



# DOE Uranium Leasing Program Annual Status and Activities Report for Calendar Year 2023

April 2024



U.S. DEPARTMENT OF  
**ENERGY**

Legacy  
Management

**Cover Photo:** *A Wheel Loader Backfills a Subsided Mine Shaft at the Long Park 12 Mine Site, ULP Lease Tract C-LP-21, Montrose County, Colorado*

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## Abbreviations

BLM	U.S. Bureau of Land Management
CUR	Consolidated Uranium Inc.
DOE	U.S. Department of Energy
DRMS	Division of Reclamation, Mining, and Safety
DRRP	Dolores River Restoration Partnership
DRUM	Defense-Related Uranium Mines
EFI	Energy Fuels Inc.
EIS	Environmental Impact Statement
ft	feet
GEMI	Gold Eagle Mining Inc.
GEU	Golden Eagle Uranium LLC
LM	Office of Legacy Management
LMS	Legacy Management Support
MAP	Mitigation Action Plan
MT	metric tons
NdPr	neodymium-praseodymium oxide
PA	Programmatic Agreement
PSE	Precision Systems Engineering
REE	rare earth element
RILOR	reclamation in lieu of royalties
ULP	Uranium Leasing Program
U <sub>3</sub> O <sub>8</sub>	triuranium octoxide
yd <sup>3</sup>	cubic yards

## Executive Summary

This report provides a detailed summary of the U.S. Department of Energy Office of Legacy Management (LM) Uranium Leasing Program's (ULP's) activities from January 1 through December 31, 2023.

The ULP administers 31 lease tracts, 29 of which are actively held under lease with four different entities:

- Consolidated Uranium Inc. (CUR) controls eight lease tracts: C-SR-12, C-SR-16A, C-AM-19, C-AM-19A, C-AM-20, C-CM-24, C-G-26, and C-G-27. During 2023, CUR announced that the leases it held would be spun off to its wholly owned subsidiary Premier American Uranium Inc. This assignment has not yet been approved by LM. CUR still maintains a contract with Energy Fuels Inc. to conduct noxious weed treatments for it.
- Gold Eagle Mining Inc. (GEMI) controls three lease tracts: C-JD-5, C-SR-13, and C-SR-15. During 2023, GEMI maintained its permitted operations on Lease Tracts C-JD-5 and C-SR-13 in reclamation status and conducted some noxious weed treatments. GEMI does not have any permitted operations on Lease Tract C-SR-15.
- Golden Eagle Uranium LLC (GEU) controls nine lease tracts: C-JD-5A, C-SR-10, C-SR-11A, C-SR-15A, C-SR-16, C-WM-17, C-LP-22, C-LP-22A, and C-LP-23. During 2023, GEU conducted noxious weed treatments on its lease tracts as there are no active mining operations thereon.
- Highbury Resources Inc. (Highbury), a subsidiary of Anfield Energy Inc., controls nine lease tracts: C-JD-6, C-JD-7, C-JD-8, C-JD-9, C-SR-11, C-SR-13A, C-SM-18, C-LP-21, and C-CM-25. During 2023, Highbury maintained its permitted operations on Lease Tracts C-JD-6, C-JD-7, C-JD-8, C-JD-9, C-SR-11, and C-SM-18 in reclamation status and continues to perform routine maintenance activities on these lease tracts, as necessary. Highbury does not have any permitted operations on Lease Tracts C-SR-13A, C-LP-21, or C-CM-25.

Lease Tracts C-JD-8A and C-SR-14 are inactive and will remain so indefinitely.

On October 4 and 5, 2023, ULP personnel performed formal inspections of the existing, permitted mining operations, which included Highbury's mines on Lease Tracts C-JD-6, C-JD-7, C-JD-8, C-JD-9, C-SM-18, and C-SR-11 and GEMI's mines on Lease Tracts C-JD-5 and C-SR-13. No major issues were noted at any of the permitted mining operations. At one or more of the locations, personnel noted some minor issues, including the presence of noxious weeds, minor erosion, and repeated vandalism.

Throughout the 2023 field season, ULP personnel inspected reclaimed mine-related locations and fenced multiple subsidence features on various lease tracts to mitigate physical safety hazards. Thirteen hazardous features were mitigated in November 2023. Additional hazardous features are planned to be addressed in 2024.

The fair market value of lease tract ores per dry ton with average grades of 0.20% uranium and 1.20% vanadium, as calculated for production royalty purposes, began 2023 at \$360 per ton. The value rose to \$401 per ton in February before decreasing to \$351 per ton in May. From May on, the price rose steadily, finishing the year at \$470 per ton.

## 1.0 Overview

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) Uranium Leasing Program (ULP) administers 31 lease tracts (Table 1 and Figure 1), 29 of which are actively held under lease by four lessees. Of the 29 lease tracts, only eight have mining operations permitted with the Colorado Division of Reclamation, Mining, and Safety (DRMS). All eight of the permitted mining operations are in reclamation status. Two of the 31 lease tracts are not leased and are considered inactive. This report provides a detailed summary of ULP activities from January 1 through December 31, 2023.

