



June 7, 2019

Mr. Ken Kalman
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852-2738

Mr. Paul Davis
Oklahoma Department of Environmental Quality
707 North Robinson
Oklahoma City, OK 73101

Mr. Robert Evans
U.S. Nuclear Regulatory Commission
1600 East Lamar Blvd; Suite 400
Arlington, TX 76011-4511

Re: Docket No. 70-925; License No. SNM-928
Redefining the Licensed Area

Dear Sirs:

Solely as Trustee for the Cimarron Environmental Response Trust (CERT), Environmental Properties Management LLC (EPM) submitted *Facility Decommissioning Plan – Rev 1¹* (the DP) to the US Nuclear Regulatory Commission (NRC) and the Oklahoma Department of Environmental Quality (DEQ) on November 2, 2018. Section 6.3 of the DP, "License Condition 9 – Definition of the Licensed Site", proposed an amendment to License SNM-928 to re-define the areas that will remain under license throughout the remaining decommissioning activities.

Section 6.3 of the DP states, "There is little relationship between those areas which license SNM-928 identifies as "licensed" and "released from license" (as shown in Figure 5-2), and those areas which contain or will contain uranium exceeding license criteria." The current licensed area is based on "Subareas" which related to final status surveys of soils and buildings which were completed long ago. These "Subareas" have no correlation with areas in which groundwater exceeds license criteria, or where licensed material will be accumulated, processed, and packaged for disposal at a licensed disposal facility.

Section 6.3 of the DP asserted that the licensed area should be re-defined to include areas within which:

- Groundwater exceeds license criteria
- Groundwater exceeding license criteria will be stored and treated during the groundwater remediation effort,

¹ Environmental Properties Management LLC, November 2018

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- Contaminated media, such as treatment resins containing concentrated uranium, will be stored and/or packaged for shipment for disposal

The proposed licensed area in the western portion of the Site was depicted in Figure 6-1 of the DP. The proposed licensed area in the eastern portion of the Site was depicted in Figure 6-2 of the DP. During their review of the DP, NRC personnel observed that those figures, while delineating the proposed areas that would be under license, did not show the extent of groundwater which contains uranium that exceeds the license criteria. Consequently, it is difficult for NRC personnel to confirm that the proposed licensed areas do include all the areas within which groundwater exceeds license criteria.

NRC staff also observed that the inclusion of the former Subareas would enhance their ability to compare the proposed licensed areas with those Subareas which are currently under license and those Subareas which have already been released from the license.

Attachment 1 to this letter provides revised Figures 6-1 and 6-2 for the DP. The proposed revised figures include Subarea boundaries and isopleth lines that depict the extent of uranium in groundwater exceeding license criteria.

Areas Which Should be Released from the License

Based on knowledge of processing, transport, and disposal activities, as well as site-wide characterization surveys, the Cimarron Site was divided into the following three "Phase" areas:

1. "Phase I Unaffected Areas", defined as areas within which soil or surface contamination was not expected to exceed background levels,
2. "Phase II Affected and Unaffected Areas", defined as areas within with soil or surface contamination was expected to exceed background, but may not exceed license criteria, and
3. "Phase III Affected Areas", defined as areas within which soil or surface contamination was known to exceed license criteria.

Each of these "Phase" areas were further divided into Subareas A through O. The boundaries of Subareas were based on the locations of buildings, impoundments, roads, and former burial areas. No consideration was given to the extent of groundwater that exceeded either license criteria or State criteria. Except for Subarea F, for which a confirmatory survey has not been conducted, the delineation of Subareas has no relevance to the ongoing decommissioning of the Site.

Subarea G was a "Phase II" area, and Subarea N was a "Phase III" area. The following sections describe these two Subareas and explain why there is no longer any need to retain the entirety of these Subareas under license.

Subarea G

Subarea G was a "Phase II" area containing both affected and unaffected areas. The affected areas included the Site road over which licensed material had been transported, the path where

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the drainage east of Uranium Pond #1 routed water to the floodplain, and concrete rubble from the former uranium processing building, a portion of which had been placed in Subarea G. Most of Subarea G was considered unaffected land.

