Sweetwater Uranium Inc.

Sweetwater Uranium Project
Plan of Operations

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Prepared for:

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1.0 INTRODUCTION

Sweetwater Uranium, Inc. (SUI) is providing this plan of operations (PoO) for its Sweetwater Uranium Project located in Sweetwater County, Wyoming. This PoO describes SUIs plan to conduct in situ recovery (ISR) on lands managed by the BLM that are located adjacent to the existing Sweetwater Uranium Project. Additionally, this PoO describes the existing uranium mine and milling facilities located on deeded land owned by SUI, as well as planned ISR operations on the deeded land. These deeded lands are located within the existing Sweetwater Uranium Project permit boundary, which comprises a conventional mine permitted under the Wyoming Department of Environmental Quality, Land Quality Division (WDEQ-LQD) Permit to Mine 481 and a licensed mill authorized under WDEQ, Uranium Recovery Program (URP) License WYSUA-1350. The planned activities under the PoO are designated as the “Project”. The Project components and processes are provided in detail in the following sections. Under this PoO, SUI will only recover uranium using ISR methods. Processing and waste disposal will be completed at the currently licensed Sweetwater Mill.

This PoO has been developed in accordance with 43 CFR § 3809.401. The work associated with this PoO qualifies under 43 CFR § 3809.11, since the surface disturbance will be greater than casual use.

Contact information for SUI is provided in Table 1-1, and Map 1-1 provides an overview of the Project area along with surface ownership associated with this PoO.

Table 1-1 Operator Contact Information

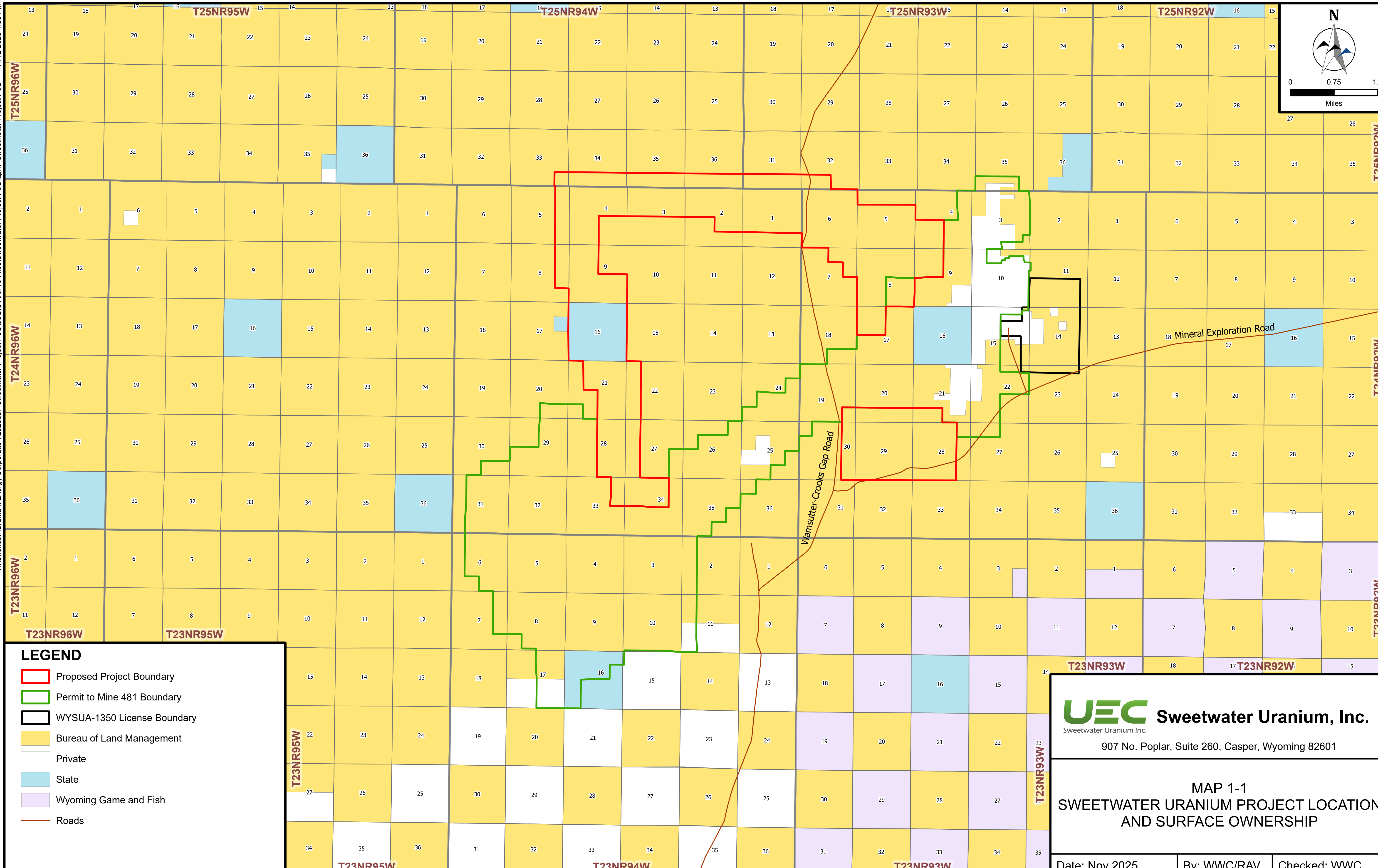
Name	Mailing Address	Affected Lode Claims
Sweetwater Uranium Inc. Contact: Donna Wichers Taxpayer ID: 52-1626615	907 N. Poplar St., Suite 260 Casper, WY 82601 (307) 234-8235	See Appendix A

The Project area is in the Great Divide Basin in Sweetwater County (Map 1-1) at latitude 42.0535 and longitude -107.8994 in decimal degrees. The Project area on lands managed by the BLM covers portions of the townships and sections listed below:

- T25N R93W – Portions of Sections 31 and 32
- T25N R94W – Portions of Sections 33 through 36
- T24N R93W – All or portions of Sections 4 through 9, 17, 19 through 21, and 28 though 30
- T24N R94W – All or portions of Sections 1 through 5, 8, 9, 16, 21, 22, 27, 28, 33, and 34

The Project area is located approximately 40 air miles northwest of Rawlins, Wyoming, and is primarily on federal (BLM) managed land, with a portion located on one section of state managed land.

SUI’s mineral holdings in the Project include one State of Wyoming uranium leases (640 acres) and 436 mining claims on federally administered minerals (8,414 acres).



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2.0 DESCRIPTION OF OPERATIONS

2.1 Overview of Proposed Operations

ISR operations at the Project will be limited to recovering mineralized uranium from the ore body. Processing will be accomplished at the licensed Sweetwater Mill. The general ISR process will be similar to those used at other uranium ISR facilities in Wyoming. The Project will require the preparation, construction, and operation of the following:

- access roads/utility corridors;
- pipelines and booster pump stations which will connect the mine units to the Sweetwater Mill;
- the mine units, which include the header houses, through which fluids are routed to/from the injection/recovery well patterns; and
- the monitor wells, including those which ring the pattern area and those in overlying and underlying aquifers.

Map 2.1-1 depicts the proposed and existing facilities and Table 2.1-1 provides the total proposed disturbance by feature and by land ownership as well as the existing disturbance associated with the existing uranium mine and milling facilities located on SUI deeded land.

Table 2.1-1. Sweetwater Uranium Project Disturbance

Disturbance Type					
Proposed Disturbance		**State**	**Deeded**	**BLM**	**Total**
Wellfields		82.4 ac	192 ac	484 ac	759 ac
Trunklines (8 ft width)	Length	*4,770 ft*	*23,648 ft*	*64,456 ft*	*92,874 ft*
	Area	0.9 ac	4.3 ac	11.8 ac	17.1 ac
Lateral Lines (4 ft width)	Length	*4,089 ft*	*7,588 ft*	*21,578 ft*	*33,255 ft*
	Area	0.4 ac	0.70 ac	2.0 ac	3.1 ac
Main Roads (14 ft width)	Length	*5,431 ft*	*23,527 ft*	*64,438 ft*	*93,396 ft*
	Area	1.7 ac	7.6 ac	20.7 ac	30.0 ac
Secondary Roads (12 ft width)	Length	*4,442 ft*	*6,393 ft*	*21,421 ft*	*32,256 ft*
	Area	1.2	1.8	5.9	8.9
MW Ring Tertiary Roads (6 ft width)	Length	*13,120 ft*	*19,249 ft*	*137,857 ft*	*170,226 ft*
	Area	1.8	2.7	19.0	23.4
Booster Pump Stations (30x40 ft/building)		0 ac	0 ac	0.11 ac	0.11 ac
Power Poles (3 ft diameter/pole)		0.006 ac	0.015 ac	0.054 ac	0.074 ac
Monitor Wells (0.1 acre/well)		0.3 ac	0.4 ac	2.8 ac	3.4 ac
Evaporation Ponds		0 ac	0a	45.0 ac	45.0 ac
Subtotal		**89 ac**	**210 ac**	**592 ac**	**890 ac**
Existing Disturbance[1]		**-**	**1,256 ac**	**-**	**-**
Total		**89 ac**	**1,466 ac**	**592 ac**	**890 ac**

[1] Existing disturbance from the existing uranium mine and milling facilities includes the pit, overburden stockpile, mill facilities, tailing facilities, and roads.

The details of the mine units, well construction, and instrumentation and control are provided in Section 2.4. The ISR process will be conducted using a mining solution (lixiviant) comprised of native groundwater with added carbon dioxide, sodium bicarbonate/carbonate and oxygen or hydrogen peroxide. The lixiviant will be pumped from the Sweetwater Mill to buried pipelines, through the header houses, where the oxygen and carbon dioxide are added to the injection wells in the operational mine unit(s). After circulation through the ore body from the injection wells to the recovery wells, the recovered lixiviant will pass through the header houses again and be pumped through buried pipelines to the ion exchange circuit installed in the Sweetwater Mill. Booster pumping stations will be installed, as necessary, along the pipeline. At the Sweetwater Mill the uranium will be removed by solid resin ion exchange. The lixiviant will then be regenerated by the addition of sodium bicarbonate and pumped back to the mine units to recover additional uranium.

The project will comply with BLM regulations (43 CFR § 3809) and Rawlins Field Office standards. Site preparation, construction, and operation of the Project will be conducted such that potential environmental effects will be minimized to the greatest extent possible. The measures that will be taken during site development and for general maintenance throughout the Project are described in Section 4.0. Groundwater restoration and surface reclamation are described in Section 3.0.

2.1.1 Description of Ore Body

Uranium deposits amenable to solution mining are generally associated with aquifers which are confined by impermeable stratigraphic units. Uranium was transported to these locations as a soluble anionic complex by the natural movement of oxygenated groundwaters. Uranium deposition occurs in areas where chemical conditions change from oxidizing to a reducing state. This condition produces a roll front deposit with uranium concentrated at the interface between the oxidized and unoxidized sandstones. This interface is commonly called the redox interface.

The uranium deposits at the Project occur mainly in the Tertiary (Eocene) Battle Spring and underlying Wasatch Formations. These formations comprise fluvial deposits of moderately to thickly bedded, medium to very coarse-grained, well to poorly sorted arkosic sandstones and conglomerates. Coal, shale and tuff beds form impermeable horizons that confine the relatively permeable sandstones which are the principal host rocks for uranium mineralization. Carbonaceous materials act as reductants that helped to promote uranium precipitation from solutions and to contribute to the formation of uranium deposits at fronts between oxidizing and reducing geochemical environments.

The redox interface is more commonly termed a roll front. The roll front is actually a zone but relative to the broad extent of the aquifer; it is quite confined. This zone is represented by a sinuous and narrow area in plan view along which the commercial uranium occurrences are found as discontinuous masses. The roll fronts are found in more than one layer of an aquifer, particularly where that aquifer is broken up by stratigraphic units (mudstones and/or siltstones) which are relatively impervious to the passage of groundwater. The roll fronts, therefore, converge and diverge causing variations in the concentrations of uranium in a given area.

The ISR amenable ore deposits in the Project area occur at depths ranging from 200 to 900 feet below ground surface (ft bgs), with average depths of 340 to 490 ft bgs. Individual sub-rolls vary in thickness from 7 to 9 ft, but are often observed to be vertically stacked upon one another in excess of 40 ft. The actual depth depends on the local topography, the dip of the formation, and the stratigraphic horizon.

2.2 Land Use

During the life of the Project, a total of approximately 635 acres of the surface could potentially be disturbed; or approximately 7 percent of the total Project area. All of the disturbances associated with the project will be temporary and will be reclaimed within months or years of disturbance. It should be noted that this disturbance acreage is for maximum potential disturbance and does not equate with acreage of vegetation or topsoil removal, which will be minimized to the extent practicable. Ultimately, all disturbed areas will be reclaimed to support the post-operational land uses of the Project area, as discussed in Section 3.

The existing land uses of the Project area are livestock grazing and wildlife habitat, with other uses such as hunting and off-highway vehicle recreation. All existing rangeland infrastructure (range improvements) will be maintained in operating condition. All fences, gates, and livestock control boundaries/features will be maintained even if livestock are absent. Gates will typically be left as they are found.

To control access and to prevent livestock damage, the mine units will be fenced as they are constructed and brought on-line. All fences will be constructed according to BLM fencing specifications. For safety reasons, hunting and other recreation will also be restricted to the extent allowable under BLM guidelines, within the Project area.

2.3 Exploration and Delineation Drilling

Exploration drilling will be carried out to locate additional, unidentified uranium resources throughout the Project. Delineation drilling will be carried out in a known ore body to delineate the extent of roll fronts and to assist with wellfield planning and monitor well installation. A systematic effort to locate all mineable mineralization will optimize the mining process and prevent resources from being stranded at the end of mining.

Exploration and delineation drilling will be conducted by truck-mounted water well-type rotary drill rigs with accompanying water trucks, pipe trailers, logging trucks and personnel vehicles. General specifications for the drill rig(s) and support vehicles are as follows:

1. Drill rigs: Truck mounted (rubber tired), mud-rotary rig; 1500 rating; GVW: approx. 60,000 lbs;
2. Water Trucks: 70-95 bbl capacity (3,000-4,000 gal) GVW: approx. 55,000 lbs (loaded);
3. Pipe Trailers: GVW: approx. 25,000 (loaded); drill rigs can typically hold enough drill pipe whereas a separate trailer may not be needed.
4. Backhoe: rubber-tired;
5. Drill crew and roustabout crew vehicles: 4x4 pickup and support trailers;
6. Logging trucks: Ford F550; and
7. Geologist(s) and drill supervisors: 4x4 pickup.

Due to the low relief of the project area and the use of a drilling rig with hydraulic leveling jacks, little or no leveling or alteration of surface topography will be required during drilling operations. Therefore, leveling for rig location pads will be rare and minor. SUI proposes to use a combination of portable mud pits and excavated mud pits depending on surface conditions. Surface disturbance will be limited to the digging of a mud-pit for each drill hole. While digging mud-pits, constructing drill pads, or any other excavation, topsoil will be stockpiled. Disturbance associated with each excavated mud pit and drill pad is estimated at 0.01 acre per site. Surface disturbance will be reclaimed as soon as possible in order to minimize the total amount of land disturbed at any given time. All mud-pits will be fenced during drilling and prior to backfilling once the drill rig has moved off. Contents of the portable mud pits will be transported to the Sweetwater Mill for disposal.