*Table 1. DOE Uranium Lease Tracts and Lessees*

<b>Lease Tract</b>	<b>Lessee</b>
C-JD-5	Gold Eagle Mining Inc.
C-JD-5A	Golden Eagle Uranium LLC
C-JD-6	Highbury Resources Inc.
C-JD-7	Highbury Resources Inc.
C-JD-8	Highbury Resources Inc.
C-JD-8A	Inactive, not leased
C-JD-9	Highbury Resources Inc.
C-SR-10	Golden Eagle Uranium LLC
C-SR-11	Highbury Resources Inc.
C-SR-11A	Golden Eagle Uranium LLC
C-SR-12	Consolidated Uranium Inc.
C-SR-13	Gold Eagle Mining Inc.
C-SR-13A	Highbury Resources Inc.
C-SR-14	Inactive, not leased
C-SR-15	Gold Eagle Mining Inc.
C-SR-15A	Golden Eagle Uranium LLC
C-SR-16	Golden Eagle Uranium LLC
C-SR-16A	Consolidated Uranium Inc.
C-WM-17	Golden Eagle Uranium LLC
C-SM-18	Highbury Resources Inc.
C-AM-19	Consolidated Uranium Inc.
C-AM-19A	Consolidated Uranium Inc.
C-AM-20	Consolidated Uranium Inc.
C-LP-21	Highbury Resources Inc.
C-LP-22	Golden Eagle Uranium LLC
C-LP-22A	Golden Eagle Uranium LLC
C-LP-23	Golden Eagle Uranium LLC
C-CM-24	Consolidated Uranium Inc.
C-CM-25	Highbury Resources Inc.
C-G-26	Consolidated Uranium Inc.
C-G-27	Consolidated Uranium Inc.