Release survey data for concrete slabs placed in Subarea G was reported in a letter dated September 16, 1998. The NRC performed a confirmatory survey of the concrete during a September 1998 inspection and concluded that the released concrete slabs comply with license criteria. After performing a final status survey for the road, drainage, and land areas, *Final Status Survey Report, Subarea G*² was submitted to the NRC on October 21, 1999. The NRC performed a confirmatory survey for Subarea G in August 2001. The inspection included the collection and analysis of groundwater for both uranium and Tc-99. The November 26, 2001 NRC inspection report 70-925/01-01 concluded that Subarea G land **and groundwater** complies with license criteria.

In a letter dated March 12, 2002, the NRC stated,

“U.S. Nuclear Regulatory Commission (NRC) staff has identified regulatory issues concerning the release of Subareas G and K, related to the occurrence of technetium-99 (Tc-99) in Subarea G, and a need for an approved decommissioning schedule in your license. In response, NRC staff has decided to ... withhold release of Subarea G until Cimarron addresses the onsite Tc-99 contamination.”

Subsequent assessment of Tc-99 in groundwater demonstrated that Tc-99 concentrations were well below the NRC criterion for groundwater, and the NRC approved the discontinuation of monitoring for Tc-99 in a letter dated April 22, 2013. Consequently, the “onsite Tc-99 contamination” has been addressed from a license compliance perspective.

When license SNM-928 was transferred to the Trust, the February 16, 2011 license transfer order stated, “Final status surveys and confirmatory surveys have confirmed that Subareas G and N are releasable for unrestricted use, but NRC has determined that these areas should not be released until groundwater remediation is complete.”

The license transfer order does not provide justification for retaining these Subareas under license until groundwater remediation is complete. The NRC has not provided a rational basis for extending time to release Subarea G from the license from “until Cimarron addresses the onsite Tc-99 contamination” to “until groundwater remediation is complete.”

Subarea N

Subarea N was a “Phase III” area. Subarea N included Burial Area #4. Burial Area #4 contains soil that complies with the criteria specified in License Condition 23, as promulgated in the 1981 Branch Technical Position *Disposal or Onsite Storage of Residual Thorium or Uranium (Either as Natural Ores or Without Daughters Present) From Past Operations*³. Subarea N also

² Cimarron Corporation, October 1999

³ US Nuclear Regulatory Commission, October 1981

included the site road extending from Subarea G to stockpiles of Option 2 material that were transported to Burial Area #4.

After Burial Area #4 was closed in compliance with license condition 23, a final status survey was conducted for Subarea N. *Final Status Survey Report for Subarea N⁴* was submitted to the NRC on January 31, 2002. The NRC performed a confirmatory survey for Subarea N in June 2002. The inspection included the collection and analysis of groundwater for both uranium and Tc-99. The September 18, 2002 NRC inspection report 70-925/02-01 concluded that Subarea N land **and groundwater** complies with license criteria.

When license SNM-928 was transferred to the Trust, the February 16, 2011 license transfer order stated, "Final status surveys and confirmatory surveys have confirmed that Subareas G and N are releasable for unrestricted use, but NRC has determined that these areas should not be released until groundwater remediation is complete."

The license transfer order does not provide justification to retain Subarea N under license until groundwater remediation is complete.

Subareas G and N Should **Not** be Retained Under License

Although there is no reason to retain Subareas G and N in the license, the following are reasons to **not** retain them in the license:

1. NRC has stated that the primary reason to retain those areas in the license is that decommissioning activities (e.g., constructing treatment facilities, injection trenches, transporting vessels containing spent resin, etc.) will be conducted in these Subareas. If all Subareas in which such decommissioning activities will be conducted were to be brought back under the license, Subareas B, C, D, E, F, G, H, K, L, M, N, and O would **all** need to be under license. The vast majority of those Subareas will either remain undisturbed or will only be disturbed to install remediation infrastructure for the remediation of groundwater that already complies with license criteria. Bringing hundreds of acres of property that NRC has agreed are releasable back under the license doesn't make sense and isn't justified.
2. Licensing and imposing license controls over hundreds of acres of property that have been demonstrated to comply with decommissioning criteria would require the expenditure of limited funds with no benefit and no reduction of dose to workers or the public. This is clearly not ALARA.
3. Licensing hundreds of acres of property that have been demonstrated to comply with decommissioning criteria implies a need for worker protection and a risk to human health and the environment that does not exist.
4. Portions of Subareas E, K, L, and N are on property which are now owned by Cimarron Holdings LLC. Because all of the property that was to be acquired by Cimarron Holdings had either been released from the license or had been demonstrated by final status and confirmatory surveys to be releasable, the NRC approved the disposition of

⁴ Cimarron Corporation, January 2002

this property. The use of no-longer-relevant Subarea designations to define the licensed site would result in property now owned and operated by Cimarron Holdings LLC being licensed, with nothing on their property requiring decommissioning.

