

Energy Fuels Enters into MOU to Secure Near-Term, Large-Scale Australian Source of Rare Earth Minerals to Supply New U.S.-Based Supply Chain for Decades

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Energy Fuels and Astron Corporation execute non-binding MOU to jointly develop the Donald Mineral Sands Project, a mineral sand deposit that has the potential to supply Energy Fuels with approximately 7,000 tonnes of rare earth-bearing sand per year starting in 2026, ramping up to 14,000 tonnes per year soon thereafter.

LAKEWOOD, Dec. 27, 2023 - [Energy Fuels Inc.](#) (NYSE American: UUUU) (TSX: EFR) ("Energy Fuels" or the "Company"), a leading U.S. producer of uranium, rare earth elements ("REE"), and vanadium, is pleased to announce that it has entered into a non-binding Memorandum of Understanding ("MOU") with Astron Corporation Limited ("Astron") to jointly develop the Donald Earth and Mineral Sands Project, located in the Wimmera Region of the State of Victoria, Australia (the "Donald Project"). The MOU describes indicative commercial terms and provides Energy Fuels with a binding exclusivity period to end on March 31, 2025, during which Energy Fuels will be entitled to conduct due diligence and the parties will negotiate definitive agreements.

The Donald Project is a world-class, world scale, 'shovel-ready' critical mineral deposit that Energy Fuels believes would provide a new, near-term, low-cost, and large-scale source of monazite sand in an REE concentrate ("REEC") that would be transported to the Company's White Mesa Mill in Utah, USA (the "Mill") for processing into REE oxides and other advanced materials and recovery of the contained uranium. Energy Fuels is announcing this non-binding MOU at this time, because it has determined that it is required to announce the MOU at this time under applicable Australian Securities Exchange ("ASX") rules.

With supportive U.S. government policies, and U.S. and European companies increasingly focused on security of supply, Energy Fuels is rapidly creating a new significant REE supply chain that can reduce America's reliance on REE's from China. As part of this strategy, the Company is actively securing long-term sources of REEC through offtake (Chemours), joint venture (Astron), and direct ownership (the Company's 100% owned Bahia Project in Brazil). Through these assets and potentially others, Energy Fuels is building a world significant REE oxide supply chain that the Company believes will be attractive to EV manufacturers and Tier 1 suppliers.

THE DONALD PROJECT

With Energy Fuels' proposed investment of approximately A\$180 million (approximately US\$122 million at current exchange rates) and most licenses and permits in place (or at an advanced stage of completion), the Donald Project (see Figure 1) is expected to soon be a new, long-term source of several critical minerals key to the clean energy transition, including REE's, titanium, and uranium. The Donald Project is expected to provide Energy Fuels with 7,000 to 14,000 metric tons ("tonnes") of REE oxide per year, containing 4,000 to 8,200 tonnes of total REE oxides ("TREO"), with commissioning and ramp-up expected to begin in 2025. Most of Energy Fuels' proposed investment is expected to be disbursed in 2025.

This annual quantity of REEC contains roughly 850 to 1,700 tonnes of neodymium-praseodymium ("NdPr") oxide, 70 to 140 tonnes of dysprosium ("Dy") oxide and 12 to 25 tonnes of terbium ("Tb") oxide. The REEC from the Donald Project is also expected to contain approximately 50,000 to 100,000 pounds of low-cost recoverable uranium per year, which, in addition to the Company's large-scale uranium production from its numerous US mines and other sources, would be sold to the U.S. nuclear industry to generate clean, carbon-free electricity.

NdPr, Dy and Tb are known as the "magnet rare earths," as they are key ingredients in powerful permanent REE magnets used in the most efficient electric vehicles ("EVs"), wind generators, and other defense-related and advanced technologies. For example, REEs provide significantly greater power and range for EVs, and the typical REE-powered EV uses about one kilogram of NdPr oxide per vehicle. Therefore, the Donald Project could supply enough of these critical elements for up to 1.4 million EVs per year.