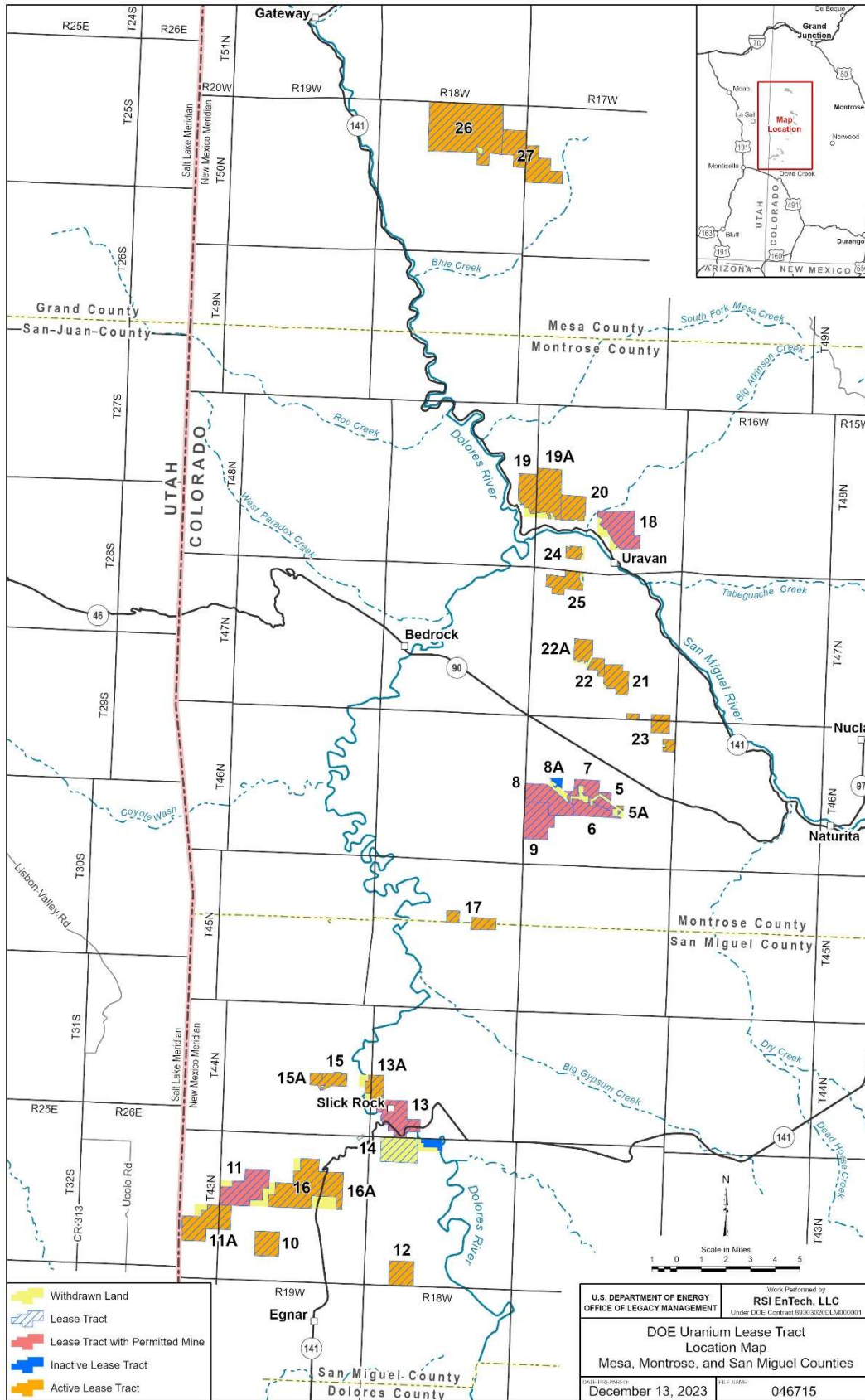


Figure 1. Location of ULP Lease Tracts in Southwestern Colorado

## 2.0 Administrative Operations

The following subsections summarize ULP's primary administrative activities during 2023.

### 2.1 Sustainability and Maintenance Projects

Between November 7 and November 30, 2023, the ULP conducted Sustainability and Maintenance Projects across five lease tracts: C-SR-10, C-SR-13, C-SR-16, C-LP-21, and C-LP-22A. These projects included mitigating 13 hazardous abandoned mine features and removing sediment from two sediment retention basins. The ULP utilized a subcontractor for heavy equipment work. All work with heavy equipment was completed and all equipment demobilized from the work areas before December 1, 2023, when wildlife-related restrictions took effect.

- At the Burro Mines Complex, on Lease Tract C-SR-13, approximately 430 cubic yards (yd<sup>3</sup>) of sediment was removed from retention Ponds G and H, which were at capacity. The removed sediment was relocated elsewhere on the lease tract. The stockpile was contoured and pocked.
- At the Frenchy mine, on Lease Tract C-SR-10, an open mine shaft 3 feet (ft) by 6 ft by 30 ft deep and a failing backfilled adit open to the surface were backfilled.
- At the King No. 2 mine, on Lease Tract C-SR-10, an 18 ft by 30 ft by 12 ft deep subsidence was backfilled, and two drainages were engineered on either side of it to direct runoff away from the subsidence.
- At the Charles T 4 mine, on Lease Tract C-SR-16, a subsidence 4 ft by 6 ft at the surface, which opened to a larger underground void, was backfilled.
- At the Charles T mine, on Lease Tract C-SR-16, six small subsidences were backfilled by hand.
- At the Hawk 1 & 2 mine, on Lease Tract C-SR-16, a 5 ft diameter, 12 ft deep subsidence was backfilled.
- At the Long Park 12 mine, on Lease Tract C-LP-21, a 4 ft by 8 ft by 75 ft deep shaft was backfilled.
- At the TNT No. 3 mine, on Lease Tract C-LP-22A, a subsidence near Montrose County Road W 19 was backfilled.

In addition to the aforementioned work, all of the disturbed work areas were reseeded with a DOE and U.S. Bureau of Land Management (BLM)-approved seed mix. Monitoring of the project areas will take place in 2024 during cursory inspections to measure revegetation and rehabilitation success.

### 2.2 Programmatic Agreement (PA) Review

In 2014, LM and other parties entered into a *Programmatic Agreement Among the U.S. Department of Energy-Office of Legacy Management, the U.S. Department of the Interior-Bureau of Land Management-Colorado State Office, the Colorado State Historic Preservation Office, and the Pueblo of Zuni Regarding the Uranium Leasing Program Within*



*Mesa, Montrose, and San Miguel Counties, Colorado* (DOE 2014a) to comply with Section 106 of the National Historic Preservation Act (Title 54 *United States Code* Section 300101 et seq. [54 USC 300101 et seq.]) (PA) and filed with the Advisory Council on Historic Preservation. This PA outlines actions LM and consulting parties will take to evaluate the potential impacts of activities on historic or cultural properties. The PA requires LM to:

- Conduct briefings annually (at a minimum) with consulting parties to:
  - Communicate proposed activities.
  - Summarize prior activities (when warranted).
  - Receive input from the parties.
- Review and amend (if needed) the PA every 24 months (biennially).

The PA was due for a biennial review by the signatory parties in 2023, and LM determined that an update of the PA may be warranted. With the current PA 10-year agreement due to expire on April 15, 2024, LM requested a 2-year extension to renew the PA. During the 2-year extension, LM will determine whether an update is warranted. If so, LM will work with the three signatory parties on updating the PA and will continue to operate according to its provisions.