5. Any acreage that is licensed may be subject to final status survey upon completion of decommissioning activities. EPM has committed to the radiological survey of subsurface material brought to the surface anywhere on Site during decommissioning activities. Should material exceeding license criteria be identified, it will be transferred to licensed property for decontamination or disposal. Consequently, areas which are not under license cannot become contaminated and result in a need for final status survey at the conclusion of decommissioning. Bringing such areas under license is not ALARA.
6. As stated above, Burial Area #4 is located in Subarea N. License criteria specified in license condition 23, provide for the unrestricted release of Burial Area #4; this Subarea should be released from the license to finalize its unrestricted release.

Areas to Remain Under License

The NRC has expressed concern that the proposed licensed area depicted in Figure 6-2 includes only a portion of Subarea F. Should the NRC amend the license in accordance with the license amendment requested in the DP, they would in effect be releasing most of Subarea F from the license. Although the licensee has completed final status surveys, and the NRC has performed confirmatory surveys for the formal burial trenches and the concrete rubble in Subarea F the final status survey and confirmatory survey process has not been completed for the entire Subarea. Consequently, EPM revised Figure 6-2 to include all of Subarea F in the area to remain under license.

As described above, and with the addition of property formerly designated Subarea F, the areas that should remain under license include those areas within which:

- Groundwater exceeds license criteria
- Groundwater exceeding license criteria will be stored and treated during the groundwater remediation effort
- Licensed material which has not yet been packaged for transportation in accordance with DOT regulations will be transferred from the BA1 treatment facility to the WATF
- Contaminated media, such as treatment resins containing concentrated uranium, will be stored and/or packaged for shipment for disposal
- Confirmatory survey has not confirmed the conclusions of final status surveys demonstrating that soil does not exceed license criteria

Attachment 1 to this letter provides revisions to Figures 6-1 and 6-2, and includes a new Figure 6-3, which depicts the areas shown in Figures 6-1 and 6-2, extending the licensed area along the road over which spent resin will be transported from the BA1 treatment facility to the WATF for processing, packaging, and shipping. Attachment 2 contains proposed revisions to Section 6.3 of the DP, which requests a license amendment to redefine the licensed area as the area shown in Figures 6-1 through 6-3.

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Please call me at (405) 642-5152 or e-mail me at jlux@envpm.com if you have questions or desire clarification. Thank you.