During drilling, SUI will make every effort to stay on existing two track roads. However, depending on the availability of pre-existing roads and the location of the drill sites, some overland travel is expected. The generation of new two track roads will be kept to a minimum. These roads will be reclaimed using the methods described in Section 3.3 as soon as their useful life has ended.

Drill rigs will use groundwater supplied from wells within and surrounding the Project area. Existing and proposed water supply wells for delineation and development drilling are listed in Table 2.3-1 and depicted on Map 2.3-1. Existing wells and water rights will satisfy anticipated, drilling and well completion water needs. However, proposed new wells will be needed to reduce significant water haul distances, reduce water truck travel on public roads, and increase safety and efficiency. Proposed water supply wells will be drilled within the disturbance areas associated with the wellfield installation. Drilling fluids may consist of bentonite-based muds, polymers, and inert lost circulation material as necessary. No hazardous chemicals will be used during drilling.

Table 2.3-1. Drilling Water Supply Wells

Well ID	SEO Permit #	Status	Sec	TWP	RNG	QTRQTR	North*	East*	Depth (ft)	Depth to Water (ft)
RDW-8	95601	Active	9	24N	93W	NESE	570826	2195082	450	100
Battle 1-30	222844	Active	30	24N	94W	NESW	554723	2151135	540	20
ENQ-WSW 1	TBD	Proposed	1	24N	94W	NWNW	578261	2176454	TBD	NA
REB-WSW 1	TBD	Proposed	16	24N	94W	SESE	564102	2163009	TBD	NA
A-1-WSW 1	TBD	Proposed	20	24N	93W	SESE	559389	2189630	TBD	NA

* NAD 83 (2011) WY State Plane, W Central

Exploration and uncased delineation drill holes will be sealed from total depth to the surface with approved abandonment muds or cement slurry, according to W.S. 35-11-404 and Chapter 8, Non-Coal Rules, WDEQ/LQD. All holes will be permanently marked at the surface.

2.4 Site Facilities, Layout, and Infrastructure

The approximate location of the Project within the general region is shown in Map 2.4-1. The Sweetwater Mill is located east of the Project in Section 15, Township 24 North, Range 93 West. It will include all the process circuits, the groundwater restoration facility, disposal facilities, administration offices, and shop facilities. Nine mine units will be located throughout the Project area (Map 2.1-1). Two mine units will be located on SUI's deeded surface within the Permit to Mine 481 boundary.

2.4.1 Roads

The Sweetwater Uranium Project is accessed from the U.S. Highway 287 west on Mineral Exploration Road or from I-80 north on Wamsutter Crooks Gap Road to Mineral Exploration Road. The main access road is located along Mineral Exploration Road. Map 2.4-2 depicts the road network used to access the Project.

The access roads that will be constructed are defined in LQD Guideline 4, Reference Document 1, Attachment I (WDEQ-LQD 2018). The access roads at the Project will include primary, secondary, and well access roads.

The primary access road will parallel the buried trunklines across the Project and will connect the mine units to the Sweetwater Mill. A typical schematic of the primary access road, pipeline, and powerline is provided in Figure 2.4-1. Secondary access roads will connect the primary access roads with the header house buildings and well access roads will be used to access monitor wells and wells within the wellfield. The estimated surface disturbance associated with access road installation is 45.6 acres on BLM surface.

The primary and secondary access roads will generally follow the existing topography, and well access roads will be unconstructed, two-track roads. Surface disturbing activities associated with primary and secondary access road construction include topsoil stripping and stockpiling, grading, backfill, compaction, addition of culverts if needed and the addition of gravel. SUI estimates that 2/3 of the primary access roads may be surfaced with gravel. Surface disturbance will be minimized by locating access roads, pipelines, and powerlines in common corridors and by utilizing existing roads wherever possible.

2.4.2 Mine Units

Each mine unit will consist of injection and recovery wells connected to a common header house and associated monitor wells. Construction of the mine units within the BLM surface is estimated to disturb up to 484 acres. Each header house will be designed to accommodate the well controls and distribution plumbing for approximately 30 recovery wells and the associated injection wells (usually about 50 injection wells). Typically, one to four mine units may be in production at any one time with additional mine units in various stages of development and/or restoration.

Surface disturbing activities associated with mine unit construction will include topsoil stripping as necessary for construction of header house access roads, excavating mud pits, trenching for pipelines and buried electrical utilities, and excavating foundations for header house buildings.

This land use will temporarily change during construction, however, mud pits, well pad access roads, and pipelines will be restored and re-seeded at the end of construction.

2.4.3 Pipelines

Pipelines will include trunklines carrying barren lixiviant, recovery solutions, and groundwater restoration solutions between the Sweetwater Mill to lateral pipelines which connect to the header house recovery and injection manifolds. The injection manifolds distribute the barren lixiviant through individual pipelines to the injection wells. The recovery manifold collects the flow from the individual recovery well pipelines. The disturbance area associated with individual well flow lines has been included in the estimated wellfield disturbance area. Disturbance areas associated with trunklines, lateral lines and the access road disturbance areas not included in the wellfield disturbance areas have all been calculated separately. The total estimated disturbance area resulting from trunk lines and lateral pipelines that are not in wellfield areas is approximately 13.8 acres on BLM surface.

A typical schematic of the primary access road, pipeline, and powerline is provided in Figure 2.4-1. Surface disturbing activities associated with pipeline construction will include topsoil stripping, trenching, backfill, topsoil replacement, and reseeding. Pipeline corridors will be restored and re-seeded, typically within the same construction season, and changes in land use will be accordingly brief. Potential changes in land use are small and similar to those described previously for wellfield construction, but the potential impacts will be smaller due to a smaller disturbance area and lack of fences associated with pipeline construction. Surface disturbance will be minimized by locating pipelines in common corridors with access roads and utilities where possible.

2.4.4 Booster Pump Stations

SUI plans to construct approximately four booster pump stations. The booster pump stations will provide the pressure necessary to transport wellfield solutions to the Sweetwater Mill.

2.4.5 Utilities

Utilities that are anticipated to be installed include overhead electrical lines supplying electrical power from a nearby transmission line to the header houses and booster pump stations and buried electrical lines providing power within wellfield areas. A typical schematic of the primary access road, pipeline, and powerline is provided in Figure 2.4-1. Potential changes and disruptions to existing land uses will be temporary, since areas disturbed during utility installation will be restored and re-seeded, typically within a single construction season.

2.4.6 Chemical Storage Facilities

The only chemical that will be stored within the Project area is oxygen. Other hazardous and non-hazardous materials will be stored at the Sweetwater Mill.

Oxygen

Oxygen will be stored within wellfield areas, where it is centrally located for addition to the injection stream in each header house. Since oxygen readily supports combustion, fire and explosion are the principal hazards that must be controlled. The oxygen storage system will consist of up to three 15,000-gallon bulk vertical liquid oxygen pressure vessels. The tank will be supplied and maintained by the liquid oxygen supplier. All oxygen deliveries and tank fillings will be performed by the tank supplier. The storage facility is designed to meet industry standards in NFPA-50.

2.5 Wellfield/Mine Unit Design, Construction, and Operation

2.5.1 Wellfield Design

2.5.1.1 Pattern Types

After the wellfield has been defined through delineation drilling, development holes are drilled perpendicular to the strike of mineralization. Ore grade and thickness are determined by gamma logging. Data from the development holes is then evaluated to determine minable areas. Development holes are then completed as either injection or recovery wells. Any sub-economic grade holes are sealed with abandonment mud or cement slurry.

Mine units consist of groups of well patterns installed to correspond to the geometry of the orebody. Well patterns include five-spot patterns, alternating line drives and staggered line drives depending on the size and shape of the deposit. The tendency of the roll fronts to change direction abruptly typically results in irregularity of the pattern shapes.

A single five-spot pattern is roughly rectangular and consists of four injection wells surrounding one center recovery well. Spacing between the corner injection wells is typically 100 feet although it ranges from 50 to 150 feet depending upon the topography and ore characteristics.

Alternating line drives are used in areas where very narrow portions of the roll fronts occur. An alternating line drive is simply a line of wells spaced along the strike of the ore. One well will be an injector, the next a recovery well, the next an injector, etc. The well function may be reversed or changed at appropriate times to improve mining or restoration efficiency. A staggered line drive is used where a roll front is too wide for an alternating line drive. Essentially, the injection wells are on one side of the roll front, and midway between them, on the opposite side of the front, are the recovery wells. Well functions are reversed at appropriate times.

The typical five-spot pattern, alternating and staggered line drive patterns and examples of their corresponding flow lines are shown in Figure 2.5-1.

2.5.1.2 Monitor Wells

After delineation of the mine unit boundaries, monitor wells are installed around the perimeter of the well pattern areas to detect any horizontal migrations of injection solutions, or excursions, during operations. The monitor wells will be screened in the same production horizon as the injection and recovery wells to monitor for potential excursions of lixiviant. Monitor wells are typically located at a distance of 400 to 500 feet from the edge of the well pattern areas and spaced 500 feet apart. As more detailed hydrologic studies are conducted, the monitor well spacing may be refined to better detect excursions.

Monitor wells are also installed within the mine unit boundaries to monitor for potential excursions to the aquifers overlying and underlying the host ore aquifer. Shallow monitor wells are completed in the first continuous overlying aquifer above the ore aquifer that exhibits at least 10 feet of thickness and a permeability that will allow the production of enough water for sampling. Deep monitor wells are completed in the first continuous underlying aquifer that exhibits at least 10 feet of thickness and a permeability that will allow the production of enough water for sampling. If there is no appropriate aquifer to monitor below 50 feet of the top of the confining shale underlying the production zone, deep monitor wells will not be installed. One shallow and one deep monitor well will be installed within the mine unit boundaries for each four (4) acres of installed pattern area, where an appropriate monitor zone exists.

Although not anticipated, if areas within any proposed mine units are encountered which exhibit very thin or absent confining layers, the company will evaluate the situation and may adjust the monitoring program accordingly. These adjustments could include the expansion of perimeter monitor well completion intervals to detect movement of lixiviant into areas not bounded by a confining layer (if the layer within the wellfield pinches out, for example) or the placement of overlying/underlying monitor wells in different stratigraphic horizons within the same wellfield. Additional operational controls may be instituted in the absence of a confining layer such as increased rates of over-recovery or decreased injection pressures.

In support of the approval to inject by WDEQ/LQD, SUI will perform mine unit scale aquifer testing. These tests are designed to do the following: 1) Demonstrate that all of the perimeter monitor wells are in communication with the uranium-bearing production zone, 2) Demonstrate that the overlying and underlying confining shales prevent the vertical movement of mining solutions to vertically adjacent aquifers, and 3) Confirm hydraulic characteristics of the production zone. In addition to aquifer testing, the mine unit scale geologic work entails increasing the resolution through interpretation of additional drilling of the overlying aquifer thickness, overlying confining shale thickness, uranium bearing production zone thickness, underlying confining shale thickness and underlying aquifer. These data are provided through multiple geologic cross section, isopachs of thickness and structural contour maps if necessary. The results of this aquifer testing, higher-resolution geologic evaluation and other mine unit specific measurements are provided to WDEQ/LQD through the wellfield data package process. Injection can only occur with approval from WDEQ/LQD of the wellfield data package for each specific mine unit.

2.5.2 Well Construction and Completion Techniques

2.5.2.1 Well Completion Techniques

The vertical confinement of injected fluids underground is controlled by the integrity of the overlying and underlying confining layers, the vertical permeability of the ore-bearing sands, operational controls, and the integrity of wells themselves. Descriptions of the well completion methods for recovery, injection and monitor wells are given below.

Injection and recovery wells are drilled and completed to similar specifications. This allows for alternating the well function as necessary to improve mining or restoration efficiency. The completed interval in the injection and recovery wells is limited either to the intercepted mineralized zones or to the uppermost and lowermost depths of the ore in adjacent injection wells. An example of a uranium roll front deposit showing the typical completion intervals of injection and recovery wells is provided as Figure 2.5-2.

Wells are typically drilled with a mud rotary drill or similar technology. A nominal 5” to 6.5” diameter pilot hole is first drilled from the surface through the ore zone and then logged with geophysical borehole logging equipment to provide a gamma ray log, resistivity log and self-potential log. If sufficient mineralization is not encountered to warrant well completion, the hole is plugged with cement slurry or abandonment gel and bentonite chips over its entire depth. If abandonment muds and bentonite chips are used, the hole is then capped with either a poured concrete plug at the top, terminating approximately two feet below the surface, or by placing a tapered cement cone at about the same depth. Each hole is then marked at the surface for identification.

If the hole meets the economic criteria, it is completed as a well by reaming to an approximate diameter of 8 3/4” to 10” (depending on casing size) prior to casing installation. Injection and recovery wells are cased with nominal outside diameter of 5” SDR 17 polyvinylchloride (PVC) pipe or equivalent materials. Past operational experience and numerous mechanical integrity tests at other SUI projects have demonstrated the compatibility between the PVC casing and injection fluids, formation fluids, process by-products, recovery fluids, and interlocking casing.

The well casing is emplaced with PVC centralizers on the top and bottom casing sections and with additional centralizers uniformly spaced at maximum 40' intervals to keep the casing away from the side walls. Although the bottom of the casing can be left open for cementing, the more common practice is to attach a cap on the bottom joint of casing and drill 3/4" diameter weep holes a few inches above the cap.

Cementing is done with a drill rig or cementing unit. A calculated volume of neat mixture of sulfate resistant cement is first pumped down the casing. It can be mixed with a pozzolan additive (with up to 4% bentonite). The cement has a weight of up to approximately 15 lbs. per gallon to provide sufficient fluidity to fill the annular space. The cement slurry is then forced up the casing annulus between the casing and the borehole wall by a calculated amount of displacement water. A wiper plug may be used between the cement and the displacement water. When cement return is observed at the surface, the well is shut in to allow setting and curing (approximately 24 hours). Depending on conditions, additives may be used to hasten or extend cement setting time. Additional cement is then added to the well annular space at the surface to top off any void areas caused by the cement settling during curing.

After the cement has cured, the mineralized intervals of the well are made accessible to leaching solutions by drilling through the bottom cement plug and underreaming through the casing and cement (case through zone). The casing may be set at the top of the ore zone in which case the cement plug will be drilled out and the ore zone interval will be underreamed below the casing point. Figures 2.5-3 and 2.5-4 show the two well construction methods which will be utilized. The drilling, logging, casing and cementing functions are essentially the same for all methods.

Underreaming is accomplished with a specialized tool utilizing retractable blades which is lowered downhole to the desired interval with the drill rig. The underreamer blades are activated with hydraulic pressure from the drilling rig pump and are held open by the weight of the drill string. The underreamer blades cut away the casing, cement and borehole wall to expose the mineralized part of the aquifer at the desired interval. When the pump pressure is released and the tool is withdrawn, the blades fold inward and remain in the collapsed position for the trip out of the well. The underreamed intervals are screened and/or gravel-packed if the formation is too poorly cemented or compacted to remain in place without support.