The following is a summary of 2023 PA communications:

- Thirty-three notification briefing letters communicating 2023 proposed activities were sent to signatory and consulting parties in June 2023
- Thirty-three annual briefing letters communicating a summary of 2022 activities, one additional 2023 proposed activity notification, a biennial review, and a PA extension were sent to signatory and consulting parties in September 2023
- Four letters and a renewal agreement communicating the renewal of the PA for a period of 2 years were sent to the signatory parties in December 2023 for review and signature

### **2.3 Mitigation Action Plan (MAP)**

In accordance with the MAP (DOE 2014b), LM is required to submit an annual summary report of mitigation activities completed by ULP lessees. On January 2, 2024, the MAP activity summary report for 2023 was transmitted to the DOE Headquarters Office of National Environmental Policy Act Policy and Compliance. The document recorded that no activity had occurred during 2023.

One ULP lessee submitted five reclamation plans, of which four were approved by LM; work was proposed for and executed in 2023. Actions performed during reclamation included maintenance activities that did not involve any new ground disturbances; none of these activities required that mitigation measures be applied.

## **2.4 Other Administrative Activities**

### **2.4.1 Dolores River National Conservation Area and Special Management Act**

The Dolores River National Conservation Area and Special Management Area Act is a bill that proposes designating portions of the Dolores River corridor that flows through the canyons, parts of which include the ULP lease tracts, of southwestern Colorado as the Dolores River National Conservation Area and the Dolores River Special Management Area. If passed, nothing in the bill would affect valid leases or lease tracts existing on the date of enactment. The bill has been represented as having been written in Colorado, rather than Washington, D.C., and as being one that reflects thoughtful, bipartisan collaboration among tribes, county commissioners, businesses, ranchers, sportsmen, and conservationists.

The bill has bipartisan support from both Republicans and Democrats. It was introduced into the U.S. Senate on March 2, 2023, by Senator Michael Bennet (Democrat) of Colorado. It was then referred to the Committee on Energy and Natural Resources Subcommittee on Public Lands, Forests, and Mining and ordered to be reported with amendments favorably on December 12, 2023. An identical bill was introduced into the U.S. House of Representatives on March 10, 2023, by Representative Lauren Boebert (Republican) of Colorado. This bill was referred to the U.S. House of Representatives Committee on Natural Resources Subcommittee on Federal Lands on April 14, 2023. There are no other updates to report regarding this bill.

### **2.4.2 National Defense Authorization Act**

On December 22, 2023, the U.S. Congress passed the National Defense Authorization Act, which included the Nuclear Fuel Security Act of 2023. The Nuclear Fuel Security Act of 2023 establishes several programs related to nuclear fuel security in the United States. It calls for the secretary of energy to establish a Nuclear Fuel Security Program to support domestic uranium production, as well as to expand the American Assured Fuel Supply Program and establish a new High-Assay Low-Enriched Uranium for Advanced Nuclear Reactor Demonstration Projects Program. It provides requirements for these programs regarding quantities of uranium, timelines, partnerships with allied countries, and limitations. It also addresses sourcing considerations and establishes a revolving fund for revenues from uranium sales.

### **2.4.3 Strategic Uranium Reserve**

The U.S. Congress allowed for \$75 million to be set aside in 2020 for the creation of a uranium reserve. In March 2022, the DOE National Nuclear Security Administration issued a solicitation to uranium producers to purchase up to 1 million pounds of domestically produced triuranium octoxide ( $U_3O_8$ ). Two contracts were awarded in December 2022 to Energy Fuels Inc. (EFI) and Peninsula Energy Limited, a subsidiary Strata Energy Inc. (Strata). Strata has been contracted for 300,000 pounds of  $U_3O_8$ , while EFI did not publish the size of its contract. Production at EFI's three currently operating mines is expected to be at full capacity by mid to late 2024, according to the company. Strata has announced that it will resume production at its Wyoming in situ recovery operations in August 2024.

#### 2.4.4 Program Outreach

Major highlights of ULP outreach activities in 2023 (by month) are outlined below:

- **February:** LM and Legacy Management Support (LMS) contractor personnel attended the Society for Mining, Metallurgy, and Exploration conference in Denver.
- **May:** LM and the LMS contractor participated in the *Gunnison Sage-Grouse Resource Management Plan Amendment – Draft Environmental Impact Statement* (BLM 2023) (Draft EIS) with BLM.
- **October:** LMS personnel attended the White Mesa Mill open house tour in Blanding, Utah. LMS personnel attended the Western Small Miners Association roundtable discussion between industry, regulators, and resource managers in Naturita, Colorado. LM and LMS personnel participated in the 44th Annual Conference of the National Association of Abandoned Mine Land Programs in Chicago, Illinois.

#### 2.4.5 Program Coordination with BLM

LM hosted an in-person meeting with BLM in March to discuss the interagency agreement, the *Memorandum of Understanding Between the U.S. Bureau of Land Management and the U.S. Department of Energy* (BLM and DOE 2015), and upcoming activities for both agencies,

In May, LM took part as a cooperating agency in BLM's development of the Draft EIS (BLM 2023). The Draft EIS is, as of the end of the calendar year, going through public comment.