Sincerely,

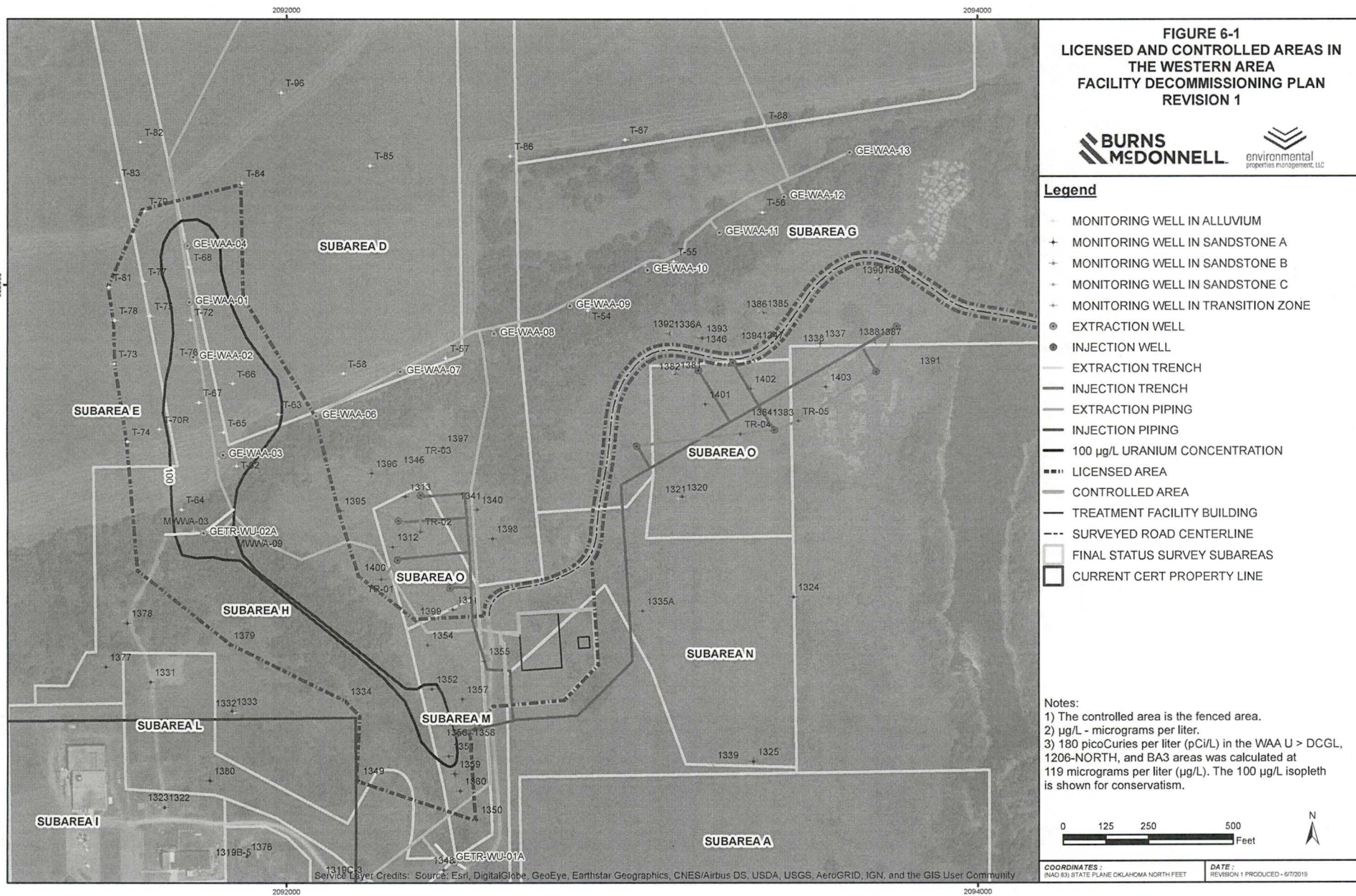
Jeff Lux, P.E.
Project Manager

