

DRAFT COMPLETION REVIEW REPORT

Date: February 5, 2024

Licensee: Uranium Energy Corp (UEC), operating under South Texas Mining Venture L.L.P. (STMV)

Radioactive Material License (RML) Number: R06062

Facility Name: La Palangana

Location: 5716 FM 3196, Benavides, Texas 78341, Duval County (GPS coordinates 27.673100, -98.394602)

Licensed Area Being Terminated: 2,520 acres (partial license termination)

Manager: Chance Goodin, Radioactive Materials Section, Radioactive Materials Division, Texas Commission on Environmental Quality (TCEQ)

Technical Reviewer: Molly Coffman, P.E., Radioactive Materials Section, TCEQ

I. SUMMARY

UEC/STMV's La Palangana site is a licensed *in situ* leach (ISL) uranium mining site that is authorized for possession of uranium in pregnant lixiviant from ISL uranium mining activities, concentrating uranium onto ion-exchange resin, and transfer to authorized recipients. Existing activities also include possession of by-product material incidental to ISL uranium mining, restoration, decommissioning, and reclamation of the *in situ* mining project.

UEC/STMV has requested a partial license termination of approximately 2,520 acres of the La Palangana site in a minor amendment request made to the TCEQ on November 15, 2022 (**UEC/STMV – 2022**). The purpose of this Completion Review Report (CRR) is to document the basis for which TCEQ has determined to grant this partial license termination, and to request the Nuclear Regulatory Commission's (NRC)'s concurrence.

The primary applicable standards/regulations for uranium mill reclamation in the State of Texas (State) are found in Title 30 of the Texas Administrative Code (TAC), Chapter 336, Subchapter L titled "Licensing of Source Material Recovery and Byproduct Material Disposal Facilities". The state regulations have been determined by the NRC to be consistent with and compatible with NRC regulations, as required by the state's Agreement State status with the NRC. This report was prepared in accordance with the applicable NRC State Agreement Procedure SA-900 titled "Termination of Uranium Milling Licenses in Agreement States".

The State requests the subject 2,520 acres of the La Palangana site regulated under RML No. R06062 be released for unrestricted use. TCEQ has performed a technical review of the site for compliance with all applicable standards and requirements for release for unrestricted use. The review includes references to correspondence to and from the licensee and regulatory agency inspection reports. With concurrence from the NRC that the applicable standards and requirements have been met, the approximately 2,520 acres being requested for termination on RML No. R06062 can be released for unrestricted use.

II. DOCUMENTATION OF BASES FOR CONCLUSION

1. Description of licensee's activities associated with decommissioning.

UEC/STMV has requested that approximately 2,520 acres from the RML R06062 licensed area be terminated from the license. The currently licensed area (7,208 acres) can be seen in **Figure 1** at the end of this document. The area to be released is located in the northwest corner of the currently licensed area, and the new licensed boundary can be seen in **Figure 2** and is a reduction of about 35% of the currently licensed area.

The site was originally operated under RML L01234 issued by Texas Department of Health (TDH; predecessor agency to Texas Department of State Health Services). The site actively produced uranium from 1968 to 1986, when production operations ceased. Restoration of the mined aquifer using groundwater sweep and reverse osmosis was conducted from 1986 until 1995. Surface decommissioning and decontamination of the plant site and the Production Area Authorization (PAA) area was completed in 1997. Confirmatory surveys were conducted by TDH in 1998. In a memo dated June 4, 1998 (**TDH – 1998**), TDH recommended that the La Palangana site be released for unrestricted use.

In a letter dated May 13, 1999, from the NRC to TDH, the NRC approved the termination of RML L01234, issued to Rio Grande Resources Corporation. The letter states that the groundwater has been adequately restored, all wells have been closed and plugged according to the appropriate Texas statute, disposal or transfer of radioactive material is documented, and radiation surveys and confirmatory soil samples indicate that the site meets unrestricted release requirements (**NRC – 1999**). Following the termination of RML L01234, the property was returned to the landowners.