In June, BLM hosted LM and LMS personnel in an online discussion concerning BLM's historical interpretive actions that intersect the ULP lease tracts. Included were discussions of the planned nomination of the Burro 3, 5, & 7 mines complex for the National Register of Historic Places and the Yellowcake Trail Uravan Mineral Interpretation Loop near the Radium Hill #10 mine on Lease Tract C-WM-17.

In October, BLM representatives from the Tres Rios Field Office and the Uncompahgre Field Office participated in annual lease tract inspections.

In November, LM and the LMS contractor agreed to participate as a cooperating agency in the *Uncompahgre Field Office Resource Management Plan Amendment* with BLM. The BLM will consider impacts from proposed oil and gas leasing decisions consistent with their settlement agreements. In addition, the BLM will also consider the impacts of proposed Areas of Critical Environmental Concern designations and management of lands with wilderness characteristics previously analyzed under their 2019 Uncompahgre Field Office Proposed Resource Management Plan and Final Environmental Impact statement, Alternative B. The Record of Decision and Approved Plan is scheduled for January 2026.

#### 2.4.6 Program Coordination with DRMS

In March, LM and LMS personnel met with DRMS to discuss the water level within the Burro Mines Complex, partially on Lease Tract C-SR-13. ULP personnel have continued to monitor the water level within the mine.

In October, ULP personnel joined DRMS, BLM, and Gold Eagle Mining Inc. (GEMI) representatives during the annual field inspections of GEMI's permitted mining operations in both Montrose and San Miguel Counties. Members of the inspection team focused on GEMI's upcoming reclamation deadline. It was anticipated that GEMI would submit technical revisions to DRMS before finalizing the site-specific reclamation plans to reflect current conditions.

In October, ULP personnel joined DRMS, BLM, and Highbury Resources Inc. (Highbury) representatives during the annual field inspections of Highbury's permitted mining operations in both Montrose and San Miguel Counties. Members of the inspection team focused on Highbury's ongoing reclamation activities.

#### **2.4.7 Program Coordination with the Defense-Related Uranium Mines (DRUM) Program**

In 2023, DRUM field teams were not active on the ULP lease tracts. The DRUM Program's verification and validation efforts on the lease tracts are expected to resume in 2024 with the start of Campaign 3 work on private lands.

DRUM closure work in 2023 focused on localities around the ULP lease tracts with only a single closure within the lease tracts at the Lucky Strike mine (LM ID 2396) on Lease Tract C-SR-11A in spring 2023.

#### **2.4.8 Lease Agreement Execution**

As the current 10-year lease agreements were executed in 2020, no additional leases were executed during 2023. LM has begun preparing updates to the lease agreements to be issued in the future.

### **2.5 Market Prices**

The fair market value of lease tract ores per dry ton with average grades of 0.20% uranium and 1.20% vanadium, as calculated for production royalty purposes, began 2023 at \$360 per ton. The value rose to \$401 per ton in February before decreasing to \$351 per ton in May. From May on, the price rose steadily, finishing the year at \$470 per ton (Figure 2 and Figure 3).

## **3.0 Field Operations**

### **3.1 ULP Operations**

ULP personnel conducted cursory inspections at least monthly as weather permitted access to the lease tracts. As is common, several new subsidences developed during winter on the lease tracts, primarily on legacy mine sites. ULP personnel identified seven new hazardous features within the lease tracts and temporarily mitigated these features by covering the hazards or installing safety fencing around them to prevent the entrapment of humans, livestock, and wildlife. Three of these hazards were mitigated in 2023 through the program's 2023 Sustainability and Maintenance Projects. The four remaining hazards identified in 2023 were added to the hazard list that the ULP maintains and will be mitigated or reclaimed in the future. A formal inspection of permitted mining operations was conducted on October 4 and 5, 2023.