Monitor wells are similarly constructed (Figures 2.5-3 and 2.5-4). If it becomes necessary to sample multiple horizons in a monitor well, the conventional casing, cementing and underreaming of intervals as described for injection and recovery wells are employed. The intervals selected for completion will correlate stratigraphically with injection-recovery intervals and may be isolated with packers for sampling of the appropriate groundwaters.

After a well is drilled and underreamed or completed "open hole", it is developed by either air flushing or pumping with a submersible pump. Other well cleaning techniques include injection of polyphosphates in aqueous solution. Polyphosphates disperse clays and permit their removal by swabbing and/or air flushing. If chemical precipitates such as calcite are plugging the aquifers the injection of acids (typically hydrochloric acid) or additives such as CO_2 gas, which reacts with water to form carbonic acid, may be required to solubilize the precipitates. These solutions are then washed from the formation by air flushing or swabbing or both.

As part of injection well maintenance, wells may be swabbed. Swabbing consists of the rapid raising and lowering of a tight fitting swab (similar to a hole wiper plug or a series of wiper plugs) within the casing with a pulling unit (Smeal) or drill rig. The vacuum created causes a very rapid inflow of water through the water-bearing open intervals. This inflow washes clay particles and other interstitial debris from the permeable strata, thereby promoting flow rates. Usually, this step is followed by air flushing to remove any remaining particles from the well.

2.5.2.2 Well Mechanical Integrity Testing

All cased wells will be tested for integrity after installation. Wells will also be retested for integrity after undergoing any physical alteration from underreaming or after any workover operation wherein the casing could be damaged. The integrity of injection and recovery wells will be routinely tested on a schedule of once every five years.

The mechanical integrity testing (MIT) procedure involves pressure testing of the well casing. The procedure is to set two inflated packers, one at the top of the interval being tested and one at the bottom, to seal the casing. A steel cable on a winch is used to connect the packer assemblies and run them into and out of the hole. High pressure nylon tubing is simultaneously extended and recovered on a reel. Nitrogen gas fed through the tubing inflates the packers after they are properly positioned. Prior to packer inflation, the casing is filled with water. An accumulator with an internal rubber bladder is used in combination with nitrogen tank to pressurize the water between the packers to the maximum operating pressure plus a 20% engineering safety factor.

Each well casing to be utilized for injection or recovery purposes is required to maintain the maximum operating pressure plus 20% for a ten-minute period. If the measured pressure loss during the first ten minutes after pressurization is greater than 10% of the test pressure, the well is deemed suspect and must be retested. If, after successive attempts to reseat the packers the well leakage is still greater than 10% of the test pressure, the well is deemed incompetent. Incompetent wells needed for operational purposes will be repaired if possible or replaced and pass an integrity test before being placed into service. Integrity test records for all wells will be kept on file. Repairs may be accomplished for injection wells by inserting drop pipe (rated for at least 200 psi) into the failed casing to a depth below the casing failure and into the host mining zone. K packers, or other suitable packers, will be attached to the bottom of the drop pipe to seal water from entering the failed section of well casing. The void between the drop pipe and the original casing will be sealed with cement and/or bentonite. The drop pipe will then undergo an integrity test before being placed into service. If a well casing does not meet the MIT criteria, the well will be taken out of service and the casing may be repaired and the well re-tested. If this is not done the well will be plugged and abandoned in accordance with WDEQ regulations and guidelines.

The maximum operating pressure and MIT pressure will be calculated for each header house due to the variable depth of production sands across the project. The following equation will be used to determine maximum injection pressure:

$$\text{Maximum Injection Pressure} = Sf * De * (FFP - Vg)$$

Where:

Sf = safety factor

De= depth of screen in feet

FFP= Formation Fracture Pressure

Vg =vertical pressure gradient of water;

Injection pressures will be calculated as part of the detailed Wellfield Data Package submitted for each mine unit.

In addition to the initial testing after well construction, an MIT will be conducted on any well after any repair where a downhole drill bit or underreaming tool is used. Any production well with evidence of suspected subsurface damage will require a new MIT prior to the well being returned to service. In accordance with WDEQ requirements, MITs will be repeated once every five years for all recovery and injection wells.

The MIT of a well will be documented to include the well designation, date of the test, test duration, beginning and ending pressures, and the signature of the individual responsible for conducting the test. Results of the MITs are maintained on site and are available for inspection. In accordance with WDEQ requirements, the results of MITs are reported to the WDEQ on a quarterly basis.

2.5.2.3 Abandoned Exploration Drill Holes

Approximately 3,500 exploration holes were drilled within the proposed ISR area during the period of 1967 through 2014. Prior to commencement of mining, exploration holes which are within proposed mine unit boundaries, and which intersect the mineralized zones that will be mined, will be relocated, to the extent possible, and resealed from total depth to the surface with approved abandonment muds or cement slurry, according to W.S. 35- 11-404. All holes will be marked at the surface for future recognition. Any future drill holes completed but not developed for operational purposes will be sealed from total depth to the surface with approved abandonment muds or cement slurry, according to W.S. 35-11-404 and Section 10 of Chapter 11, Non-Coal Rules, WDEQ/LQD.

2.5.3 Wellfield Operations

2.5.3.1 Lixiviant Composition

The lixiviant is the mining solution which is used to solubilize the uranium from the ore deposit. The lixiviant composition is designed to reverse the natural geochemical conditions which led to the uranium deposition. After injection into the mineralized zone, the solution is pumped to the surface by recovery wells for uranium extraction. Following the removal of uranium, the groundwater is refortified with lixiviant and reinjected into the mineralized zone. This cycle continues until mining is complete.

The lixiviant used during operations consists of native groundwater augmented with either sodium bicarbonate/carbonate or carbon dioxide gas (contributes a carbonate complex), and gaseous oxygen or hydrogen peroxide as the oxidant. Carbon dioxide gas will also be added for pH control, and as an additional source of carbonate during the use of sodium bicarbonate. The sodium bicarbonate is made up on a batch basis and added continuously to the injection stream as part of the lixiviant.

Typical concentrations of chemical constituents in the lixiviant are given below:

Bicarbonate	400 to 5,000 mg/l
Oxygen	200 to 500 mg/l
Sodium	400 to 6,000 mg/l
pH	5.0 to 9.0 units

2.5.3.2 Anticipated Geochemical Reactions

The major geochemical reactions which occur during the mining operation are the oxidation and mobilization of the uranium ore. Oxidation is accomplished through the introduction of gaseous oxygen or hydrogen peroxide with the lixiviant-fortified injection stream. Once the uranium has been oxidized, the complexing agent in the lixiviant (bicarbonate) aids in the mobilization of the uranium. The uranium is then recovered from the solution in the ion exchange process of the mill facility.

2.5.3.3 Mine Unit/Wellfield Piping, Instrumentation, and Operation

In the mine unit, the uranium-laden solution will be pumped from the recovery wells to the uranium-extraction circuit. Following uranium extraction from the uranium loaded mining solution, the barren solution will be refortified and returned to the ore zone through the injection wells. A pressure controller will be located downstream from the injection pumps to maintain injection pressures at allowable levels.

Injection solution will be sent to the wellfield via pumps located at the ion exchange circuit located at the mill. Flows from recovery wells will be pumped to the Sweetwater Mill by individual submersible pumps. Booster pumping stations will be installed in the wellfield trunklines where necessary. Within each mine unit, groups of approximately 30 recovery wells and 50 injection wells will be piped individually with one inch to two-inch polyethylene pipe into a header house. The capacity of each header house typically ranges from 300 to 900 gpm.

Inside the header house, each individual well will have a flow meter, a pressure gauge, and a manual valve to control the flow rate. The recovery wells will be manifolded together on one side of the building and the injection wells are manifolded together on the opposite side. Flow meters giving both rate and totalizer readings will be located on the manifolds to record the combined recovery and injection flow. The header house injection and recovery feeder lines will be buried and connected to the main trunklines which will deliver the solution to and from the Sweetwater Mill. It is possible to isolate each header house from the main trunkline by closing a valve.

The recovery and injection flow meters will connect via signal wires to remote collection devices. The instantaneous and totalized flow information will be entered directly into a computer database for flow balancing. Remote transmitting units are used to transmit the data to a centralized location. The computer system will also be used to flag abnormal flow values which could be indicative of a leak in the trunkline, or a problem with an individual well. Any irregularities will initiate inspection of the trunklines, feeder lines, or individual wells. Upon identification of a leak, relevant operations are curtailed until a repair is completed. A significant spill (>420 gallons if not into a draw or drainage) associated with a line leak of injection or recovery solution will be documented regarding date of spill, nature and estimated quantity of lost fluid, soil sample results (if taken), results of any post remediation surveys (if taken) and posting on a map showing the spill location and impacted area. Any free-standing fluid will be contained and retrieved when feasible for proper disposal. Contaminated soils will be excavated for proper disposal. The above documentation/steps are taken regarding a spill of any quantity of injection or recovery solution that enters a draw or drainage, or regarding a spill of any quantity of a solution other than recovery or injection solution.

The materials of construction for the pipelines will be PVC, HDPE, or steel. Individual well piping in the header house is typically two- to three-inch high-quality rubber. Wellfield pipelines will be buried a minimum of 18 inches below ground surface to inhibit freezing. Although this is well above the freeze depth, the solutions will be circulated constantly thus preventing freeze-up. The piping may also be insulated prior to burial. In the event of a power failure, auxiliary power will be available, or carbon dioxide will be used to clear the pipelines. The shallow burial of the pipelines is for easier placement and removal either for repair or final reclamation. Pipelines will be pressure tested for leakage prior to final burial.

2.5.3.4 Wellfield Balance and Injection Pressures

Flow rates from individual recovery wells typically range from less than 5 gpm to 40 gpm. Injection flow rates are maintained at a balanced level somewhat lower than the recovery flow rates. An overall solution bleed from the total recovery flow will be taken in the extraction plant prior to injection. The average bleed will range from 0.5% to 1.5% of the overall flow rate, with an approximate average of 1%; therefore, the injection flows are always approximately 1% lower than the recovery flows. The average 1% bleed should maintain a net inflow of native groundwater to the production zone thus controlling any potential migration of lixiviant outside of the wellfield.

Injection pressures will be maintained well below formation fracture pressure. As discussed above, the maximum injection pressures will be calculated on a wellfield-by-wellfield basis in the Wellfield Data Package for each mine unit.

On occasion, operational pressures in excess of the maximum occur as a result of routine maintenance activities such as filter changes, startup or shutdown procedures, etc., or from power surges. These very short-term pressure increases are unavoidable, but do not occur for any length of time that could cause damage to the formation or components of the system.

2.5.3.5 Wellfield Maintenance

Each injection and recovery well will be protected by a fiberglass or plastic well box installed over each well. Each well box will be clearly marked for ease of well identification. Access will be possible to each well site to facilitate routine well maintenance or monitoring, including potential re-entry to a well by a drill rig. Wellfields may be periodically mowed as necessary to control vegetation growth and minimize wildfire risk.

Preventive measures to minimize the introduction and spread of noxious and invasive weed species will be included in the Weed Management Plan. These measures may include the use of weed wash stations, cleaning equipment prior to entering the site, use of certified weed-free materials, and pre-construction treatment of existing weed infestations within the proposed project area.

If any significant stands of noxious weeds are noted, they will be controlled by either physical or chemical means, as outlined in the Weed Management Plan and Pesticide Use Proposal (see Section 6.6), to limit the spread of undesirable and invasive non-native species in disturbed areas.

2.6 Uranium Recovery

Uranium recovery will take place at the Sweetwater Mill and will consist of ion exchange (IX) uranium extraction, elution, precipitation, yellowcake dewatering and drying.

The Sweetwater Mill was constructed in 1979 and 1980 to process ore from the adjacent open pit from February 1981 through April 1983. The mill has been on standby since that time. The mill is currently equipped with precipitation, yellowcake dewatering and drying circuits. UEC proposes to complete upgrades to the mill including the addition of IX columns, an elution circuit and other upgrades to prepare the mill for resumed operations (i.e., lighting, etc.)

The IX resin circuit will consist of ten resin filled IX vessels where flow from the wellfields will enter. After the resin in an IX vessel is fully loaded with uranium, it will be transferred to the elution circuit where brine solutions will strip the uranium off the IX resin. The uranium laden solution that will flow out of the resin elution circuit will be fed directly into the mill precipitation and drying circuit described above.

The yellowcake will be stored at the Sweetwater Mill and shipped to a conversion facility.

2.7 Water Management Plan

In addition to evaluating the operation of each mine unit individually, the overall water balance and water level changes will be taken into account to ensure all aspects of the operation (e.g., ISR and restoration) are being conducted as efficiently as possible. The overall water balance is based on the potential pumping and injection rates at the mine units and the capacity of the Sweetwater Mill and wells for production and for restoration. The water level changes, including both drawdown and mounding from production and injection, respectively, will be evaluated to minimize interference among the mine units and to determine cumulative drawdown.

2.7.1 Water Balance

Uranium recovery at the Project will consist of three operational phases, which include a production-only phase, a concurrent production and groundwater restoration phase, and a groundwater-restoration-only phase.

The production-only phase is defined as the time period in which only Mine Units recovering uranium are online. This time period will be during the first one to four years of the project. A water balance flow chart for the production only phase is included as Figure 2.7-1. The water balance represents the maximum recovery flow rate of 7,500 gpm through the IX columns with an average bleed rate of one percent and the required wastewater capacity.

Years three and four are represented since year three is when the recovery rate is expected to reach 7,500 gpm. During the initial stages of development of the Project, flow rates will be lower, building up to a maximum flow rate of 7,500 gpm over time.

During the production only phase of operations, pregnant lixiviant will flow through pressurized, down-flow IX columns. A portion of the barren lixiviant will be transferred as a slip stream to a reverse osmosis (RO) unit. The present conceptual design calls for a nominal 250 gpm RO unit to be fed from the barren lixiviant stream. The RO unit will be equipped to produce alternate flow rates for permeate and brine streams as conditions warrant. In this case, the RO will produce 75 gpm of brine which will be the one percent bleed stream from the production circuit. The permeate flow stream will be used to makeup sodium bicarbonate, which will be split between the injection flow stream and process make-up water as shown in Figure 2.7-1. Brine from the RO unit as well as process circuit wastewater will be sent to the wastewater tanks from which the wastewater will be pumped to the Tailings Storage Facility (TSF) and/or proposed evaporation ponds discussed in Section 2.7.2.

The concurrent production and groundwater restoration phase will occur when mine units begin groundwater restoration while other mine units continue to extract uranium. A water balance flow chart for the concurrent production and groundwater restoration phase is shown in Figure 2.7-2. The production flow reflects the maximum recovery flow rate of 7,500 gpm and average bleed rate of one percent. The only groundwater restoration activities that will generate a wastewater stream are groundwater sweep and groundwater treatment by RO units. In this phase, the production only water balance flow chart remains unchanged. However, restoration pressurized down-flow IX columns, primary restoration RO units and a secondary set of RO units will be utilized as depicted in Figure 2.7-2.