The following tables summarize the updated Ore Reserve Statement for the Donald Project, prepared in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves, 2012 Edition ("2012 JORC Code"), as of June 27, 2023. The Company is treating the Mineral Reserves disclosed in the table below as historical in nature as a Qualified Person ("QP") for the Company has not conducted the due diligence necessary to classify these as current Mineral Reserves. There can be no assurance that additional due diligence work will convert the historical Mineral Reserves to current Mineral Reserves under S-K 1300 and NI 43-101:

MIN5532

Classification	Tonnes (Mt)	HM (%)	Slimes (%)	Oversize (%)	% of total HM			
					Zircon	Rutile + Anatase Ilmenite	Leucoxene	
Proved	263	4.4	15.4	9.8	16.7	5.5	21.6	25.9
Probable	46	4.1	19.7	11.1	15.3	5.5	21.3	20.1
Total	309	4.4	16.1	10.0	16.5	5.5	21.6	25.1

Notes:

- 1) The ore tonnes have been rounded to the nearest 1 Mt and grades have been rounded to two significant figures.
- 2) The Ore Reserve is based on Indicated and Measured Mineral Resources contained within the mine designs above.
- 3) A break-even cut-off has been applied defining any material with product values greater than processing cost as Ore Reserve.
- 4) Mining recovery and dilution have been applied to the figures above.
- 5) The area is wholly within the mining license (MIN5532).
- 6) The rutile grades are a combination of rutile and anatase minerals.
- 7) The Ore Reserve estimates have been compiled in accordance with the guidelines defined in the 2012 JORC Code.

RL2002 outside of MIN5532

Classification (Mt)	Tonnes HM	% of total HM							
		(%)	Slimes (%)	Oversize (%)	Zircon	Rutile + Anatase	Ilmenite	Leucoxene	Monazite
Proved	152	5.6	7.1	18.8	21.1	9.4	31.3	18.2	1.8
Probable	364	4.1	13.7	15.7	17.1	7.5	32.8	19.3	1.6
Total	516	5.6	11.7	16.6	18.6	8.2	32.3	18.9	1.7

Notes:

- 1) The ore tonnes have been rounded to the nearest 1 Mt and grades have been rounded to two significant figures.
- 2) The Ore Reserve is based on Indicated and Measured Mineral Resources contained within the mine designs above an economic cut-off.
- 3) The economic cut-off is defined as the value of the products less the cost of processing.
- 4) Mining recovery and dilution have been applied to the figures above.
- 5) The updated RL2002 Ore Reserve does not include an announced figure on xenotime due to historical samples used in the Ore Reserve calculation not being analyzed for xenotime.
- 6) The rutile grades are a combination of rutile and anatase minerals.
- 7) The Ore Reserve estimates have been compiled in accordance with the guidelines defined in the 2012 **THE DONALD PROJECT JOINT VENTURE:**

The MOU sets out in broad terms the basis upon which the parties would enter into an Australian incorporated Joint Venture (the "Venture") covering the tenements MIN5532 and RL2002, which together form the Donald Deposit (see the attached figure). The MOU provides for the continuation of due diligence by Energy Fuels and the negotiation of definitive and binding agreements governing the Venture. The transactions contemplated by the MOU, including formation of the Venture, are conditional on a number of factors, including the Company being satisfied with the results of its due diligence investigations and the ability of the parties to successfully negotiate and enter into definitive and binding agreements. There can be no assurance that the Company will enter into definitive agreements to govern the Venture, or if entered into that the terms will be as set out in the MOU.

The MOU contemplates that the Venture would initially consist of operations to mine 7.5 million tonnes per year of ore to produce approximately 200,000 to 250,000 tonnes per year of heavy mineral concentrate ("HMC") and approximately 7,000 to 8,000 tonnes per year of monazite-bearing rare earth element concentrate ("REEC") ("Phase 1"). It is further contemplated that, as soon as practicable after commencing Phase 1 commercial production, the Venture would double ore production to 15 million tonnes per year to produce approximately 400,000 to 500,000 tonnes per year of HMC and approximately 13,000 to 14,000 tonnes per year of REEC ("Phase 2") for decades to come.

The MOU provides for Energy Fuels to invest A\$180 million (approximately US\$122 million at current exchange rates) to earn a 49% interest in the Venture, most of which is expected to be spent in 2025. In addition, the Company would issue to Astron common shares having a value of US\$17.5 million in consideration of RL2002 being included in the Venture to cover the entire Donald Deposit.

Energy Fuels' investment of A\$180 million is expected to satisfy most of the equity capital requirements for the construction of the Phase 1 project. Astron, with a 51% interest, would be the Manager and Operator of the Venture, with specified major decisions subject to approval of both parties. Any future Venture expenditures, including development of Phase 2, would be funded by Energy Fuels and Astron on a pro-rata

basis.