In 2005, Everest Exploration Inc. acquired the Palangana property and later joint ventured with Energy Metals Corp. through the formation of STMV. In 2008, Energy Metals was acquired by Uranium One and in December 2009, UEC acquired 100% ownership of STMV. STMV was issued the initial RML R06062 on January 14, 2010.

Since UEC/STMV has acquired the Palangana site, the only activities that have been conducted in the subject 2,520 acres is the drilling of approximately 648 boreholes on the west side of FM 3196 for the purposes of uranium exploration. All exploration activities were conducted by UEC/STMV under Uranium Exploration Permit No. 124, issued to UEC/STMV by the Railroad Commission of Texas (RRC). All boreholes have since been plugged, and since 2009, no additional drilling has occurred at La Palangana site in the subject acreage. UEC/STMV has not conducted any mining activities in this subject acreage.

2. Information which demonstrates that the groundwater has been restored to meet applicable standards and requirements.

The NRC termination letter for L01234 dated May 13, 1999 indicates that the groundwater has been restored by the licensee to the satisfaction of the Texas Natural Resource Conservation Commission (TNRCC; predecessor agency to the TCEQ).

From 1986 until 1995 groundwater restoration was performed along with limited surface reclamation. The Texas Water Commission (TWC; predecessor agency to the TNRCC) authorized ceasing groundwater restoration and final plugging of all wells in the fall of 1995. Following plugging of all wells, full scale surface reclamation and decommissioning began.

Since UEC/STMV have taken ownership of La Palangana site, the only drilling activities in the subject 2,520 acres have been for uranium exploration purposes under RRC Uranium Exploration Permit No. 124. These exploration boreholes have all been plugged.

3. Documentation that the production, injection and monitoring wells have been closed and plugged in accordance with applicable standards and requirements.

The NRC termination letter for L01234 dated May 13, 1999 indicates that all wells have been plugged and abandoned by the previous licensee as authorized by TNRCC.

As part of the license boundary reduction request, UEC/STMV plugged and abandoned ten regional baseline wells (wells) located on the west and east side of FM 3196 in accordance with TCEQ approved plugging and abandonment procedures. The purpose of these wells was to establish baseline groundwater data for the mine permit and license boundary. The plugging activities started on June 7, 2023 and were completed on June 20, 2023. A plugging report dated July 19, 2023 was submitted to the TCEQ and was found to be satisfactory. A TCEQ plugging and abandonment approval letter dated November 2, 2023 was sent to UEC/STMV. During the October 10, 2023 inspection of the site, the TCEQ investigator visited the locations where the wells were located and verified that the wells were plugged and abandoned. During the inspection, the investigator performed radiation surveys of the area where the wells were located. The highest gamma radiation level observed was 7 microRoentgen per hour ($\mu\text{R/hr}$). Background gamma radiation levels ranged from 4-8 $\mu\text{R/hr}$ (TCEQ – 2023).

4. Decommissioning information which documents that all radiologically contaminated materials have been properly disposed of, transferred to licensee(s) authorized to possess such materials, or meet applicable standards and requirements for release.

The NRC termination letter for L01234 dated May 13, 1999, states that based on the TDH's review of the license termination, the proper disposition of radioactive materials took place at the site and there has been no on-site disposal of radioactive materials; therefore, there is no need to transfer ownership of land to the State or Federal Government.

During surface reclamation and decommissioning all material and equipment were surveyed for presence of radioactive material contamination. Any material and/or equipment which was contaminated was disposed of by utilizing one of the following methods:

- 1) Transfer to another licensed mine site;
- 2) Decontamination and release for unrestricted use; or
- 3) Disposal at a licensed byproduct disposal facility.

Proper disposal of all material and/or equipment was documented by the licensee.