The primary restoration RO units will be designed for a flow rate of 1,000 gpm taken from the wellfields in groundwater restoration. SUI will utilize targeted groundwater sweep at about 20 gpm from wellfields during groundwater restoration. Flows will be combined and will flow through the restoration IX columns. Upon exiting the IX columns, 1,000 gpm will be used to feed the restoration RO units, while the remaining 20 gpm will be combined with the waste stream from the production circuit to feed the secondary set of RO units.

Brine from the primary restoration RO units will also be added to the wastewater stream that will feed the secondary RO units. All permeate generated by the restoration and secondary RO units will be injected into the wellfields undergoing groundwater treatment. By combining the two permeate streams, the percentage bleed from the wellfields in restoration will be reduced to less than 10 percent. This is a major step in controlling groundwater migration within the mining zones during this phase of operations. All brine produced from the secondary RO units will be pumped to the TSF and evaporation ponds via wastewater tanks. Permeate and brine flow rates from the restoration RO units will be able to be reset as operating conditions warrant.

The groundwater restoration phase will take place only when all mine units have been depleted and only groundwater restoration activities are occurring. This phase signals the end of the production phase. A water balance flow chart for the groundwater restoration phase is shown in Figure 2.7-3.

As shown in Figure 2.7-3 during this phase of operations, the production circuit will be shut in therefore only the process circuit and wellfield operations, restoration IX columns, primary restoration RO units and the secondary set of RO units are included in the flow chart. Similar to the concurrent production and groundwater restoration phase, the groundwater restoration flow rate will include 1,000 gpm from wellfields in the groundwater treatment stage, as well as about 20 gpm from the targeted groundwater sweep stage.

The flows will be combined and will flow through the restoration IX columns. Upon exiting the pressurized, down-flow IX columns, 1,000 gpm will be used to feed the primary restoration RO units, while the remaining 20 gpm will be combined with the brine from the restoration RO units and process circuit wastewater to feed the secondary RO units.

All the permeate generated by the restoration and secondary RO units will be injected into the wellfields undergoing groundwater treatment. During this phase of operations, SUI expects the process wastewater to decrease due to the lower number of elutions and uranium precipitation due to a significant decrease in the pounds of uranium recovered.

Table 2.7-1 provides a water balance for the project, including the recovery flow rates and wastewater volumes for each phase as well as the available wastewater disposal capacity provided by the current TSF and four proposed evaporation ponds.

2.7.2 Wastewater Management

In addition to the existing TSF, SUI plans to construct four new evaporation ponds to accommodate the additional evaporative wastewater capacity needed for ISR operations. Radioactive Materials License WYSUA-1350 Condition 10.3 states that SUI is "currently authorized to construct up to eight evaporation ponds and one new impoundment." SUI will not construct a new Tailings Storage Facility for the Project and does not at this time anticipate the need for more than four evaporation ponds.

The State Engineer's Office approved the plans for the evaporation ponds through Permit 10672 Res (Blue No. 14 evaporation ponds) in April 1998. This permit is actually for the construction of ten ponds and was recently renewed through December 2030. The surface area of each pond will cover 10 acres and are split into two categories: Deep and Shallow. The ponds will be located south of the southeast corner of the TSF. An existing road south of the TSF will provide access to the ponds so no new disturbance will be needed for an access road. The estimated surface disturbance area for the four evaporation ponds is 45 acres.

License Condition 10.3 further states "The licensee shall construct and operate the proposed tailings impoundment, liner system, evaporation ponds, and tailings disposal system in compliance with Volumes III, IV, and VII of the Final Design application submitted by cover dated June 11, July 23, and September 18, 1997, including page changes submitted April 13, June 10, July 1, and July 20, 1998, and March 25, and June 21, 1999."

SUI is providing summation of the construction details of the evaporation ponds as outlined in Volume VII of the Final Design, in the following section.

Table 2.7-1. Sweetwater ISR Project Water Balance

Annual Recovery Rate (gpm)	1% Wellfield Bleed (gpm)	Process Circuit Wastewater (gpm)	Primary Restoration RO Bleed (gpm)	Targeted Groundwater Sweep (gpm)	Wastewater (gpm)	Wastewater (gals/yr)	Disposal Capacity (gals/yr)
2,400	24	4	0	0	28	14,716,800	27,331,200
4,800	48	7	0	0	55	28,908,000	39,772,757
7,500	75	10	0	0	85	44,676,000	52,214,314
7,500	75	10	23	20	128	67,276,800	77,097,429
5,400	54	8	36	20	118	62,020,800	77,097,429
3,000	30	4	53	20	107	56,239,200	77,097,429
600	6	1	68	20	95	49,932,000	77,097,429
0	0	1	72	20	93	48,880,800	77,097,429

2.7.2.1 Evaporation Pond Design

2.7.2.1.1 Freeboard Capacity

Freeboard capacity was added to the pond design to accommodate wave action and extreme wet conditions. For extreme wet conditions, the ponds must have the ability to store, above the operation capacity, approximately one foot (10.8 inches) of direct precipitation from the Probable Maximum Precipitation (PMP) event. The ponds must also accommodate wave action of approximately 1.9 feet. Thus, a freeboard of three feet is required for each pond.

Based on the three feet of freeboard and the slope of the interior embankment of 2.5H:1V, the area of evaporation for the ponds will be 9.55 acres. With a calculated evaporation rate of 47.97 in/yr, measured from 1984 through 1996, the annual evaporation rate from each pond is calculated to be 12,441,557 gallons/year.

2.7.2.1.2 Evaporation Pond Embankments

The structural fill used to construct the evaporation pond embankments shall consist of material excavated from within the limits of the evaporation ponds or borrow areas outside the perimeter of the tailings impoundment. A 6-inch nominal layer of liner bedding sand shall be placed on all interior slopes prior to installation of the liner system.

The interior height of embankments ranges from 3 to 14 feet. Exterior height of embankments ranges from 2 to 18 feet. All interior and exterior slopes will be 2.5H:1V. Embankment crest widths will be 20 feet, which will provide adequate width for a key trench for liner materials and will allow vehicle access.

2.7.2.1.3. Liner System Configuration

The evaporation pond liner system will consist of upper and lower synthetic liners with a leak detection and recovery system in between. Both synthetic liners shall consist of 60-mil smooth HDPE flexible membrane liner (FML). HDPE was chosen for its chemical resistance, strength (high tensile strength, puncture resistance and tear resistance), and resistance to UV degradation.

2.7.1.1.4. Embankment Construction and Preparation

Construction will begin with removal of vegetation, so that a proper contact can be made between the foundation soils and the embankment fill. Topsoil will be stockpiled.

Embankments will be constructed by placement of lifts followed by compaction with a vibratory roller. Material not meeting the material specifications shall be stockpiled and not used as embankment material.

At the beginning of embankment construction, a test area of embankment fill on the order of four to five lifts will be studied to determine lift thickness and the appropriate number of compactor passes required to achieve complete compaction. The test will consist of settlement and density measurements for a number of different lift thicknesses and compactive efforts, including number of passes by a compactor and application of moisture. Test area efforts will result in a field order which will establish placement and compactive effort specifications.

A layer of liner bedding sand shall be placed on the embankments and pond floor prior to installation of the synthetic liner system. The liner bedding layer shall be a 6-inch nominal thickness and shall be proof-rolled and inspected prior to placement of the liner material.

2.7.2.1.5. Synthetic Liner Installation

Installation of the synthetic components of the liner system will be conducted according to the manufacturer's specifications using the accepted practice for quality control applicable at the time of construction. Installation will be done by an approved contractor under the direction of SUI.

2.7.2.1.6. Construction Quality Assurance

A qualified and experienced third-party testing contractor will conduct quality assurance testing for embankment construction and liner installation.

2.7.2.1.7. Reclamation

At the end of operations, any solids that may have accumulated in the evaporation ponds will be collected and disposed of in the TSF. Also, the liner system for each pond will be removed and disposed of in the TSF.

Prior to installation of the liner system, the soil immediately beneath the excavated evaporation ponds will be surveyed to establish baseline radiological conditions. At reclamation, the evaporation pond area will be surveyed for contamination relative to the previously established baseline conditions. Any contaminated material that may be present beneath the ponds will be collected and disposed of in the TSF and the area verified as decontaminated. The surface will then be regraded to approximate the pre-construction ground contours, and revegetated according to BLM and WDEQ requirements.

2.8 Quality Assurance Plan

A quality assurance (QA) program will be developed for all relevant operational monitoring and analytical procedures for the Project. The objective of the program will be to identify any deficiencies in the sampling techniques and measurement processes so that appropriate corrective action can be implemented to obtain a level of confidence in the results of the monitoring programs. The QA program provides assurance to both regulatory agencies and the public that the monitoring results are valid.

The QA program addresses the following:

- Formal delineation of organizational structure and management responsibilities. Responsibility for both review/approval of written procedures and monitoring data/reports is provided.
- Minimum qualifications and training programs for individuals performing radiological monitoring and those individuals associated with the QA program.
- Written procedures for QA activities. These procedures include activities involving sample collection, sample analysis, calibration of instrumentation, calculation techniques, data evaluation, and data reporting.

- Quality control (QC) in the laboratory. Procedures cover statistical data evaluation, instrument calibration, duplicate sample programs and spike sample programs. Outside laboratory QA/QC programs are included.
- Provisions for periodic management audits to verify that the QA program is effectively implemented, to verify compliance with applicable rules, regulations and license requirements, and to protect employees by maintaining effluent releases and exposures ALARA.

The Standard Operating Procedures (SOPs) are a critical step to ensuring that quality assurance objectives are met. Current SOPs exist for a variety of areas, including but not limited to:

1. Environmental monitoring procedures.
2. Testing procedures.
3. Exposure procedures.
4. Equipment operation and maintenance procedures.
5. Employee health and safety procedures.
6. Incident response procedures.
7. Laboratory procedures.

These SOPs will be updated to ensure quality assurance objectives are met and new SOPs may be developed that are specific to the project.

2.9 Spill Contingency Plan

Administrative and engineering controls will be used as primary tools to prevent and mitigate any possible surface or sub-surface releases. However, emergency procedures and a response plan will be implemented in the event of equipment failures or spills. The BLM will be notified when event response requires surface disturbance. Spills can be characterized as two types, surface and sub-surface releases.

2.9.1 Surface Releases

2.9.1.1 Leak in Piping

The most common surface release from ISR operations would be from leaks or separations in the piping segments that transfer lixiviant between the ion exchange circuit at the mill and the mine units. Leaks would be detected by a loss of injection pressure, direct observation of mine site personnel, or an imbalance in injection/recovery fluids. SOPs will provide general instructions for detecting and responding to a spill in the well field. Spillage of lixiviant should not degrade the surface soil. Any area affected by such an event will be readily identifiable and remediated. In the case that an accidental spill does occur which causes the release of a significant amount of uranium laden lixiviant, dikes, ditches, or other small impoundments would be built by mine site personnel to keep the affected areas as small as possible. Spill clean up will consist of pumping the fluids with portable equipment back into the process area for recycle, to the sump system, directly to the TSF ponds, or into a portable tank. Spills will be reported to regulatory agencies consistent with regulatory statutes.

2.9.1.2 Header House

In the event of a piping leak in a header house, alarms in the buildings floor sump will trigger audible and visual signals in the building and in the Sweetwater Mill. Operators will be immediately dispatched to the header house building for inspection, shutdown and repair. Regular inspections of header houses will further reduce the risk of spills from these facilities.

2.9.2 Sub-surface Releases

2.9.2.1 Piping Failures

These releases may occur from leaks or separations in the below-ground piping segments which will transfer lixiviant from the mine units to the ion exchange circuit at the mill. All pipelines will be pressure tested at operating pressures plus a safety factor prior to operation.

2.9.2.2 Failure of Well Casing

The possibility exists for production or injection fluid to be released through failure of the fittings on the wellhead or by failure in the casing of the well. Individual flow line pressures will be monitored in the header houses in order to give an indication of potential leaks in these areas. In addition, wells will undergo routine MITs, which will identify casing failures. As described in Section 2.3.2.2, all wells will undergo MIT following completion and injection and production wells are re-tested every five years of operation. Well head boxes will have small containment basins and a leak detection probe so that leaks can be recognized early. Regular inspections of wellheads will further reduce the risk of spills from these facilities.

2.9.2.3. Well Excursions

Production fluids are normally maintained in the production zone aquifer within the immediate vicinity of the well fields. As described in Section 2.5.1.2, the function of the monitor well ring will be to detect any production solutions that may migrate away from the production area due to fluid pressure imbalance. This system has been proven to function satisfactorily over many years of operating experience utilizing the ISR process. Additionally, monitor wells will be placed in the first overlying aquifer for each wellfield. The total effect of the proximity of the monitor wells, the low flow rate from the well patterns, and over-production of recovery fluids (production bleed) makes the likelihood of an undetected excursion remote.

Preventing the migration of fluids to the overlying and underlying aquifers has been considered. Several engineering controls will be utilized to help inhibit this communication. Open exploration holes identified during wellfield pump tests will be plugged and abandoned per WDEQ/LQD regulations. In addition, each production well will undergo MIT prior to being placed in service. This requirement of the WDEQ UIC Program ensures all wells will be constructed properly and can maintain pressure without leakage. Finally, monitor wells in the overlying and underlying aquifer will be sampled on a regular basis to detect the presence of excursions.

2.10 Schedule of Operations and Reclamation Cost Estimate

Figure 2.10-1 depicts the proposed Project schedule. Based on potential resources, SUI anticipates the time from the installation of the ISR circuit equipment through final decommissioning and regulatory approval will be approximately 20 years. Significant overlap is anticipated between recovery operations and groundwater restoration since groundwater restoration of individual header houses may begin almost immediately after recovery operations cease. Decommissioning would be ongoing as mine units receive regulatory approval for successful groundwater restoration. Decommissioning is anticipated to last 12 to 18 months after the end of groundwater restoration in each mine unit.

The reclamation cost estimate included in Appendix I covers the initial financial assurance period for PoO covered facilities located on BLM administered land at the Sweetwater Uranium Project. The estimate incorporates all relevant reclamation, operation, and maintenance costs required for BLM to reclaim the first-year operations as if the BLM were hiring a third-party contractor to perform reclamation. Operations during the first year are limited to initial construction of Mine Unit 3 in support of future commencement of operations, and the construction and operation of the first two cells of the evaporation ponds. No uranium recovery operations will have occurred in the first year at Mine Unit 3, and therefore no groundwater restoration, radiological surveys, radiological decontamination, or disposal of 11e.(2) material costs are included for the reclamation of Mine Unit 3. As shown in Appendix I, the estimated cost to reclaim the proposed first year operations is $1,480,390.