The MOU contemplates that under the Venture, Energy Fuels would enter into an offtake agreement for 100% of the Donald Project's Phase 1 and Phase 2 REEC production based on market prices of contained rare earth elements. Astron would have the right, but not the obligation, to enter into an offtake agreement with the Venture for up to 100% of the HMC product at market prices. Following payment of all joint venture expenses, all profits from the Venture would be distributed to Energy Fuels and Astron, pro-rata according to their respective ownership percentages.

The MOU also provides that the agreements will provide Energy Fuels with a first right of refusal over participation in the development of Astron's Jackson Deposit which is contained in the tenement RL2003 and adjoins the Donald Deposit to the south-west (see the attached figure). The Donald Deposit and the Jackson Deposit, together, form the Donald Rare Earth and Mineral Sands Project.

The Donald Project would greatly supplement Energy Fuels' other near-term monazite supplies. Earlier in 2023, Energy Fuels announced the acquisition of its 100% owned Bahia Mineral Sand Project, which is comprised of 60+ square miles of mineral concessions in Brazil containing large in-ground heavy mineral sand resources, including monazite. The Company is currently completing a sonic drill program at the Bahia Project to expand the heavy mineral sand resources and guide mine planning and additional permitting. The Bahia Project is expected to commence production in 2026, producing in the range of 3,000 to 10,000 tonnes of REEC per year.

Therefore, between the Bahia Project and the Donald Project, Energy Fuels would control roughly 10,000 to 24,000 tonnes of low-cost REEC per year, containing approximately 1,150 to 2,700 tonnes of NdPr along with significant quantities of "heavy" REEs and uranium for decades to come. The Company is continuing to evaluate additional opportunities to secure low-cost, large-scale monazite concentrates globally.

ENERGY FUELS' NEW U.S.-CENTRIC RARE EARTH SUPPLY CHAIN:

For the past four years, Energy Fuels has been developing a secure, U.S.-centric REE oxide supply chain that sources monazite concentrates from the US and around the world. Monazite is an excellent source of REE's, as it has superior distributions of the 'magnet' REE's versus other minerals. Energy Fuels is utilizing excess capacity at the Mill, and installing additional infrastructure, to produce advanced REE materials, including mixed REE carbonate and separated REE oxides. The Mill is the only operable conventional uranium mill in the U.S., and these REE capabilities are additive to the Company's uranium production capabilities.

Energy Fuels is utilizing the Mill for REE recovery, as most major REE-bearing minerals, including monazite, bastnaesite, ionic clays, xenotime, and others, contain uranium, thorium, and other radioactive elements that become concentrated through the REE extraction process. Therefore, companies that process REE-bearing minerals must have the licenses, infrastructure, tailings capacity, and expertise in radioactive hydrometallurgy to properly manage, process, recover, and/or dispose of uranium, thorium and other radioactive elements. As a result, the Company believes the Mill is an ideal facility to perform these functions, as it already possesses these attributes and is further able to recover the associated uranium for beneficial use. The Mill is licensed and constructed in the United States and overseen by an array of federal and state government agencies with expertise in the processing of radioactive materials. The Mill has an exceptional record of regulatory compliance and operates to the highest global standards for the protection of human health and the environment.

Furthermore, the proven processing method for producing high purity separated REE oxides is solvent extraction ("SX"), and the Mill has been utilizing SX for over 40 years to produce high-purity uranium and vanadium oxides. Therefore, it has not been difficult for Energy Fuels to deploy this institutional knowledge and experience with relatively minor Mill modifications to produce mixed REE carbonates since 2021 and to begin producing separated REE oxides, expected in early 2024, that meet applicable specifications.

As previously announced, the Company is currently installing a "Phase 1" REE separation circuit (the "Phase 1 REE Separation Circuit") within the Mill's existing SX building that will have the capacity to process 8,000 to 10,000 tonnes of REEC per year and produce up to 1,000 tonnes of high-purity NdPr oxide per year. Based on current committed REEC supplies, the Company expects to produce 40-50 tonnes of NdPr oxide

in 2024, while continuing to negotiate for the procurement of additional feedstock. The Mill has pilot-tested NdPr separation at its in-house laboratory for over two years, which has allowed the Company to compile extensive real-time data that it is using to design and optimize its soon-to-be-operational NdPr circuit. As previously announced, the Phase 1 REE Separation Circuit is expected to be operational in Q1-2024. Also in Q1-2024, the Company plans to perform pilot-scale testing on "heavy" REE separation, including the production of high-purity Dy and Tb oxides, along with potentially samarium ("Sm⁺") oxides and others.