Since UEC/STMV have taken ownership of La Palangana site, no decommissioning efforts have taken place at the subject acreage because no mining activities have occurred.

5. Discussion of the results of radiation surveys and soil sample analyses which confirm that the licensed site meets applicable standards and requirements for release.

The NRC termination letter dated May 13, 1999 indicates that TDH has reviewed the results of radiation surveys and soil samples submitted by the licensee and performed confirmatory surveys for the subject site. Post-cleanup surveys and sampling conducted by TDH indicate that the site has been decontaminated to the levels that meets the State criteria for release for unrestricted use.

Since UEC/STMV have taken ownership of La Palangana site, the TCEQ has conducted annual inspections at the subject acreage. No mining activities have been noted at the subject acreage since UEC/STMV took over ownership in 2009 (TCEQ – 2013).

6. Discussion of results of the State Regulatory Agency’s Site Closure Inspections.

In response to UEC/STMV’s request to reduce the license boundary, on October 10, 2023, a TCEQ investigator conducted an announced inspection at the La Palangana site to inspect the portions of the site related to the UEC/STMV request for license boundary reduction. The investigator drove through the accessible areas of the proposed portions of the existing license boundary to be removed as requested by UEC/STMV. Except for the two buildings, the investigator did not see any other structures or activities in these areas. The investigator conducted gamma radiation surveys at certain areas within the proposed portions of the existing license boundary. Readings ranged from 4-8 $\mu\text{R/hr}$ (consistent with background radiation levels) (TCEQ – 2023). No issues were noted. A calibrated Ludlum Micro R survey meter Model 19 was used to perform the surveys during the inspection. Prior to the surveys/inspection activities, the background radiation levels were established by the investigator outside the site. The investigator checked the operability of the instrument using an exempt radioactive check source to assure the instrument was working properly.

The two buildings will be left in place for the landowner’s use once the subject acreage has been released for unrestricted use; a blue building constructed by Union Carbide Corporation during initial site operations under RML L01234 and a tan building constructed by Uranium One in 2009 under current site operations. At one time UEC/STMV used the tan building for the storage of temporary logging equipment with no radiation source and the blue building as an administrative building and for storage of various miscellaneous items. The investigator entered these buildings and checked the offices and other areas within the buildings. The buildings were vacant. No items were observed inside the buildings. The investigator conducted a cursory/spot check gamma radiation survey inside the buildings. Readings were at background radiation levels. No issues were noted.

7. For partial terminations, documentation that release of a portion of the site will not negatively impact the remainder of the site to be closed at a later date.

The subject acreage is isolated from current and expected operations and does not require entry or egress for current and future operations or decommissioning. Access to the project is via FM 3196. Prior to entering the plant and wellfield area, an access gate with key code prevents unauthorized entry. There will be no reason to access the released acreage for disposal well, plant or wellfield operations, eliminating possible contamination by future activities.

III. REFERENCES

NRC – 1999	Letter from NRC to TDH regarding the concurrence for termination of RML L01234, May 13, 1999.
TCEQ – 2013	TCEQ Annual Investigation Report, R06062, South Texas Mining Venture L.L.P, La Palangana Uranium In-Situ Recovery Project, Conducted 3/12/2013-3/14/2013.
TCEQ – 2023	Email from Muhammadali Abbaszadeh (TCEQ Investigator), “Inspection at La Palangana Facility – UEC/STMV Request for License/Permit Boundary Reduction”, November 6, 2023.
TDH – 1998	TDH Memo, “Release for Unrestricted Use Rio Grande Resources Corporation (RGR) Panna Maria & Palangana Dome Sites”, June 4, 1998.
UEC/STMV – 2022	UEC/STMV, “R06062 – Renewal/Amendment Application to Reduce the License Boundary”, November 15, 2022.