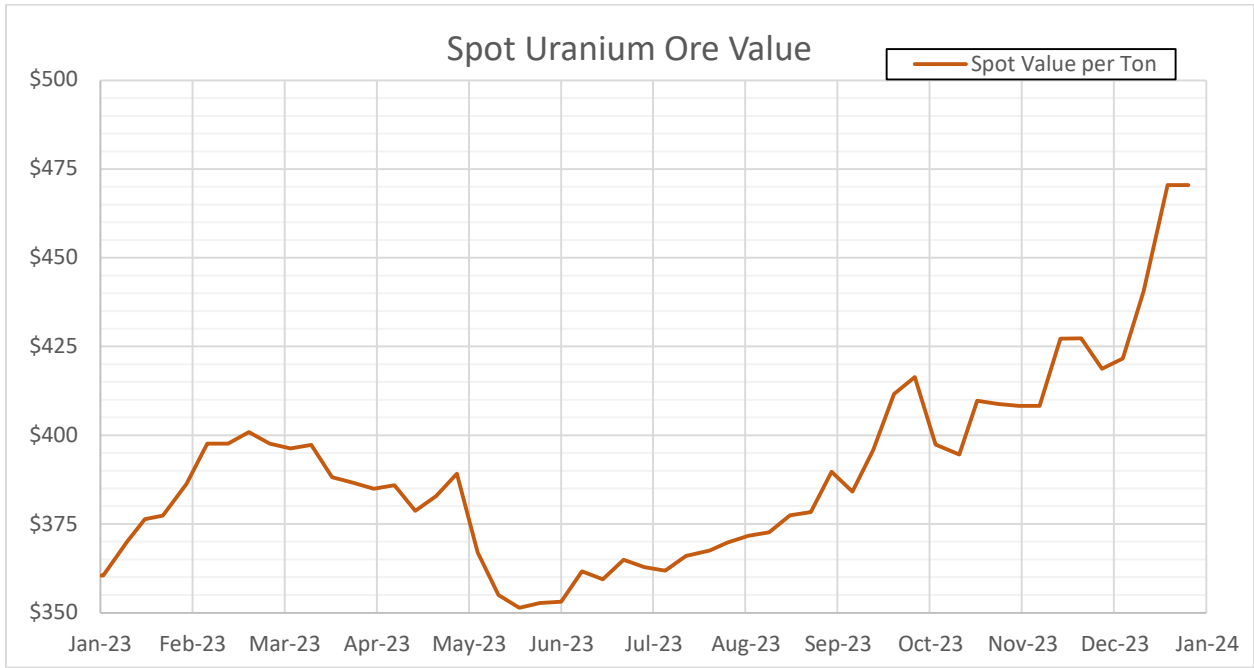


Figure 2. Spot Uranium Ore Values in 2023

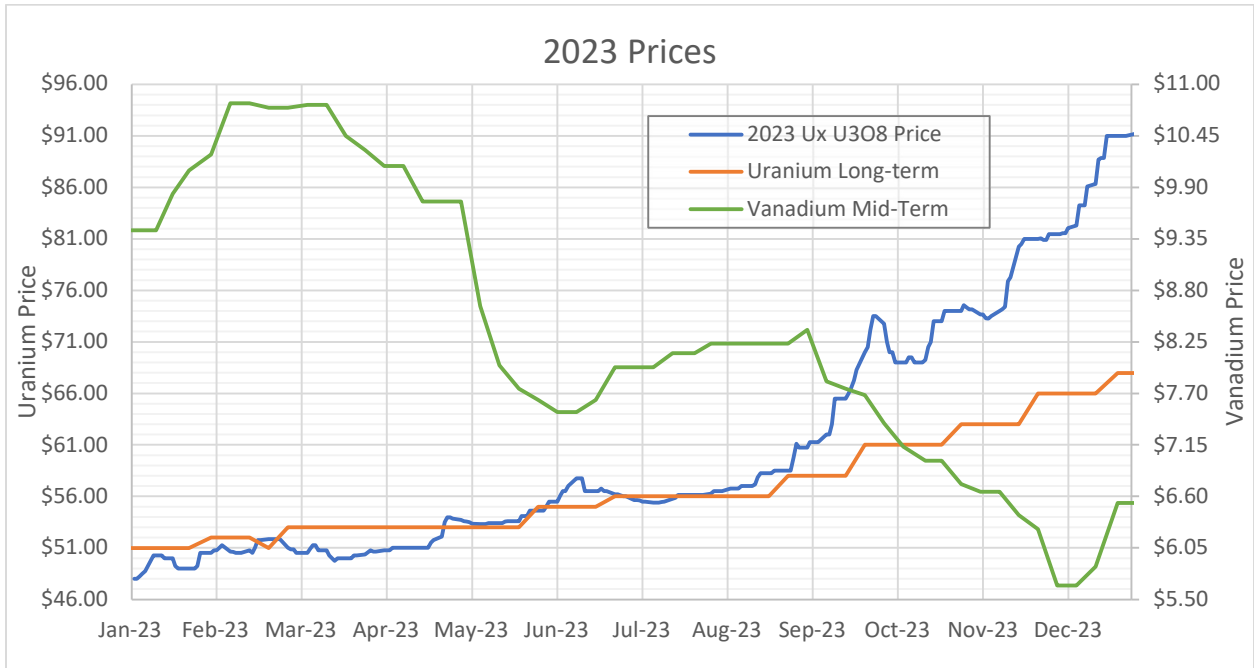


Figure 3. Uranium and Vanadium Prices in 2023

In November 2023, the ULP executed the 2023 ULP Sustainability and Maintenance Projects, which entailed the closure of seven hazardous abandoned mine features and the removal of approximately 430 yd<sup>3</sup> of sediment from two sediment retention ponds by a licensed subcontractor. In addition to providing on-the-ground technical management for this project, ULP personnel closed six additional small subsidences by hand and reseeded all 1.23 acres of mechanically disturbed area.