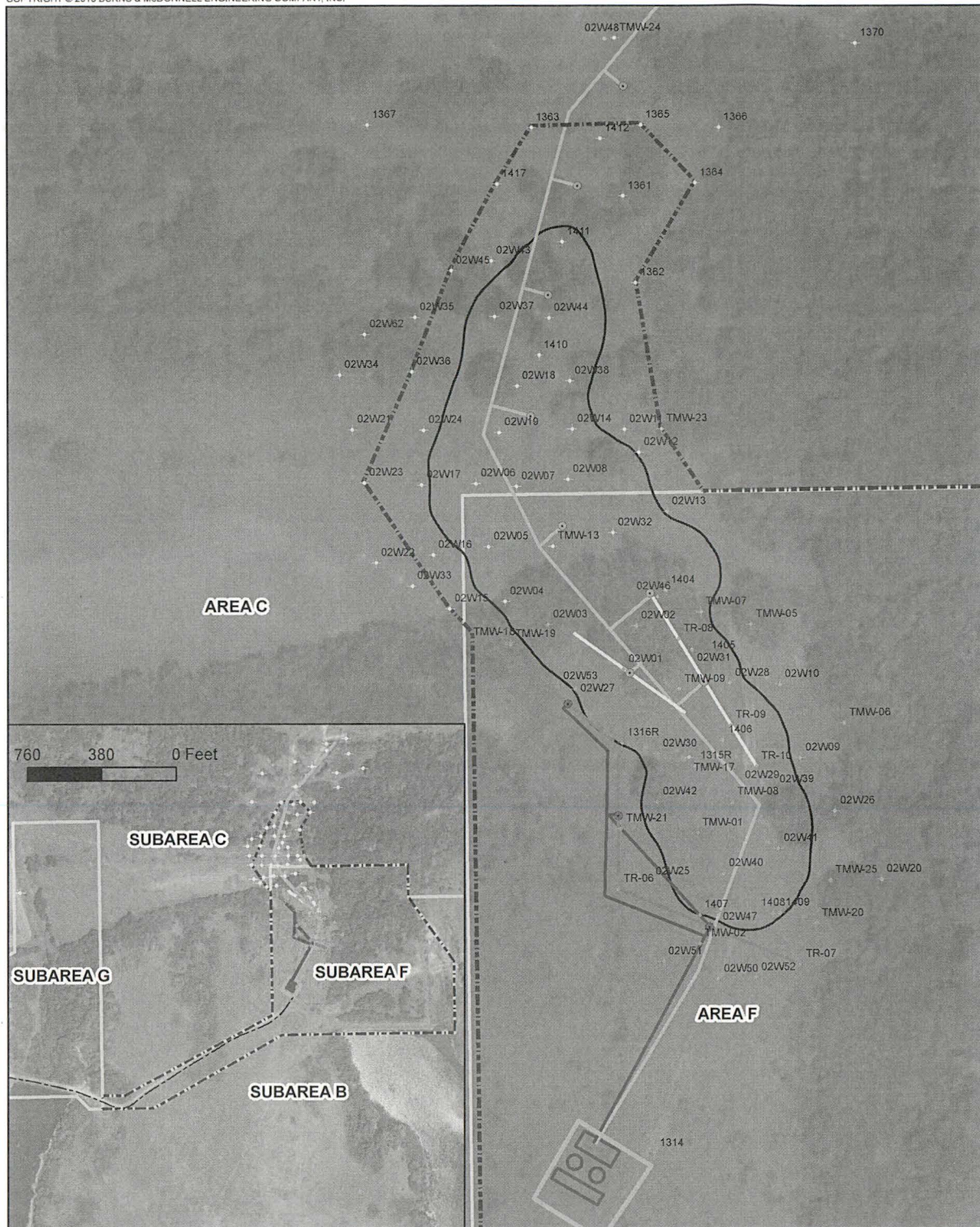
cc: Michael Broderick, DEQ Land Protection Division
NRC Public Document Room