2.11 Plans for Access Roads, Pipelines, and Utilities

On-site access will be restricted through roads with appropriate signage, fences, gates, and security. Wherever possible, roads will follow existing two-track routes to minimize additional disturbance as much as possible. The primary access road will not change and is from Mineral Exploration Road to the Sweetwater Mill. Additional primary and secondary access roads will connect the mine units to the Sweetwater Mill. Primary and secondary roads (as defined in WDEQ-LQD Guideline 4 Reference Document 1 – Attachment I) may be stripped of topsoil. The topsoil depth will be determined by Order 1-2 soil surveys. The planned network of Project primary, secondary, and well access roads is presented in Map 2.1-1. Roads will be constructed in accordance with BLM guidance found in "BLM Pocket Field Guide, Engineering Road Standards Excerpts from BLM Manual Section 9113." Specific secondary road locations will be included with each mine unit package when the precise locations for each road will be known. A stormwater pollution prevention plan (SWPPP) will be developed and will address mitigation of erosion potential due to road construction and use. New roads may require culvert crossings to convey runoff to the native channels. Culvert design criteria will be based on WDEQ/LQD Guideline No.8 which factors the design life of the planned facility along with hydrologic return period or flood frequency probability. Culvert design for the secondary roads will incorporate the 10-year, 6-hour flood event.

To minimize erosion potential at the culvert outlets, best management practices (BMPs) such as rock riprap aprons will be installed where appropriate. The culvert installations will generally be designed in accordance with current applicable design standards. There will also be two-track (well access) roads within the mine units during field construction and operation to access header houses and monitor wells. These two-track roads will not be improved roads because of the limited traffic on them. However, specific travel routes will be designated within the mine units to reduce the potential for topsoil compaction and erosion. The off-site transportation routes will be comprised of pre-existing BLM, county, state, and federal roads. If improvements to off-site roads are needed, permits will be obtained from the BLM or other appropriate agency, and all relevant guidelines will be followed.

To the extent possible, SUI will locate pipelines in common corridors with primary and secondary access roads and utilities. In addition, SUI will locate common corridors away from areas with dense vegetation wherever possible.

2.12 Employment and Transportation of Materials

Employment at the Project will vary by project phase as summarized in Table 2.12-1. Transportation of materials to and from the Project can be broken down into following categories:

- Shipment of construction materials
- Shipment of yellowcake from the Sweetwater Mill to a uranium conversion facility
- Shipment of process chemicals and fuel from suppliers to the site

Table 2.12-1. Project Employment

Phase	Workforce
Construction	
Sweetwater Mill Upgrades	24
Wellfield Construction	43 (20 direct, 23 indirect)
Operation	63
Restoration	63
Decommissioning	63

Table 2.12-2 provides a summary of the annual shipments for each material. All shipments will use either Minerals Exploration Road to U.S. Highway 287 or Wamsutter Crooks Gap Road to I 90.

Table 2.12-2. Annual Transportation of Project Materials

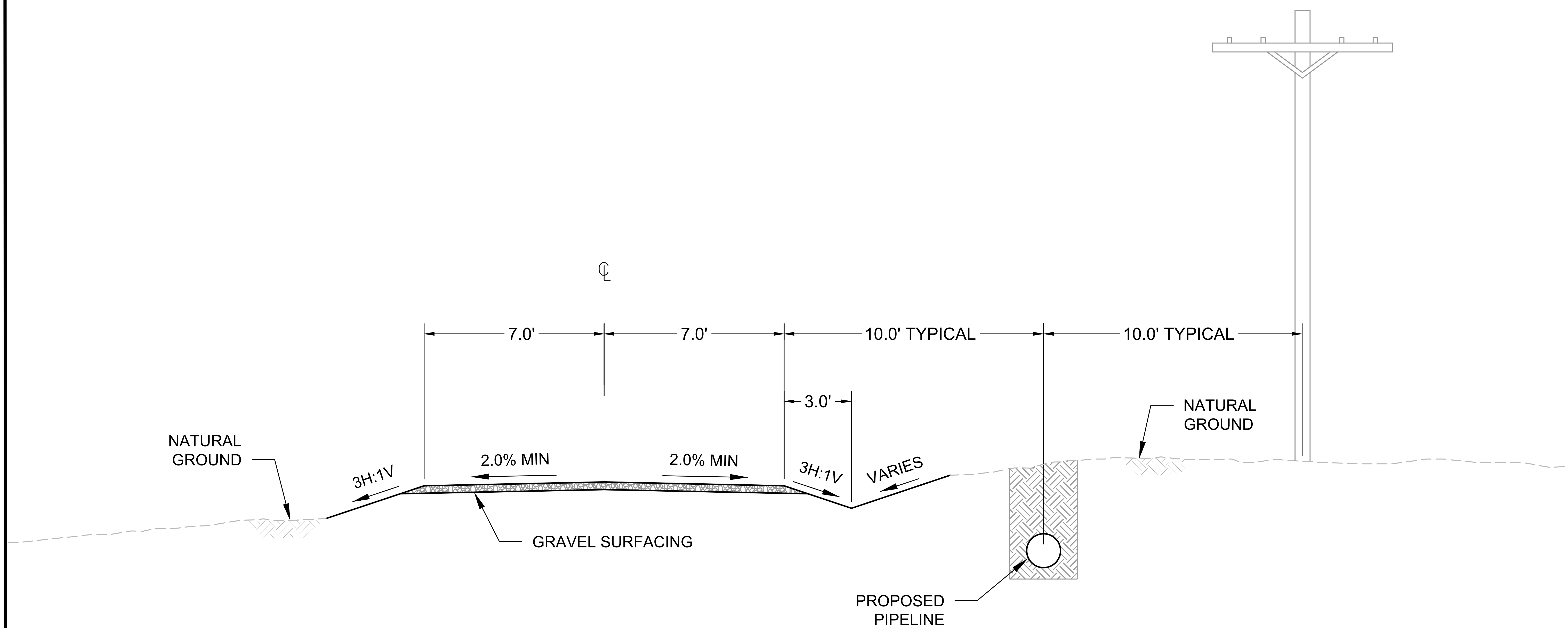
Category	Shipments per Year
Construction Supplies to the Site	
Sweetwater Mill Upgrades	10 (Year 1 only)
Wellfield Construction	10
Yellowcake to Conversion Facility	50
Process Chemicals and Fuel to site	100

2.13 Federal, State, and Local Permits

Necessary approvals and permits from federal, state and local agencies required for the Project are listed in Table 2.13-1.

Table 2.13-1. Federal, State, and Local Authorizations

Issuing Agency	Description	Number
WDEQ Uranium Recovery Program	Source Material License	WYSUA-1350
WDEQ Land Quality Division	Permit to Mine	481
	Drilling Notification	DN267
WDEQ Water Quality Division	WYPDES	WY0026689
	Storm Water Permit	WYR101081
	Sewage	WYS037-051
WY State Land & Farm Loan Office	Uranium/Minerals Lease	027957A
	Uranium/Minerals Lease	0279484A
	Grazing Lease	37513 Lease S16T24NR93W
	Grazing Sublease	N/A
WY Dept of Agriculture	Large Scale License	N/A
BLM	ROW Lease	WYWY106766328 Access Road
	ROW Lease	WYWY106766483 Dewatering Channel
	ROW Lease	WYWY106766484 Monitor Wells
	ROW Lease	WYWY106766485 Snow Fence
WY State Engineers Office	Water Rights	Various



TYPICAL CROSS-SECTION
(ROAD, PIPELINE, POWERLINE)
NOT TO SCALE

Sweetwater Uranium Inc.