## 3.2 Lessee Operations

As part of LM's mission of environmental stewardship, the ULP conducts oversight of lessee activities to stay apprised of current site conditions.

### 3.2.1 Highbury

Highbury controls nine lease tracts: C-CM-25, C-JD-6, C-JD-7, C-JD-8, C-JD-9, C-LP-21, C-SM-18, C-SR-11, and C-SR-13A. During 2023, Highbury personnel performed routine maintenance activities at various mining operations to protect the company's financial investments and keep the sites secured in a physically safe and environmentally sound condition. These routine activities included controlling noxious weed infestations and inspecting site features and facilities (e.g., mine portals, ventilation systems, buildings, stormwater control structures) to determine if maintenance actions were required. Personnel monitored the lysimeters on Lease Tracts C-JD-6, C-JD-8, C-JD-9, and C-SM-18 quarterly to determine whether water was percolating through the waste rock piles. No measurable water was detected at these lysimeters, and minimal water has been detected to date.

In February 2020, Cotter Corporation (which novated its lease assignments and permitted mines to Highbury in July 2020) advised DRMS that it was voluntarily placing its permitted mines into reclamation status. On October 19, 2021, DRMS requested that Highbury submit a schedule for final reclamation. Highbury responded to this request with a schedule on November 3, 2021, outlining reclamation activities that began in spring 2022 and will be completed by fall 2024. In spring 2023, Highbury submitted *Uranium Leasing Program Lessee Environmental Checklist* forms (LM-Form-4-20-22.0) for its proposed 2023 reclamation activities to LM and, once approved, completed the following tasks:

- C-JD-6: The water tank, water pipe and associated heat trace, office trailer, and mobile compressor were removed from the Mineral Joe mine permit area.
- C-JD-7: Scrap steel was removed from the underground waste rock stockpile.
- C-JD-9: The remaining fencing and fence posts were removed from around the two western evaporation ponds. All the steel pipe segments connecting the old evaporation ponds were removed, in addition to the discharge segment of the pipe.
- C-SR-11: Highbury obtained approval to remove the piping and the water tank from the site. Due to scheduling difficulties, Highbury was only able to remove the piping and elected to remove the water tank in 2024.

### 3.2.2 GEMI

GEMI controls three lease tracts: C-JD-5, C-SR-13, and C-SR-15. During 2023, GEMI personnel conducted noxious weed control treatments throughout the lease tracts.

On June 1, 2020, LM issued a letter in response to GEMI's previously submitted reclamation plans. During a joint field inspection with LM, the LMS contractor, and DRMS in July 2020, it was determined that GEMI's reclamation plans were deficient and would need revision to better reflect current ground conditions.

In a letter dated June 29, 2021, Colorado DRMS determined that the reclamation on GEMI's lease tracts is to be completed by March 18, 2024. On March 22, 2022, GEMI submitted reclamation plans to DOE for review and approval. On May 11, 2022, LM relayed that the reclamation plans submitted by GEMI were incomplete and required additional revision as well as a completed *Uranium Leasing Program Lessee Environmental Checklist* for the reclamation work proposed at each permitted mine site.

On August 22, 2023, LM sent a letter requesting an update on the status and details of the reclamation to be performed in accordance with the Colorado DRMS letter and the response to LM's letter dated May 11, 2022, regarding LM's comments on the reclamation plans submitted by GEMI. On December 14, 2023, LM issued a Notice of Potential Lease Cancellation letter stating that LM has not received revised reclamation plans or any indication of intentions to submit them and that, if the required reclamation work is not completed by the due date and the Colorado Mined Land Reclamation Board finds GEMI in violation of the Colorado Mined Land Reclamation Act (*Colorado Revised Statutes* 34-32-101 et seq. [CRS 34-32-101 et seq.]), pertinent regulations, or the approved permit, then LM will assess whether to take further action in accordance with ULP lease Article XXII, "Cancellation of Lease."

On December 27, 2023, GEMI submitted revised reclamation plans for its four mines permitted by Colorado DRMS. GEMI also submitted the *Uranium Leasing Program Lessee Environmental Checklist* for the reclamation work proposed at each permitted mine site in early 2024, which will be reviewed by the ULP.

### 3.2.3 Golden Eagle Uranium, LLC (GEU)

GEU controls nine lease tracts: C-JD-5A, C-LP-22, C-LP-22A, C-LP-23, C-SR-10, C-SR-11A, C-SR-15A, C-SR-16, and C-WM-17. There are no active mining operations on any of these lease tracts. During 2023, GEU conducted noxious weed control treatments on several of its lease tracts.

### 3.2.4 Consolidated Uranium Inc. (CUR)

CUR controls eight lease tracts: C-AM-19, C-AM-19A, C-AM-20, C-CM-24, C-G-26, C-G-27, C-SR-12, and C-SR-16A. CUR does not maintain mining operations on any of its lease tracts. During 2023, EFI continued to treat noxious weed infestations on CUR's lease tracts. On November 27, 2023, CUR announced that it completed a spinout of its assets to its wholly owned subsidiary, Premier American Uranium. LM is still waiting on documentation from the company to approve the novation of its leases.