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ATTACHMENT 1
PROPOSED REVISED FIGURES 6-1 THROUGH 6-3
FACILITY DECOMMISSIONING PLAN – REV 1





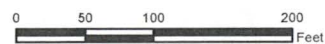
Legend

- MONITORING WELL IN ALLUVIUM
- + MONITORING WELL IN SANDSTONE B
- + MONITORING WELL IN SANDSTONE C
- + MONITORING WELL IN TRANSITION ZONE
- ⊙ EXTRACTION WELL
- ⊙ INJECTION WELL
- EXTRACTION TRENCH
- INJECTION TRENCH
- EXTRACTION PIPING
- INJECTION PIPING
- LICENSED AREA
- CONTROLLED AREA
- 180 pCi/L URANIUM ISOPLETH

- TREATMENT FACILITY CONCRETE
- SURVEYED ROAD CENTERLINE
- FINAL STATUS SURVEY SUBAREAS

Notes:

- 1) The controlled area is the fenced area.
- 2) pCi/L - picoCuries per liter.
- 3) Isopleths are drawn based on "representative" uranium concentrations, expressed in micrograms per liter (µg/L). With a conservatively estimated value of 1.3% for U-235 enrichment, the 201 µg/L isopleth represents the 180 pCi/L isopleth.



COORDINATES :
(NAD 83) STATE PLANE OKLAHOMA NORTH FEET

DATE :
REVISION 1 PRODUCED - 6/5/2019

FIGURE 6-2 LICENSED AND CONTROLLED AREAS IN BURIAL AREA #1 FACILITY DECOMMISSIONING PLAN REVISION 1

**BURNS
MCDONNELL**

environmental
properties management, LLC

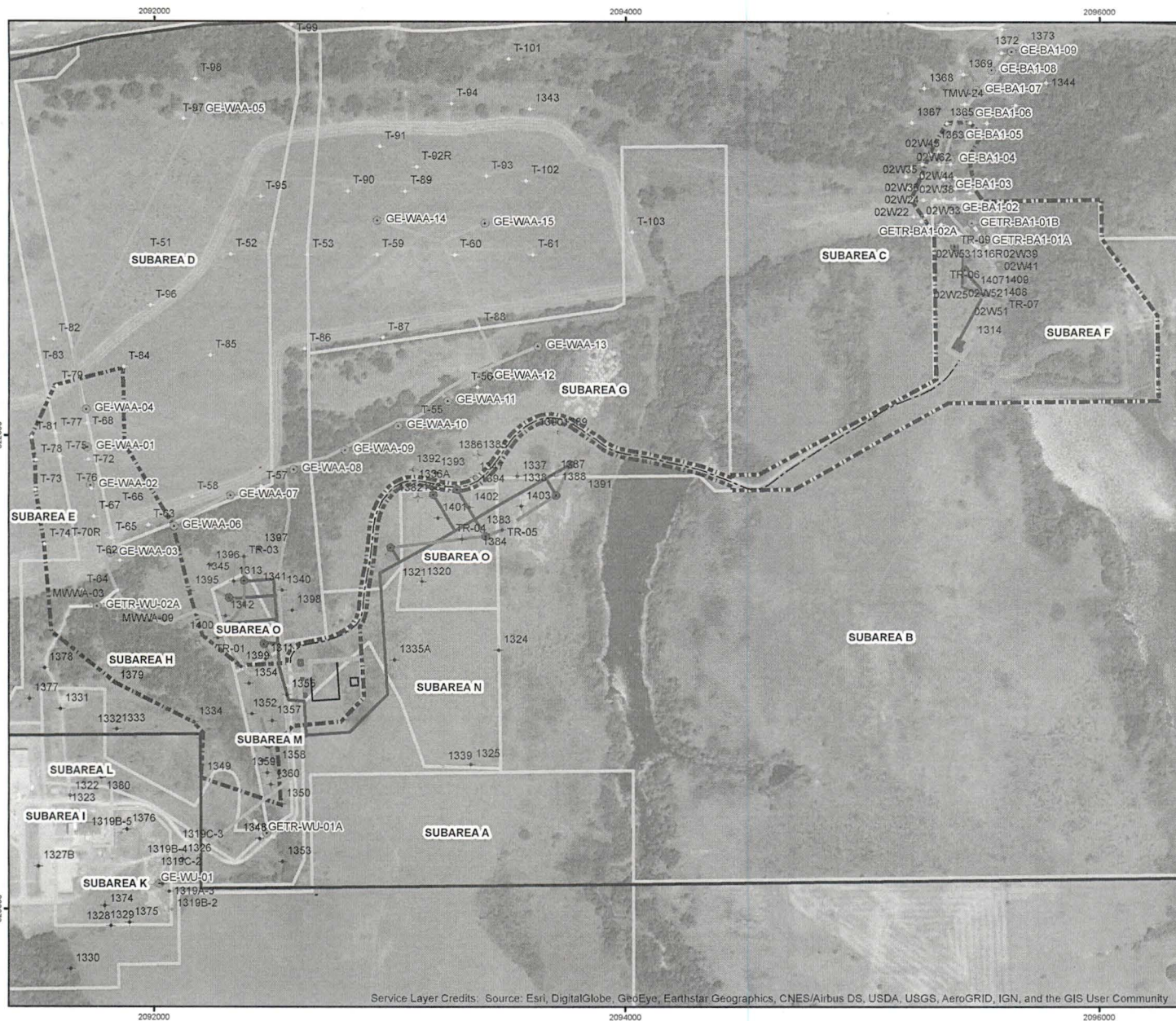


FIGURE 6-3
LICENSED AND CONTROLLED
AREAS - SITE WIDE
FACILITY DECOMMISSIONING PLAN
REVISION 1

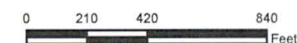


Legend

- MONITORING WELL IN ALLUVIUM
- ✦ MONITORING WELL IN SANDSTONE A
- ✦ MONITORING WELL IN SANDSTONE B
- ✦ MONITORING WELL IN SANDSTONE C
- ✦ MONITORING WELL IN TRANSITION ZONE
- ⊙ EXTRACTION WELL
- INJECTION WELL
- EXTRACTION TRENCH
- INJECTION TRENCH
- EXTRACTION PIPING
- INJECTION PIPING
- LICENSED AREA
- CONTROLLED AREA
- TREATMENT FACILITY BUILDING
- TREATMENT FACILITY CONCRETE
- SURVEYED ROAD CENTERLINE
- FINAL STATUS SURVEY SUBAREAS
- CURRENT CERT PROPERTY LINE

Notes:

- 1) The controlled area is the fenced area.