The Company is also in the process of designing a "Phase 2" REE separation circuit (the "Phase 2 Separation Circuit") and a "Phase 3" REE separation circuit (the "Phase 3 Separation Circuit") at the Mill. The Phase 2 Separation Circuit, which is currently expected to be completed in 2027, subject to receipt of any required regulatory approvals and the Company securing sufficient supplies of REEC, will consist of expanding NdPr oxide capacity to process between 30,000 and 40,000 tonnes of REEC per year and produce approximately 3,000 to 4,000 tonnes of NdPr oxide per year. The Company also plans to construct a dedicated "crack-and-leach" circuit in conjunction with its Phase 2 Separation Circuit, in order to allow the Mill to simultaneously process conventional uranium ore and REEC independently, thereby allowing for more efficient utilization of Mill capacity. The Phase 3 Separation Circuit, which is currently expected to be completed in 2028, subject to receipt of any required regulatory approvals, will consist of installing the capacity to produce "heavy" REE oxides, including Dy, Tb, and potentially Sm and other oxides. The Company continues to evaluate opportunities to enter the REE metal, alloy, and magnet-making space, in order to fully-integrate the entire REE magnet supply chain.

Assuming completion of the transactions contemplated by the MOU and formation of the Venture, the Company would expect to receive Phase 1 quantities of REEC from the Donald Project commencing in 2026. The Phase 1 quantities of REEC from the Donald Project would then be processed through the Mill's Phase 1 Separation Circuit, which is expected to be completed in 2024, for the production of NdPr oxide, with the heavies, Tb and Dy, either stockpiled at the Mill for future processing for the recovery of Tb and Dy in the Mill's Phase 3 Separation Circuit when constructed (currently expected to be in 2028) or sold as an SM + carbonate to third parties in the interim. The Company currently expects that the Phase 2 Separation Circuit at the Mill will be completed prior to receipt of Phase 2 quantities of REE from the Donald Project.

MARK S. CHALMERS, PRESIDENT AND CEO OF ENERGY FUELS STATED:

"Energy Fuels is working to secure future large-scale in-situ rare earth element projects around the world, which we expect to become low-cost sources of feed to supply our U.S.-centric REE supply chain in the coming years. Earlier in 2023, we acquired the Bahia Project in Brazil, and now we are working toward partnering with Astron on the Donald Project in Australia. Energy Fuels' goal is to source monazite from the US and around the World and become a reliable, globally diversified, multi-decade supplier of U.S.-produced magnet REE oxides to EV manufactures and other end-users. Our announcement today should help people 'connect-the-dots' to better understand the magnitude of our burgeoning REE business strategy. We are earning into an essentially 'de-risked' heavy mineral sand project that is in Australia, has many years of detailed resource and project evaluation, and has all the main regulatory approvals in place or well-advanced.

"And we are able to develop this U.S.-centric REE supply chain without diminishing our U.S.-leading uranium production capability in any way. Uranium will always continue to be our primary focus. However, REE and uranium production go hand-in-hand, as the REEC from the Donald Project contains decades of low-cost recoverable uranium, which perfectly complements the Company's large-scale uranium production. While this represents only a small part of our total uranium production, these pounds of uranium are very valuable to us because their incremental cost of production is expected to be very low, while providing a secure source of uranium for the generation of clean, carbon-free electricity in the U.S.

"We are putting Utah on the map as a responsible domestic supplier of many clean energy and critical minerals, including uranium, rare earths, vanadium, and even potentially life-saving medical isotopes. We are not aware of any other U.S. company able to produce as many advanced materials that contribute to carbon-reduction and electrification as Energy Fuels."