TYPICAL SCHEMATIC OF PRIMARY ACCESS ROAD, PIPELINE, AND POWERLINE

SWEETWATER URANIUM PROJECT

NO.	REVISION	BY	DATE

DRAWN BY: DCJ
CHECKED BY: WCF
APPROVED BY: BAK
DATE: 1/27/2026

FIGURE
2.4-1

Sweetwater Uranium Inc. 907 No. Poplar, Suite 260, Casper, Wyoming 82601

Figure 2.4-1 TYP RD UTIL.dwg 1/27/2026 3:19:16 PM wade filkins

Figure 2.5-1 Typical Five-Spot, Alternating & Staggered Line Drive Patterns

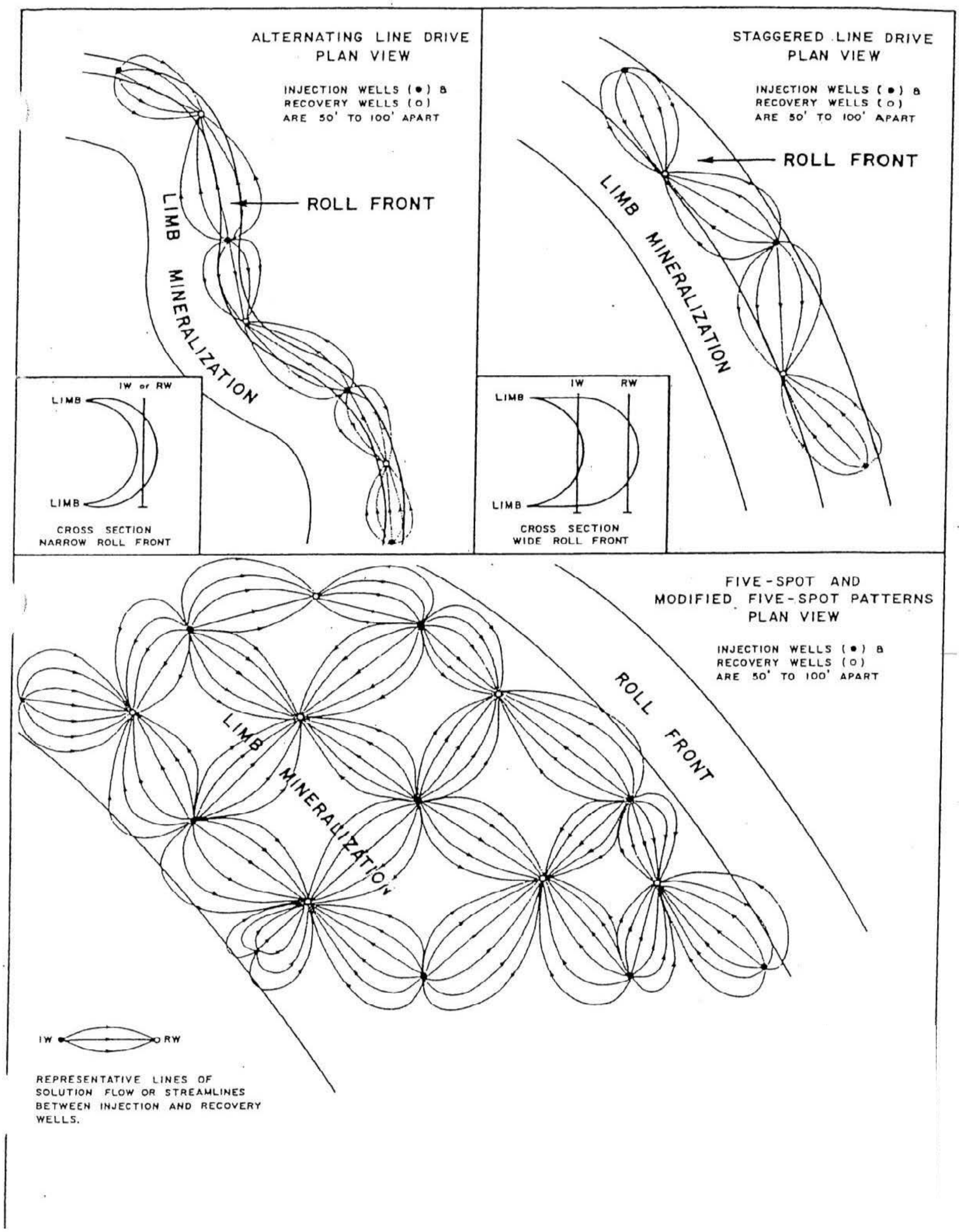


Figure 2.5-2 Uranium Roll Front Deposit

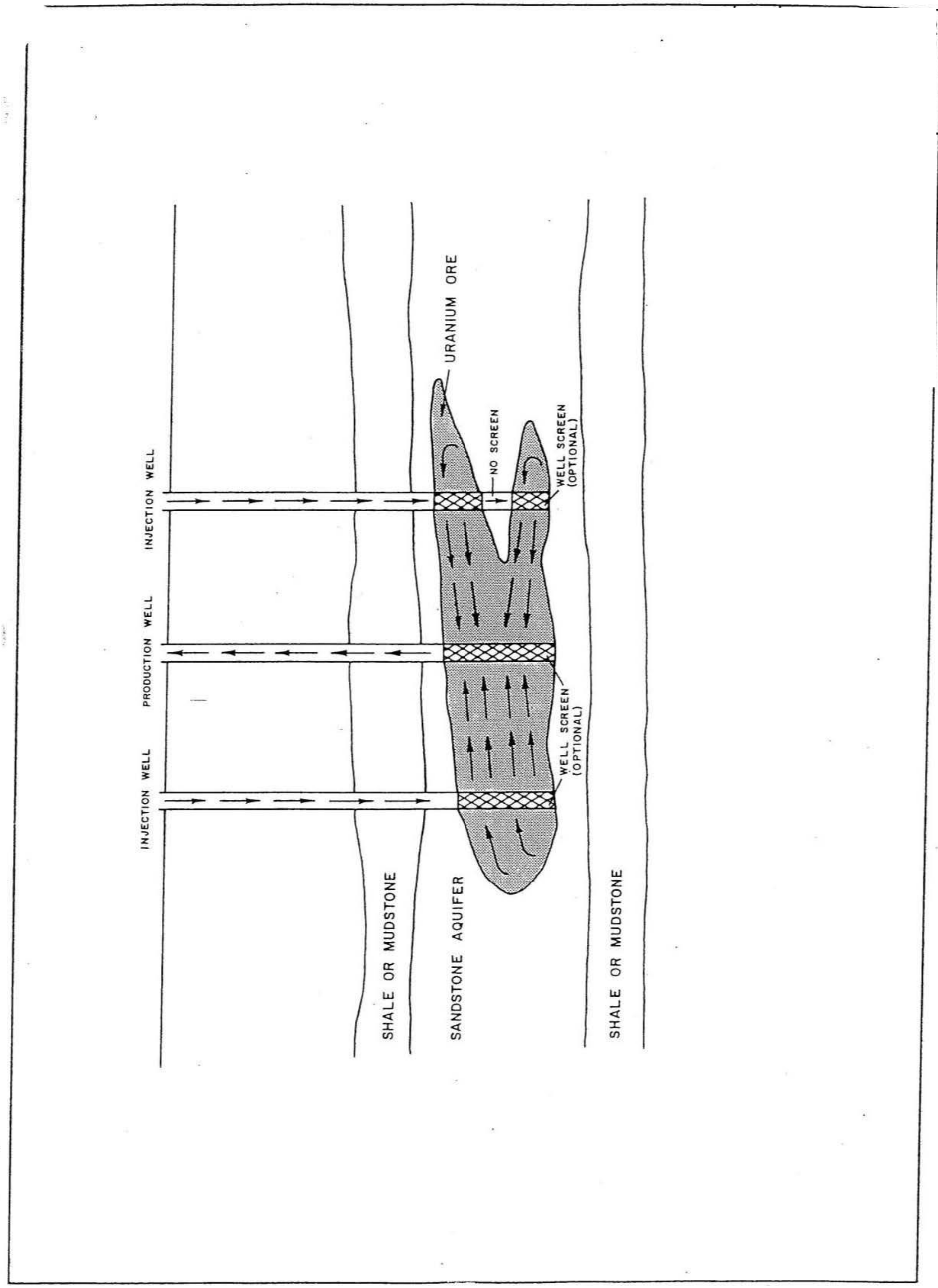


Figure 2.5-3 Well Construction Method 1

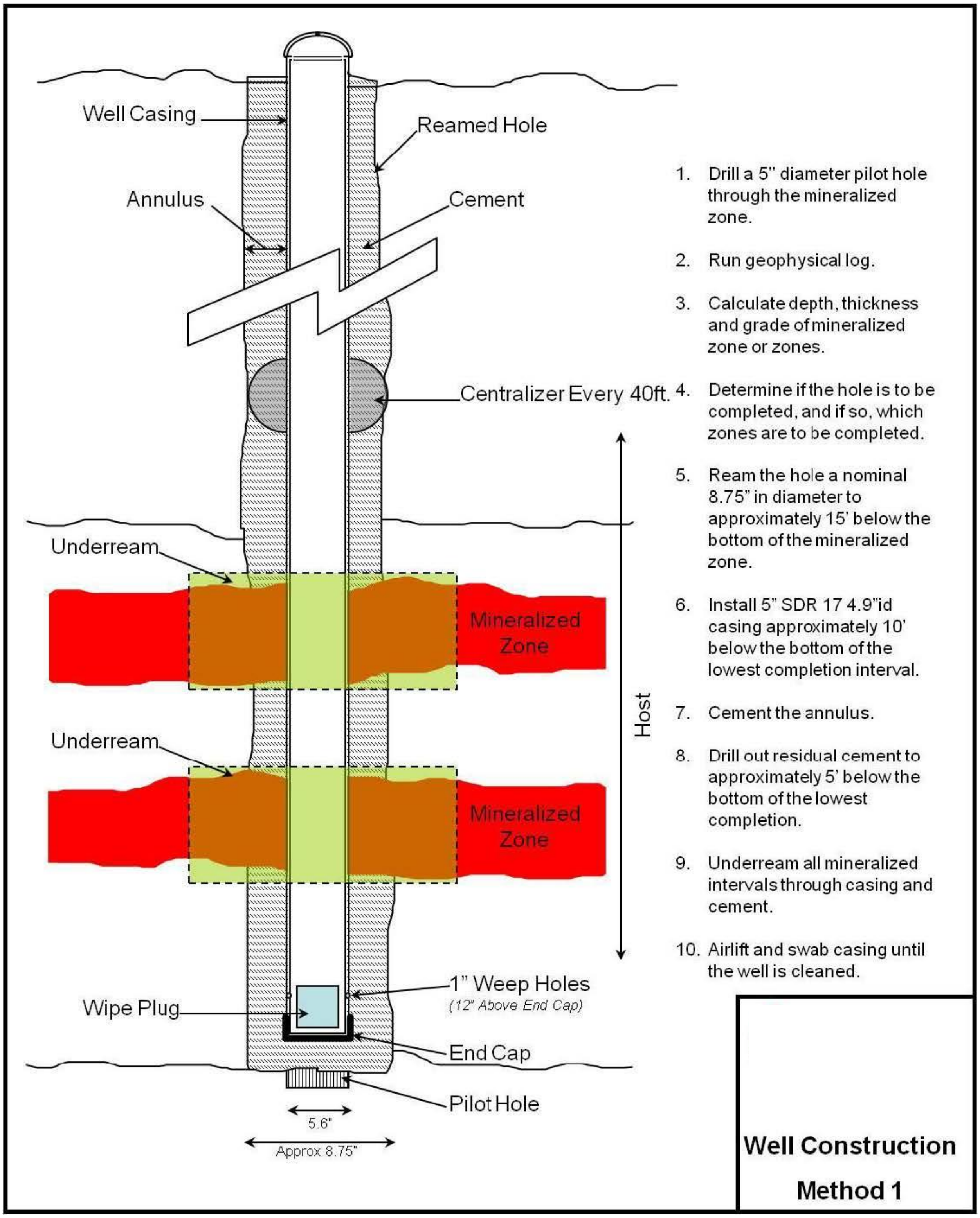


Figure 2.5-4 Well Construction Method 2

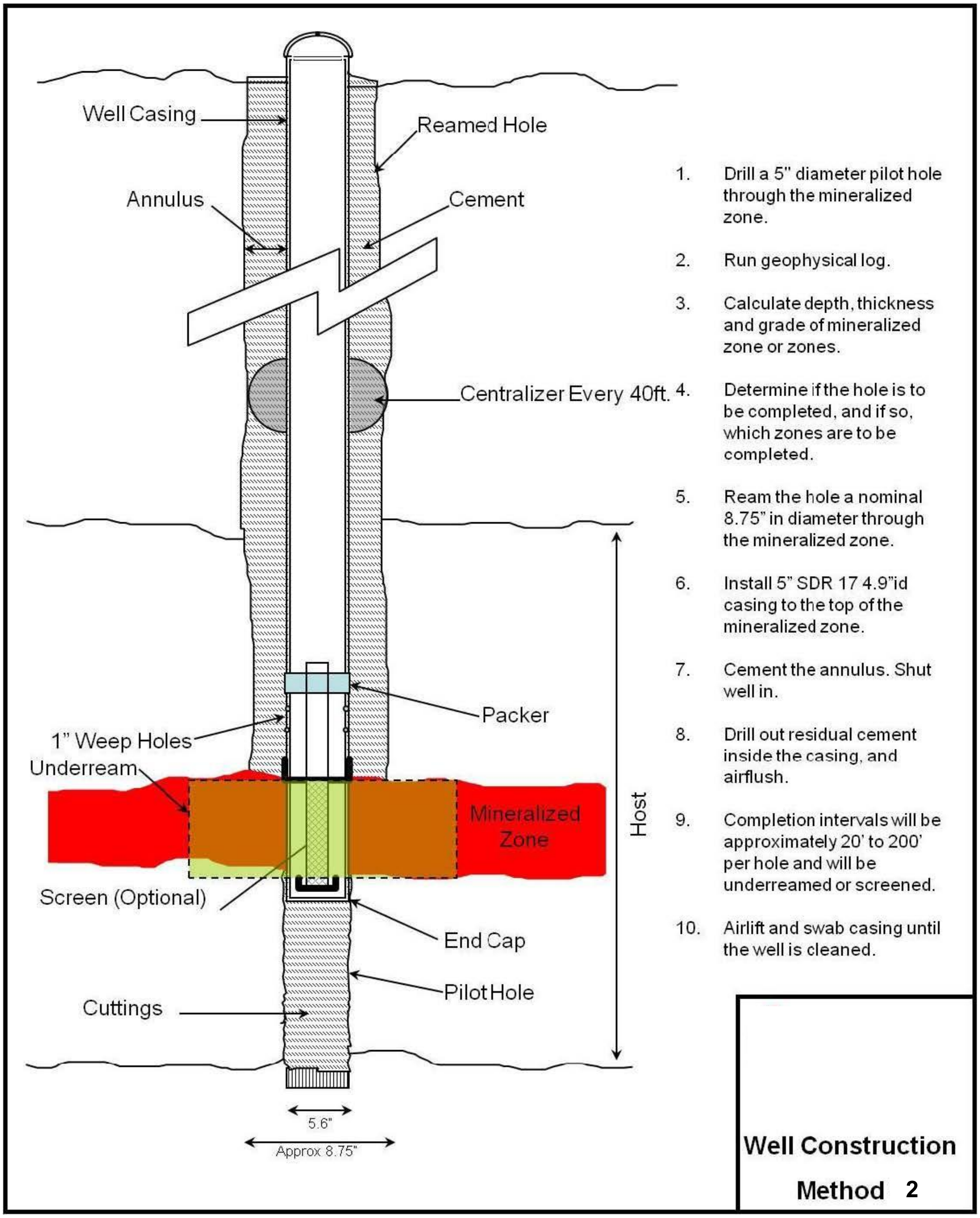
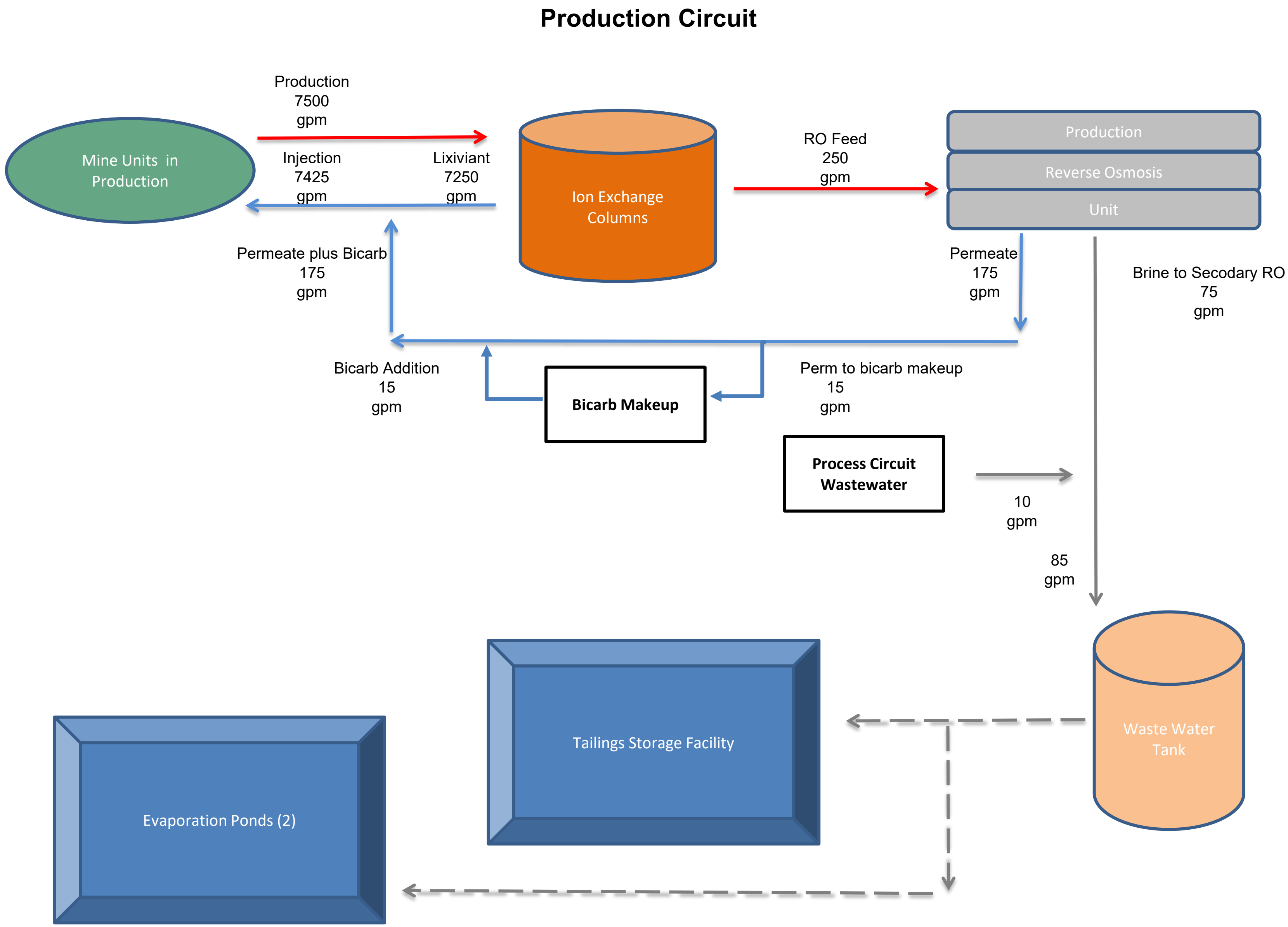


Figure 2.7-1

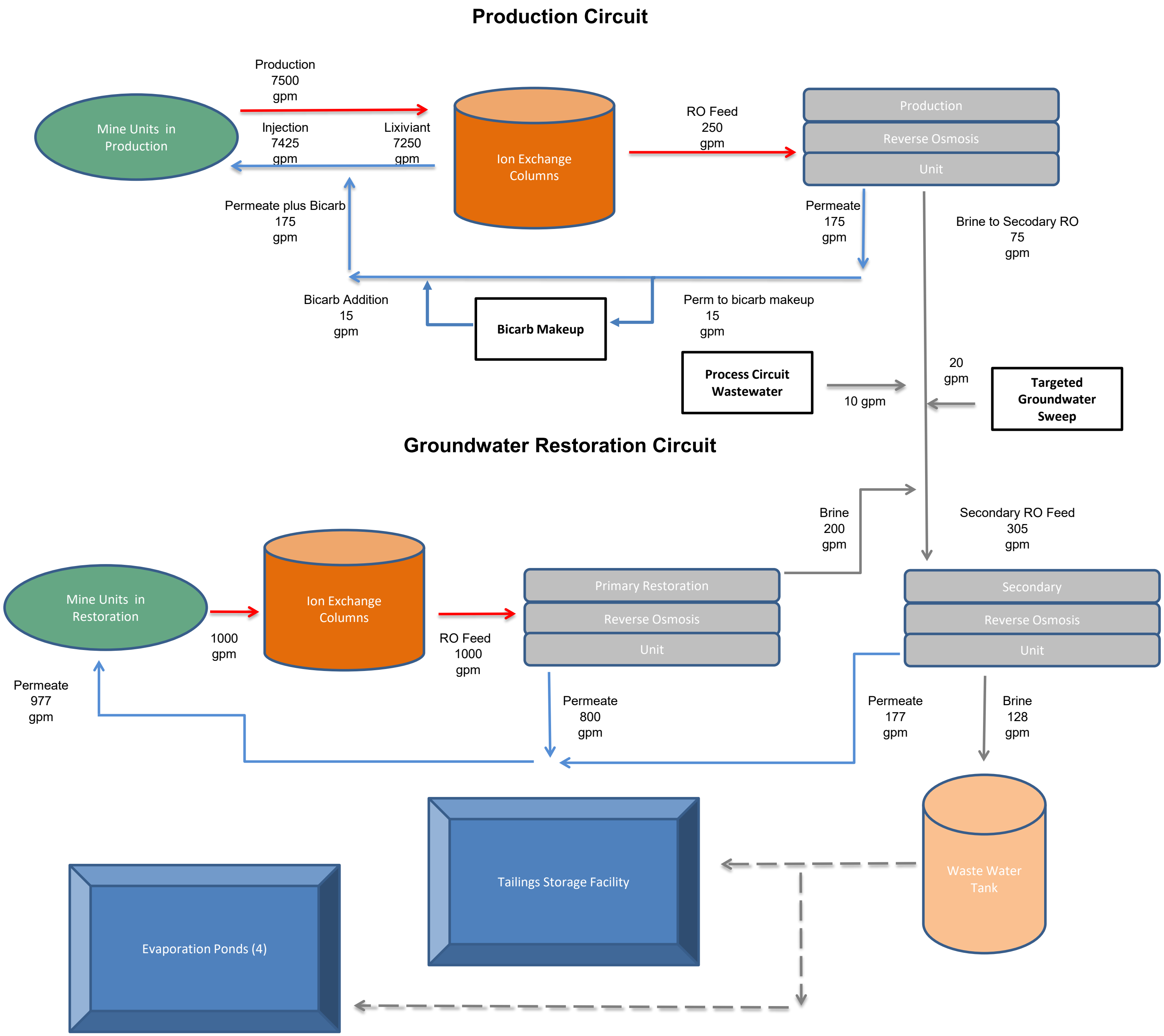
**Project Proposed Water Balance:
Production only - Operating Years 3 and 4**



Note:Flow rates are approximate and are subject to change.