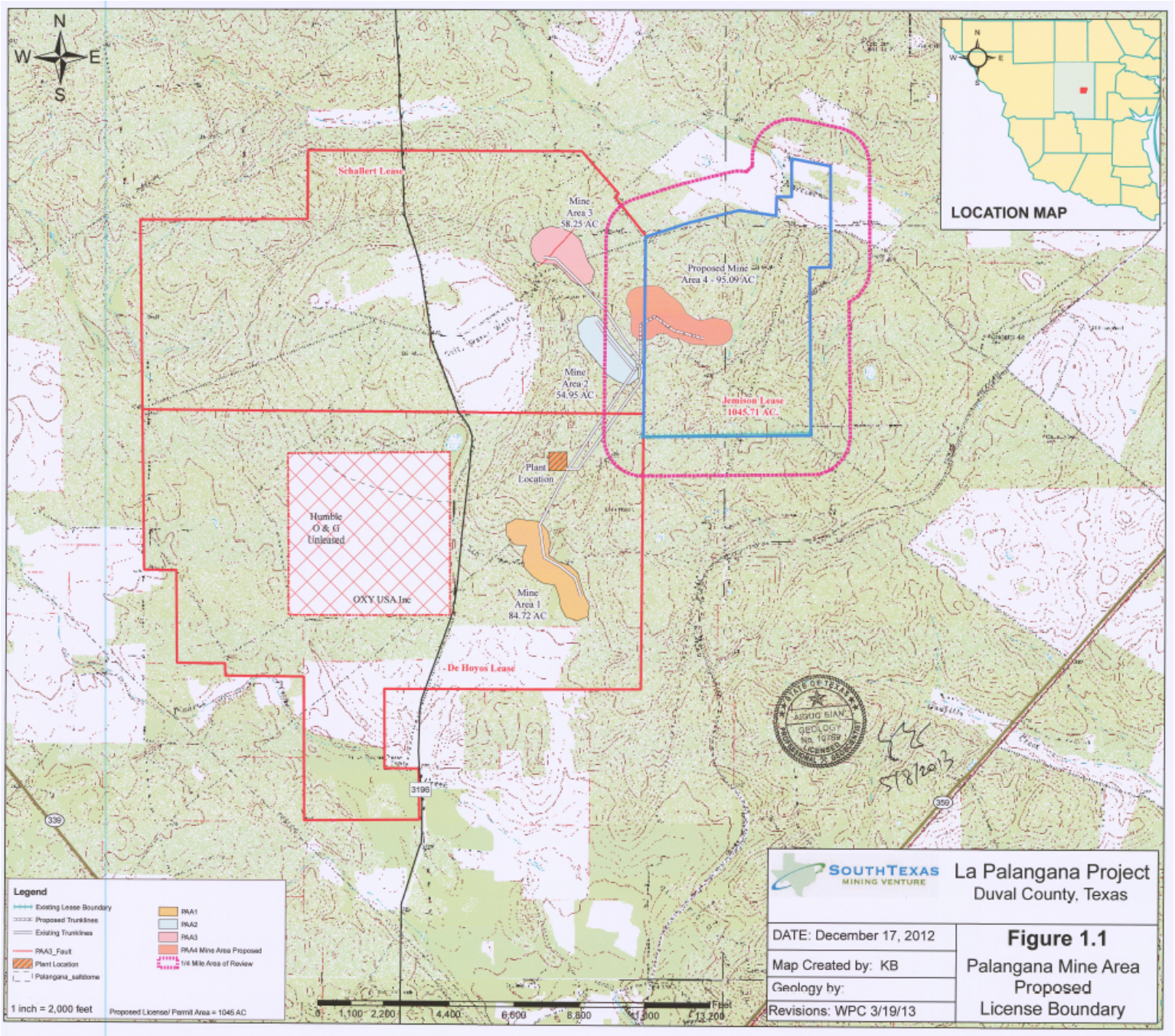


Figure 1: Current Licensed Area