QUALIFIED PERSON

The technical information in this press release has been prepared in accordance with both U.S. and

Canadian requirements set out in SK-1300 and National Instrument 43-101 and reviewed on behalf of the company by Dan Kapostasy, VP, Technical Services of Energy Fuels Resources (USA) Inc., a Qualified Person under both SK-1300 and National Instrument 43-101 regulations. The JORC compliant Mineral Reserves contained herein were disclosed by Astron Corporation Limited on 27 June 2023. The Company has not completed the necessary due diligence on the Mineral Reserves to disclose them as current Mineral Reserves. Therefore, the Company is treating the contained tables as historical in nature as a Qualified Person has not done sufficient work to classify the Mineral Reserves as current under S-K 1300 or NI 43-101. These historical Mineral Reserves are relevant to this disclosure, as they provide information on the potential size and scale of MIN5532 and RL2002. The method used to estimate the in-situ resources was ordinary kriging utilizing octant and ellipsoid search parameters. The mineralized zone was domained into three zones: low grade, medium grade (>3% & <5%), and high grade (>5%) heavy mineral. The block model used a 100 m x 200 m x 1 m block, which is approximately half the drillhole spacing in the well drilled areas. The model was visually verified against drillholes, SWATH plots were used to check average grade trends, and the current estimate is similar to previous estimates. To convert the mineral resources to mineral reserves, modifying factors including mining methods (dry mining), metallurgical testwork (including processing size assumptions, >38 µm size fraction) producing both a heavy mineral concentrate (Ti and Zr minerals) and a rare earth mineral concentrate (monazite + xenotime), capital cost, operating costs, and environmental factors. Additional details regarding the historical Mineral Reserves are available in the Astron Corporation Limited press release dated 27 June, 2023:
<https://www.astronlimited.com.au/wp-content/uploads/2023/06/20230627-Phase-2-Ore-Reserve-Update.pdf>

ABOUT ENERGY FUELS

Energy Fuels is a leading US-based uranium and critical minerals company. The Company, as the leading producer of uranium in the United States, mines uranium and produces natural uranium concentrates that are sold to major nuclear utilities for the production of carbon-free nuclear energy. Energy Fuels recently began production of advanced REE materials, including mixed REE carbonate, and plans to produce commercial quantities of separated REE oxides commencing in 2024. Energy Fuels also produces vanadium from certain of its projects, as market conditions warrant, and is evaluating the recovery of radionuclides needed for emerging cancer treatments. Its corporate offices are in Lakewood, Colorado, near Denver, and substantially all its assets and employees are in the United States. Energy Fuels holds two of America's key uranium production centers: the White Mesa Mill in Utah and the Nichols Ranch in-situ recovery ("ISR") Project in Wyoming. The White Mesa Mill is the only conventional uranium mill operating in the US today, has a licensed capacity of over 8 million pounds of U₃O₈ per year, and has the ability to produce vanadium when market conditions warrant, as well as REE products, from various uranium-bearing ores. The Nichols Ranch ISR Project is on standby and has a licensed capacity of 2 million pounds of U₃O₈ per year. The Company recently acquired the Bahia Project in Brazil, which is believed to have significant quantities of titanium (ilmenite and rutile), zirconium (zircon) and REE (monazite) minerals. In addition to the above production facilities, Energy Fuels also has one of the largest NI 43-101 compliant uranium resource portfolios in the US and several uranium and uranium/vanadium mining projects in production, on standby and in various stages of permitting and development. The primary trading market for Energy Fuels' common shares is the NYSE American under the trading symbol "UUUU," and the Company's common shares are also listed on the Toronto Stock Exchange under the trading symbol "EFR." Energy Fuels' website is www.energyfuels.com.

ABOUT ASTRON

Astron Corporation Limited (ASX: ATR) is an Australian-based company listed on the ASX. With over 35 years of operating history, Astron has been involved in mineral sands processing, downstream product development, as well as the marketing and sales of zirconium and titanium related products. Astron's prime focus is on the development of its large, long-life Donald Rare Earths and Mineral Sands Project in regional Victoria, Australia. Astron's website is www.astronlimited.com.au.

Cautionary Note Regarding Forward-Looking Statements: This news release contains certain "Forward Looking Information" and "Forward Looking Statements" within the meaning of applicable United States and Canadian securities legislation, which may include, but are not limited to, statements with respect to: any expectation that the Company will maintain its position as a leading U.S.-based uranium and critical minerals company or as the leading producer of uranium in the U.S.; any expectation that the transactions contemplated by the MOU will be completed, or the terms on which it will be completed, and that the Venture will be formed; any expectation as to production levels or timing or duration of production from the Donald Project or any of the Company's other mines or projects; any expectations as to costs of production at the Donald Project or any of the Company's mines or other projects; any expectation that the Company will