Figure 2.7-2

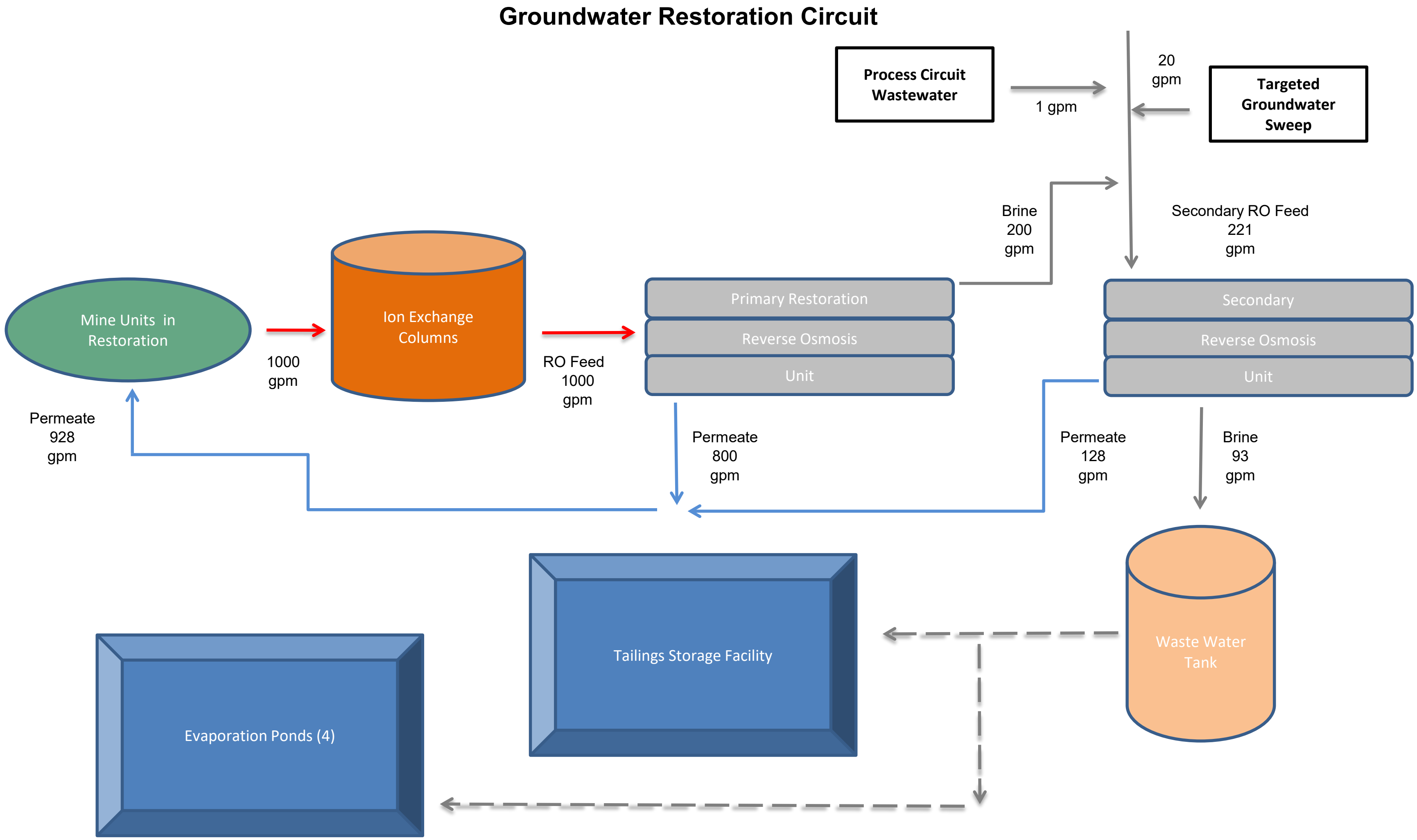
Project Proposed Water Balance:
Production and Groundwater Restoration Circuits



Note:Flow rates are approximate and are subject to change.

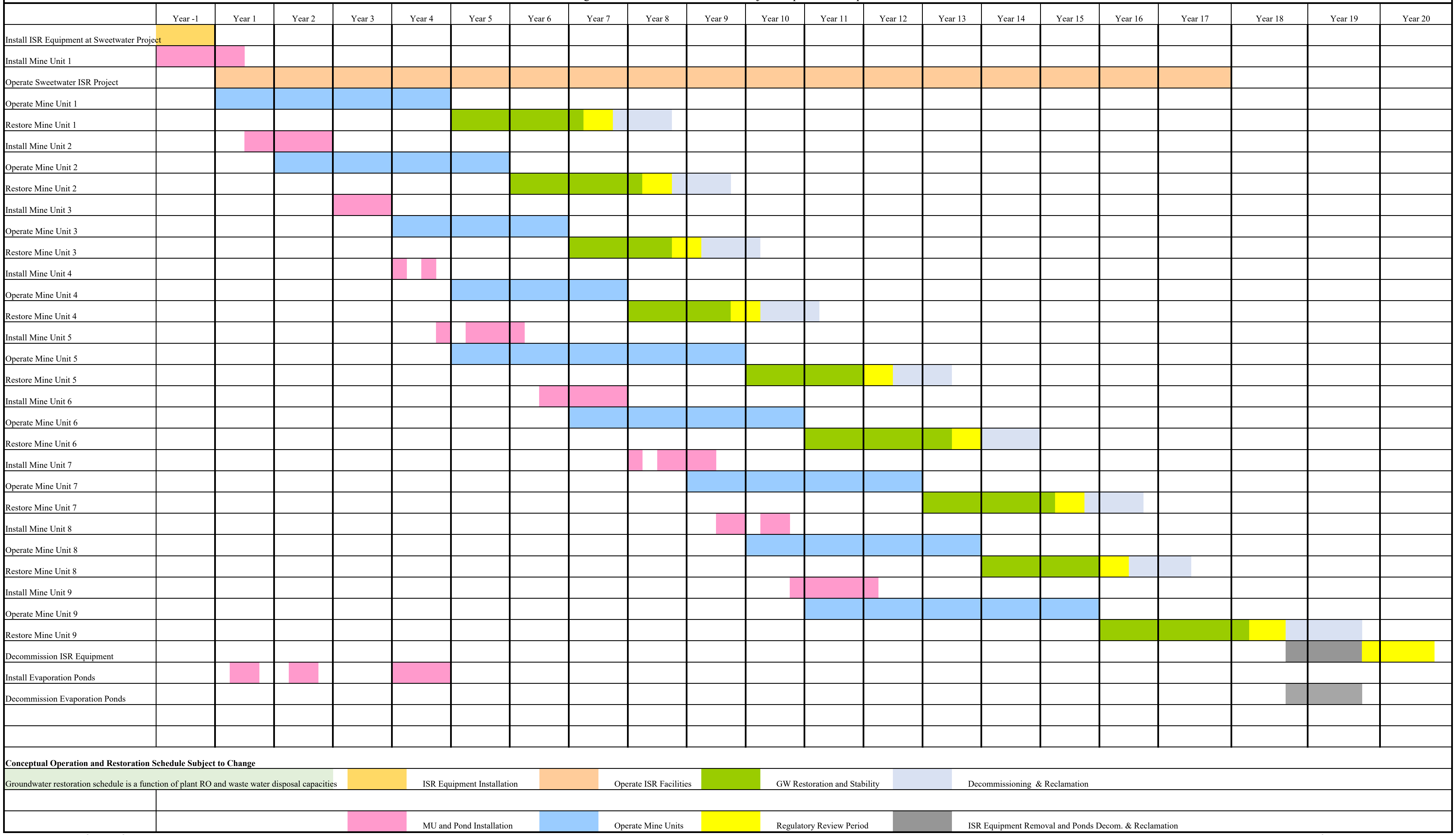
Figure 2.7-3

Project Proposed Water Balance:
Groundwater Restoration Only



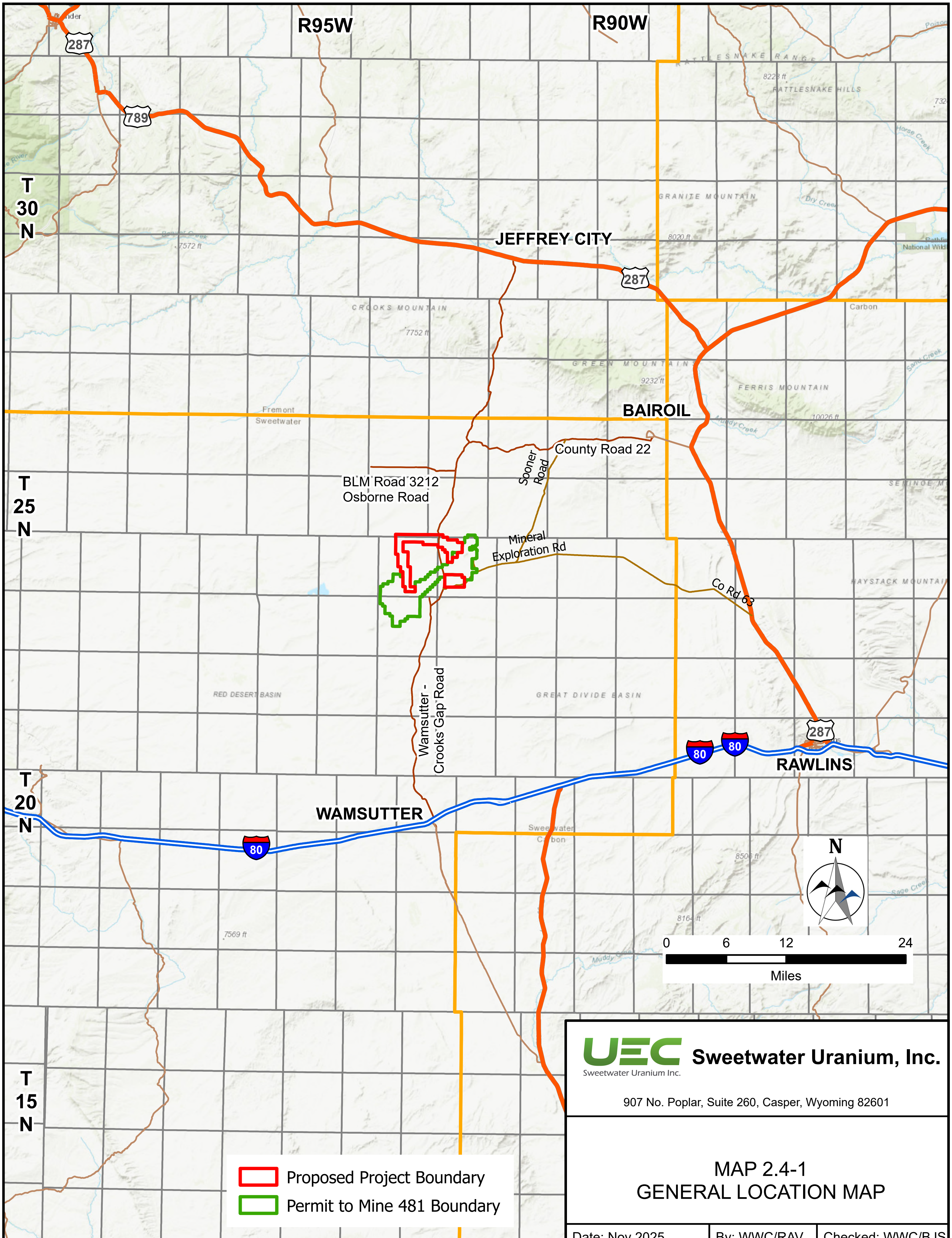
Note:Flow rates are approximate and are subject to change.

Figure 2.10-1 Sweetwater Uranium Project Proposed Development Schedule



Eagles Nest 7.5 Min Quad Battle Spring 7.5 Min Quad Sooner Reservoir 7.5 Min Quad

Lost Creek Butte 7.5 Min Quad Hansen Lake 7.5 Min Quad Hansen Lake NE 7.5 Min Quad

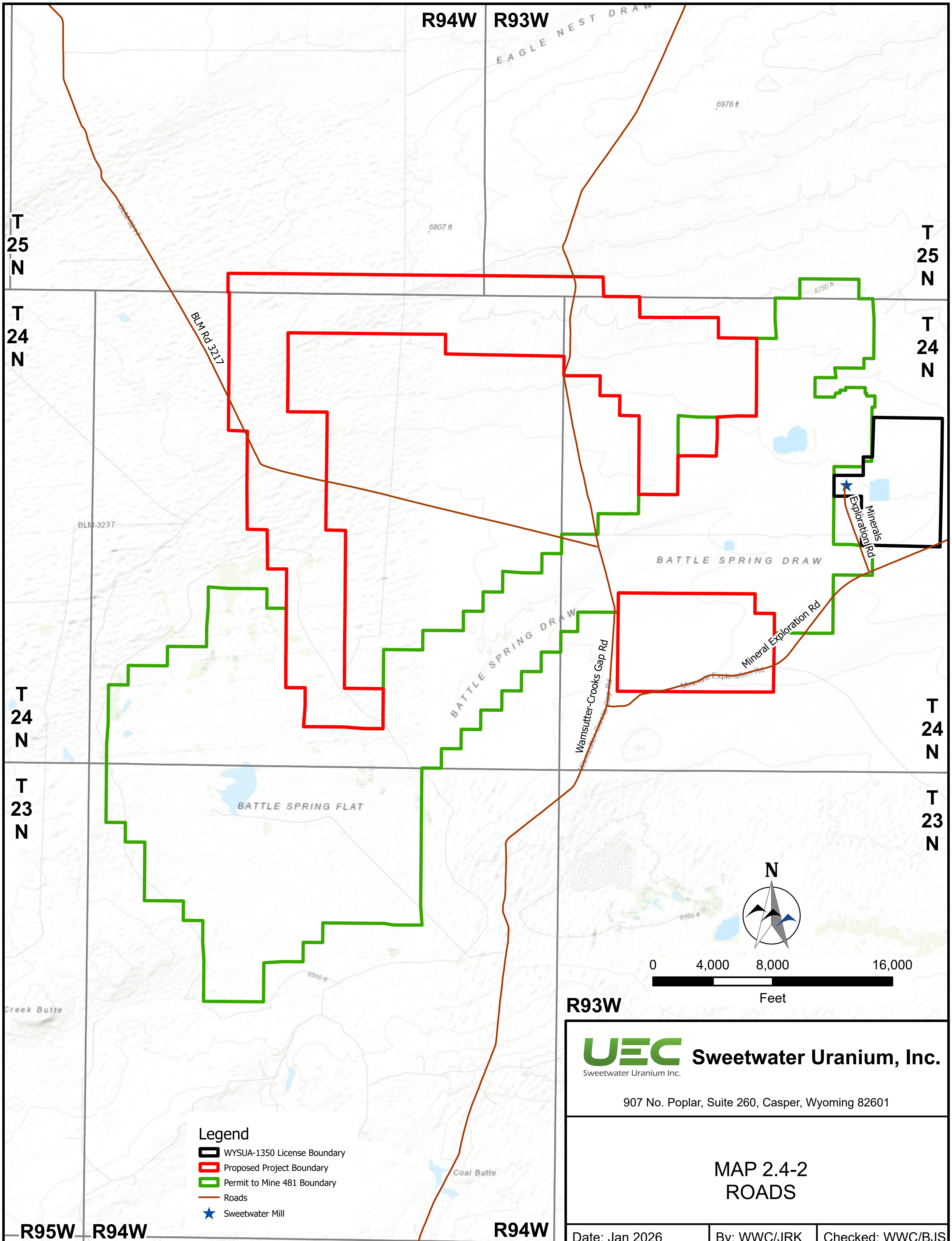


UEC Sweetwater Uranium, Inc.

