology might bring those efforts to fruition sooner rather than later. That being said, the capital-intensive projects have downside risk that could land the projects in bankruptcy.

Should the projects undergo an in-court restructuring, judges and practitioners have at their disposal the law developed for application to oil and gas E&P and mining of other natural resources on Earth. Mining for space resources beyond planet Earth, however, will likely present uncharted scenarios for which an existing domestic or international principle or law cannot be applied analogously to resolve the issue. Resolution of those anticipated novel and (in some instances) complex legal questions will require creative out-of-the-box thinkers among the judiciary and bar, and further legislation by Congress.

On a final note, some believe that space resource E&P is impossible or improbable during their lifetime and thus should be relegated to an afterthought. However, as a nod to those who believe space resource E&P is on the horizon, "May the force be with you." abi

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21 *See* 11 U.S.C. § 554(a).
22 *See* 11 U.S.C. § 365(a).
23 *See, e.g.*, Camisha L. Simmons, "Oil and Gas Decommissioning: At Whose Expense?," XXXVII *ABI Journal* 4, 38-39, 99-100, April 2018, *available at* abi.org/abi-journal.