### **3.3 Milling Operations**

#### **3.3.1 White Mesa**

During 2023, the White Mesa Mill (Mill), owned and operated by EFI operated continuously, producing rare earth elements (REEs), vanadium pentoxide, and  $U_3O_8$ , mostly from alternate feed material processing. On December 21, 2023, EFI started production at three of its permitted and developed uranium mines in Arizona and Utah and is preparing two more mines in Colorado and Wyoming for production. Material produced from these mines will be stockpiled at the Mill until such time that sufficient material is accumulated to justify a mill campaign, which is expected to occur in late 2024 or early 2025.

The Mill also processed a mineral called monazite which contains both uranium and key REEs. In early 2023, EFI began modifying and enhancing its existing solvent extraction circuits at the Mill to be able to produce separated REE oxides. These modifications are expected to be completed and fully commissioned by early 2024 and have the capacity to produce roughly 800 to 1000 metric tons (MT) of recoverable separated neodymium-praseodymium oxide (NdPr) per year, subject to the ability to secure sufficient monazite feed. One thousand MT of NdPr in permanent magnets could power up to 1 million electric vehicles per year.

#### **3.3.2 Shootaring Canyon**

In 2023, Anfield Energy Inc. reported progress on its reactivation report, with Precision Systems Engineering (PSE) assessing the Shootaring Canyon Mill's infrastructure and identifying areas for larger equipment overhauls or upgrades. PSE has secured original schematics of the entire uranium mill, allowing for a comprehensive technical review. The company is now working with process experts and engineers to understand the current production throughput capacity and conduct a cost-benefit analysis to increase uranium production capacity from 750 tons per day to 1000 tons per day. PSE has also secured engineering designs for a proposed vanadium circuit at the Shootaring Canyon Mill. Finally, Anfield Energy Inc. will continue to pursue an expanded annual licensed uranium production capacity of up to 3 million pounds.

### **3.4 Physical Safety Hazards and Environmental Issues**

#### **3.4.1 Hazards**

Over the last several years, ULP personnel have identified multiple physical safety hazards on several lease tracts. A list of action items has been compiled, and the hazards will likely be addressed by the ULP or by the respective ULP lessees through reclamation in lieu of royalties (RILOR) in the future.

In 2023, ULP personnel found an area subsiding into an adit on Lease Tract C-JD-7, a 2 ft diameter subsidence into an adit on Lease Tract C-G-26, a 2 ft diameter subsidence into a shallow mine on Lease Tract C-SR-16, a subsidence into a closed trench feature on Lease Tract C-SR-16, a 3 ft diameter subsidence into an adit on Lease Tract C-WM-17, a failing backfilled adit on Lease Tract C-SR-10, a 5 ft diameter subsidence approximately 12 ft deep on Lease Tract C-SR-16, and a subsidence into an adit 6 ft in diameter and 12 ft deep on Lease Tract C-LP-22A. No other major issues were discovered; hazards identified in previous years



were monitored and exhibited some to little change in size or condition. ULP personnel temporarily mitigated the features by placing brush over the hazards or installing safety fencing around them. These newly identified hazards were added to the RILOR list.

In November 2023, the ULP executed the 2023 ULP Sustainability and Maintenance Projects which entailed the closure of seven hazardous abandoned mine features and six additional small subsidences.

### 3.4.2 Noxious Weeds

ULP lessees are responsible for controlling noxious weeds on their lease tracts in accordance with state law. All lessees conducted treatments in 2023 and completed pesticide application forms to document their herbicide use.

Since 2011, LM has coordinated with the Dolores River Restoration Partnership (DRRP), a group of public and private entities whose main purpose is to treat and remove tamarisk and other noxious weeds along the Dolores River riparian corridor and restore the area with native species. LM has been a signing partner of the DRRP Memorandum of Understanding since 2015 and, on January 16, 2021, renewed its partnership by signing an updated Memorandum of Understanding with 19 other partners (DOE 2021).

Approximately 4 miles of the Dolores River flow through Lease Tracts C-SR-13 and C-SR-14. ULP ecologists have overseen and monitored the success of these weed control and restoration efforts on the lease tracts annually for the last 10 years. Success criteria for revegetation along the Dolores River riparian corridor were achieved in 2022 (DOE 2023), and the scope of monitoring changed from a quantitative approach to a qualitative approach. Weed control efforts have shifted from a maintenance-level approach to a monitoring-level approach. The ecology team has suggested splitting the Dolores River riparian corridor in the lease tract area into three distinct parts, one to be treated annually and each to be sprayed every 3 years. They are also considering the use of biocontrol agents against invasive, nonnative plants for areas that are challenging to access and as a cost-saving measure.

## 4.0 References

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