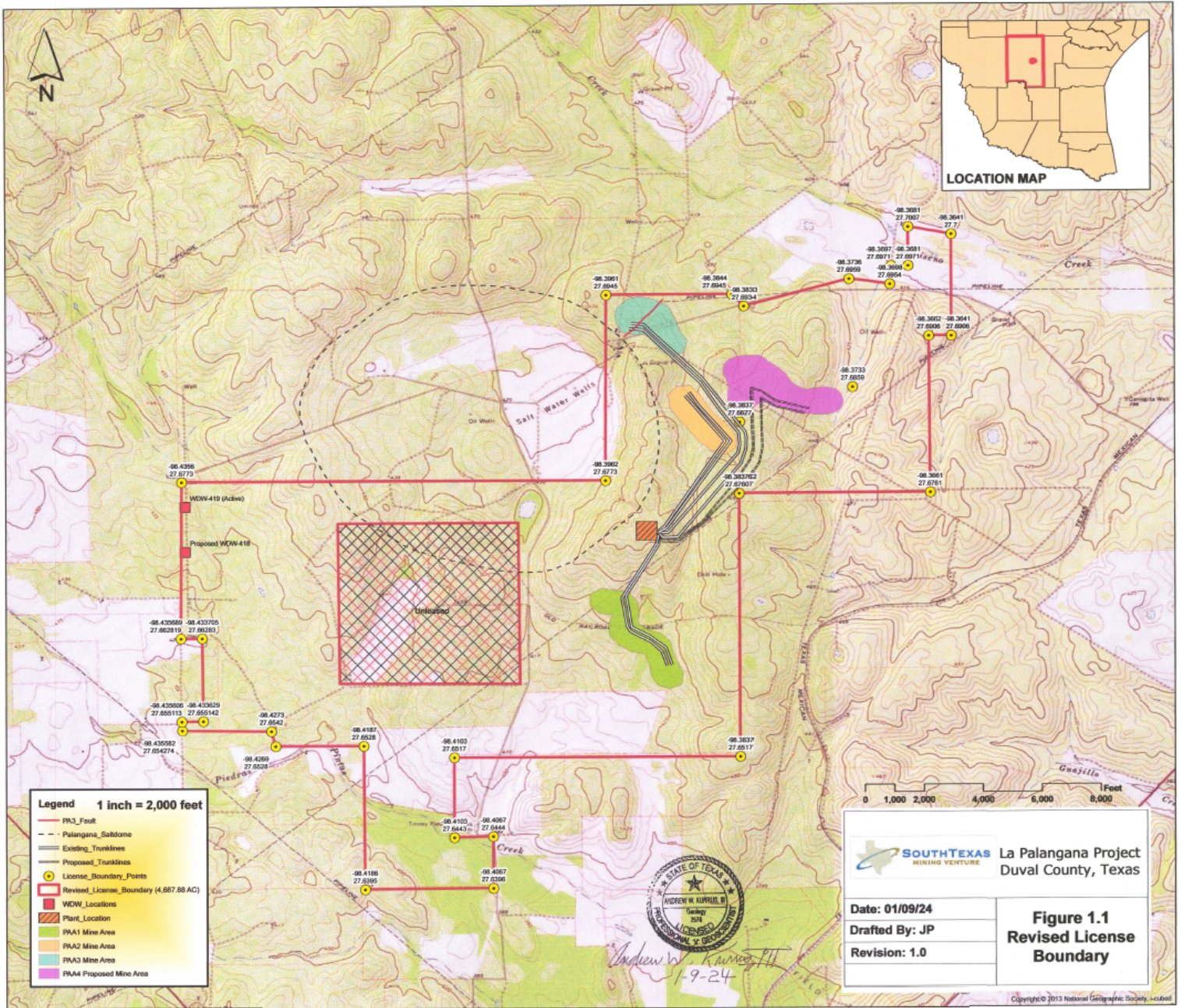


Figure 2: Proposed Licensed Area (License Area Reduction)