COORDINATES:
 (NAD 83) STATE PLANE OKLAHOMA NORTH FEET

DATE:
 REVISION 1 PRODUCED - 6/7/2019

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ATTACHMENT 2
PROPOSED REVISIONS TO SECTION 6.3
FACILITY DECOMMISSIONING PLAN – REV 1

6.3 License Condition 9 – Definition of the Licensed Site

NRC has released significant portions of the property owned by the Trust. The Site has been divided into sixteen Subareas, labeled Subareas A through O (two Subareas, both of which contained uranium waste ponds, were designated Subarea O). Figure 1-2 shows the locations of these Subareas.

The release of portions of the Site has been documented in License Conditions 25, 28, 29, and 30; each one states that these areas are "... no longer licensed by NRC". This release has been granted to Subareas A, B, C, D, E, H, I, J, K, L, M, and O. Two portions of the property have been demonstrated to comply with the decommissioning criteria for unrestricted use (Subareas G and N), but NRC ~~declined to~~ has not released them ~~until a decommissioning plan providing for the remediation of groundwater was submitted~~. The licensee has continued to exercise license controls over all property owned by the Trust, although NRC has stated that most of the property is no longer under license.

After most of the Site was released from the license, groundwater exceeding the release criteria for groundwater was identified in some of the Subareas that had been released for unrestricted use. Portions of Subareas C, E, F, H, and M are underlain by groundwater exceeding the release criteria for uranium. Except for Subarea F, ~~all these Subareas have~~ all been released from license.

The Subarea designations were created to address the decommissioning of buildings, soils, and waste management or disposal facilities (impoundments, lagoons, pipelines, and burial areas). Recent reports addressing the remaining aspects of site decommissioning have abandoned reference to these Subareas, since groundwater migration from historic sources extends across these artificial boundaries. There is little relationship between those areas which license SNM-928 identifies as "licensed" and "released from license" (as shown in Figure 5-2), and those areas which contain or will contain uranium exceeding decommissioning criteria.

NRC and EPM have agreed that the license must be amended so that property which contains or will contain licensed material exceeding NRC Criteria is subject to License SNM-928. The licensee will then implement license controls in those areas for which such controls are justified in accordance with ALARA principles. This part of the license amendment request identifies those areas within which:

- Groundwater exceeds license criteria for unrestricted release
- Groundwater exceeding license criteria will be stored and treated during the groundwater remediation effort;

- Licensed material which has not yet been packaged for transportation in accordance with DOT regulations will be transferred from the BA1 treatment facility to the WATF
- Contaminated media, such as treatment resins containing concentrated uranium, will be stored and/or packaged for shipment for disposal
- Confirmatory survey has not confirmed the conclusions of final status surveys demonstrating that soil does not exceed license criteria

The proposed licensed area in the western portion of the Site is shown in Figure 6-1. Figure 6-1 shows that portions of Subareas D, E, G, H, M, N, and O will be included in the proposed licensed area in the western portion of the Site. It also shows the extent of groundwater in which uranium exceeds 100 µg/L (from Figure 3-3). Because the DCGL is equivalent to approximately 119 µg/L, Figure 6-1 shows that the proposed licensed area will include all groundwater exceeding the DCGL, plus a buffer area.

The proposed licensed area in the eastern portion of the Site is shown in Figure 6-2. Figure 6-2 shows that a portion of Subarea C and all of Subarea F will be included in the proposed licensed area in the eastern portion of the Site. It also shows the extent of groundwater in which uranium exceeds the DCGL, demonstrating that the proposed licensed area will include all groundwater exceeding the DCGL, plus a buffer area.

Vessels containing spent resin will be transported from the BA1 treatment facility to the WATF along this road. Figure 6-3 depicts the entire proposed licensed area, which includes portions of Subareas C, D, E, G, H, M, N, and O. This figure shows that a "corridor" extending 5 meters from either side of the centerline of the site road has been added between the two large licensed areas. Vessels containing spent resin will be transported from the BA1 treatment facility to the WATF along this road.

EPM requests that License Conditions 25, 28, 29, and 30 be deleted, and that Item #9, "Authorized Place of Use" be amended to read, "That portion of the property owned by the Cimarron Environmental Response Trust depicted on Figures 6-1, and 6-2, and 6-3 in the NRC-approved Cimarron Facility Decommissioning Plan – Rev. 1, dated October 31, 2018."