907 No. Poplar, Suite 260, Casper, Wyoming 82601

MAP 2.4-1
GENERAL LOCATION MAP

Date: Nov 2025	By: WWC/RAV	Checked: WWC/BJS


R94W
R93W
EAGLE NEST DRAW
6978 ft
6807 ft
T 25 N
T 24 N
BLM Rd 3217
BLM-3237
BATTLE SPRING DRAW
BATTLE SPRING FLAT
Wamsutter-Crooks Gap Rd
Mineral Exploration Rd
Minerals Exploration Rd
T 23 N
N
0
4,000
8,000
16,000
Feet
R93W
Coal Butte
R95W
R94W
Legend
WYSUA-1350 License Boundary
Proposed Project Boundary
Permit to Mine 481 Boundary
Roads
Sweetwater Mill
UEC
Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 2.4-2
ROADS
Date: Jan 2026
By: WWC/JRK
Checked: WWC/BJS

3.0 GROUNDWATER RESTORATION AND RECLAMATION PLANS

3.1 Groundwater Restoration

SUI's primary goal for groundwater restoration is to return the quality of groundwater to baseline concentrations, using the best practicable technology and economic reasonableness.

Groundwater baseline water quality is established for a mine unit by collecting samples from representative injection or recovery wells within that unit and arithmetically averaging the sample results, after outlier removal. Accordingly, the target restoration values will be a function of the average baseline, the range of results found in the baseline samples and the variability between sample results as defined by statistical methods agreed upon by the WDEQ/LQD and SUI. If baseline target restoration values cannot be met for all constituents, the pre-mining use suitability criteria as established by the WDEQ will be the restoration standard.

Additionally, the WDEQ/URP also follows the requirements of 10 CFR Part 40. If the primary goal of restoration cannot be achieved for a hazardous constituent in a wellfield, then restoration will meet an alternate standard approved by the URP, consistent with the requirements of Criterion 5B(5) of Appendix A to 10 CFR Part 40.

3.1.1 Restoration Processes

The restoration programs that have been conducted by UEC and other ISR operators in the U.S. involve essentially three phases of restoration processes. They are as follows:

- Groundwater Sweep
- Reverse Osmosis with Permeate Injection and Reductant Addition (if necessary for metals reduction)
- Stability Monitoring

These phases of restoration have been shown to be effective in previous restoration efforts at other ISR projects in Wyoming, including UEC’s Irigaray and Christensen Ranch. The first two phases are active restoration processes. The last phase of restoration is the stability monitoring phase, where the groundwater is monitored for a minimum of twelve months to assure that the restored concentrations are stable. A description of each restoration process is provided below.

3.1.1.1 Groundwater Sweep

Groundwater sweep may be used as a stand-alone process or in conjunction with RO operations. During groundwater sweep, groundwater is pumped without injection from the production zone causing an influx of groundwater from beyond the perimeter of the uranium recovery area that sweeps the portion of the aquifer affected by any flared lixiviant outside of the uranium recovery area. The main goal for using groundwater sweep will be to recover any flared lixiviant outside of the uranium recovery area by using targeted groundwater sweep around the perimeter of a mine unit at any time during groundwater restoration.

The flared lixiviant is then restored once it is moved within the boundary of the wellfields by the RO units. The purpose of targeting groundwater sweep is to minimize the consumptive use of groundwater since WDEQ/LQD has determined that groundwater sweep with direct disposal of produced water is not considered best practicable technology due to excessive consumption of groundwater and resultant impacts to groundwater resources (LCI 2009). SUI is planning to use a 20-gpm targeted groundwater sweep program to limit the effect on water levels in nearby domestic or stock wells outside the project boundary.

In order to prevent any impacts to off-site stock wells, SUI will measure water quality and quantity at the perimeter monitor well rings every 2 weeks throughout production and restoration. If significant impacts to either nearby domestic wells or to stock wells in the vicinity of the mining operations are observed (e.g., water levels drop to a point that impairs the usefulness of the wells), the following mitigation measures will be considered:

- Lowering the pump level in the wells, if possible;
- Deepening the wells, if possible; or
- Replacing the wells with new wells completed in sands that are not impacted by ISR operations.

Groundwater produced from groundwater sweep will be processed in the ISR facility by IX and the secondary RO unit. Permeate generated from groundwater sweep fluids will be re-injected into a wellfield undergoing RO treatment with permeate injection. Reinjection of permeate generated by this process will decrease the amount of bleed removed by the RO method by increasing the amount of permeate injected. This will enhance groundwater restoration and will limit the potential interference by groundwater restoration with nearby, ongoing uranium recovery operations and on nearby wells outside the project boundary.

3.1.1.2 Reverse Osmosis and Reductant Addition

After or in conjunction with the groundwater sweep phase , the reverse osmosis/permeate injection phase will be initiated. In this phase, the groundwater is recovered from the wellfields and treated in a primary reverse osmosis (RO) unit. The RO unit removes chemical constituents from the groundwater through a pressurized semi-permeable membrane system that yields a clean water product (permeate) and a product made up of concentrated ions (brine). Permeate produced from the RO process will be injected back into the wellfields. Brine solutions produced from the primary RO will be routed to a secondary (brine) RO unit for further treatment or to the TSF or new evaporation ponds for disposal. The resulting brine solution from a secondary RO unit will also be routed to the TSF or new evaporation ponds for disposal.

During this phase of restoration, a chemical reductant may or may not be added to the permeate to decrease the metals in the groundwater.

The goals of the RO/permeate and reductant addition injection phase are:

a. To reduce the total dissolved solids within the well field to baseline conditions, target values, or quality of use standards

b. To reduce trace metals and uranium concentrations to baseline conditions, target values, or quality of use standards

3.1.1.3 Stability Monitoring

Once the RO/permeate and reductant phase of groundwater restoration is completed and goals of the program and regulatory standards have been met, active groundwater restoration will be terminated. A post-restoration stability monitoring period of twelve months is proposed at the end of restoration. During the stability monitoring period, four rounds of samples from designated wells will be collected with each sample being at least three months apart. Samples will be analyzed for WDEQ/LQD Guideline 8, Assay Suite A. Stability monitoring will continue until the data shows the most recent samples indicate no statistically significant increasing trend for individual constituents which would lead to an exceedance above the approved target restoration values or quality of use standards.

3.1.1.4 Determination of Restoration Success

After the restoration in an area has been achieved, and the post restoration stabilization monitoring program is completed, a report will be completed summarizing the results of the groundwater restoration and stability monitoring programs. The restoration results will be compared with the restoration target values and use categories (discussed in Section 3.1 above). The report will be submitted to the regulatory agencies for their review and approval. The acceptance of the wellfield restoration and stability success will be based on the ability to meet the goals of the restoration program and the lack of significant increasing trends during the stability monitoring period.

After concurrence from the WDEQ that the restoration goals have been achieved and stability criteria have been met, decommissioning and surface reclamation of the restored area will be initiated as described in Sections 3.2 and 3.3.

3.2 Decontamination and Decommissioning

The following sections address the final decommissioning at the Project. It discusses general procedures to be used, both during final decommissioning, as well as the decommissioning of a particular mine unit area.

3.2.1 Mine Units

Decommissioning of mine units, once their usefulness has been completed in an area, will be scheduled within one year after agency approval of groundwater restoration and stability. It will be accomplished in accordance with an approved decommissioning plan and the most current applicable WDEQ rules and regulations, permit and license stipulations and amendments in effect at the time of the decommissioning activity.

Mine unit decommissioning will consist of the following steps:

1. The first step will involve the removal of surface equipment. Surface equipment will primarily consist of the header houses, well boxes, and wellhead equipment. Wellhead equipment such as valves, meters or control fixtures may be salvaged.
2. Removal of buried piping.
3. Wells will be plugged and abandoned according to the procedures described below.

4. A gamma survey will be conducted over the mine unit area to identify any potentially contaminated soils requiring removal to disposal.
5. Final surface reclamation of the mine unit areas will be conducted according to the surface reclamation plan described in Section 6.3.
6. All piping, boxes and wellhead equipment will be surveyed for contamination prior to release in accordance with the URP guidelines for decommissioning.

Based upon previous experience, it is estimated that over 90% of the equipment will meet releasable limits. This will allow reuse of the equipment, or if necessary, disposal at an unrestricted area landfill. Other materials which are contaminated may be acid washed or cleansed with other methods until they are releasable. If the equipment still does not meet releasable limits, it will be disposed of within the Sweetwater TSF or another facility licensed to accept by-product material. Much of the equipment could be reused by SUI in other production areas.

3.2.1.1 Well Plugging and Abandonment

All wells no longer useful to continued mining or restoration operations will be plugged and abandoned. These include all injection and recovery wells, monitor wells and any other wells within the mine unit used for the collection of hydrologic or water quality data or incidental monitoring purposes. The objective of SUI's well abandonment program is to seal and abandon all wells in such a manner as to assure the groundwater supply is protected and to eliminate any potential physical hazard. The abandonment procedures are designed to comply with W.S. 35-11-404 and applicable regulations of the WDEQ/LQD, WDEQ/WQD, WSEO, and BLM.

3.2.1.2 Buried Trunklines, Pipes and Equipment

Buried process related piping such as injection and recovery lines will be removed from the mine unit undergoing decommissioning. Salvageable lines will be held for use in ongoing mining operations. Lines that are not reusable may either be assumed to be contaminated and disposed of at a licensed disposal site or may be surveyed and, if suitable for release to an unrestricted area, may be sent to a sanitary landfill.

3.2.2 Soil Decontamination

After all surface equipment is removed and all wells are properly plugged and abandoned, a gamma survey of the mine unit surfaces will be conducted. Any areas with elevated gamma readings which indicate radium-226 levels in excess of approved decommissioning limits or in 10 CFR 40, Appendix A, will be resurveyed. Soil samples will be collected from confirmed contaminated locations for the analysis of radium-226 and uranium. Based upon the soil sampling and additional gamma radiation readings, contaminated soil will be removed and transferred to the Sweetwater TSF or another site licensed to accept by-product materials. Gamma survey results and soil sampling results will be submitted to the WDEQ for their review, approval and opportunity to split soil samples. After approval of the soil contamination removal program, revegetation will commence.

3.2.3 Records and Reporting Procedures

Documentation of site decommissioning and surface reclamation will be maintained on site and reported to WDEQ in annual reports and requests for acceptance and bond reduction. Records of all contaminated materials transported to a licensed disposal site will be maintained as required by Radioactive Material License WYSUA-1530 and/or applicable regulations at the time of decommissioning. A well abandonment report consistent with the requirements of Wyoming Statute 35 11 404(e) will be filed with the Administrator of the Land Quality Division and the State Engineer's Office upon completion of the decommissioning of all wells.

3.3 Surface Reclamation

The principal objective of the surface reclamation plan is to return disturbed lands to a condition compatible with the post mining land use, of equal or better quality than its pre-mining condition. The reclaimed lands should therefore be capable of supporting livestock grazing and provided stable habitat for native wildlife species. Soils, vegetation, and wildlife baseline data will be used as guidelines for the design, completion and evaluation of surface reclamation. Final surface reclamation will blend affected areas with adjacent undisturbed lands to re-establish original slope and topography and present a natural appearance. Surface reclamation efforts will strive to limit soil erosion by wind and water, sedimentation and re-establish natural contours through drainage patterns.

3.3.1 Topsoil Replacement Methods and Handling Techniques

Stockpiled topsoil will be replaced on the disturbances from which they were removed during construction, within practical limits. Areas to be backfilled will be scarified or ripped prior to backfilling to create an uneven surface for application of backfill. This will provide a more cohesive surface to eliminate slipping and slumping. Any unsuitable topsoil will be backfilled first for placement in the deepest part of the excavation to be covered with more suitable reclamation materials. Topsoil replacement will commence as soon as practical after a given disturbed surface has been prepared. Topsoil will be distributed evenly over the disturbed areas. The final grading of topsoil materials will be done to establish adequate drainage and the final prepared surface will be left in a roughened condition.

3.3.2 Estimated Volumes and Replacement Depths

Topsoil stripping will be limited in mine units to an extent practicable. Overland travel, use of portable mud drilling pits, as needed, and avoidance of alkali soils and sensitive vegetation areas will minimize the need for topsoil stripping. Estimates of topsoil volumes and soil types to avoid will be based on the baseline soils survey data.

3.3.3 Contouring of Affected Areas

Due to the relatively minor nature of disturbances created by ISR mining, there are no areas where subsoils will be removed causing significant topographic changes which need backfilling and recontouring. Minor backfilling and recontouring will include cut and fill areas that could be necessary to level header house locations, cut and fill areas where access roads cross drainages and mine unit areas which may need to be terraced due to unworkable natural slope conditions. The existing contours will only be interrupted in small, localized areas.

3.3.4 Surface Configuration

Changes in the surface configuration caused by construction and installation of operating facilities will be temporary during the operating period. Restoration of the original land surface, which is consistent with the pre- and post-mining land use, the blending of affected areas with adjacent topography to approximate original contours and re-establishment of drainage patterns will be accomplished by returning the soils moved during construction to their approximate original locations.

3.3.5 Re-Establishment of Through Drainage

Drainage channels which have been modified for operational purposes such as road crossings will be re-established by removing fill materials, culverts and reshaping to as close to pre-operational conditions as practical. Surface drainage of disturbed areas which have been located on terrain with varying degrees of slope will be accomplished by final grading and contouring appropriate to each location to allow for controlled surface run off and eliminate depressions where water could accumulate.

3.3.6 Erosion Control Practices

Replaced topsoil will be protected from wind and water erosion by respreading and discing along the contour in areas where slopes exceed ten percent or perpendicular to prevailing winds on more moderate slopes. Final prepared seed beds will be left in a roughened condition to abate erosion and aid in retention of soil moisture. Native hay or straw mulch may be added to aid against erosion. The seeding rate will be 30 lbs/acre. Mulch, if necessary, will be applied to all prepared surfaces at a minimum rate of two tons per acre. Slopes exceeding twenty percent over a distance of 140 feet will be mulched at the rate of three tons per acre in keeping with the requirements of Chapter II, Section 2.(b)(iii)(c) of the WDEQ/LQD rules and regulations. The mulch will be anchored by discing along the contour. All products used for the project will be 'Certified Weed Free' in order to reduce introduction of weeds and promote introduction of desirable native species. In addition to application of mulch, water erosion will be controlled by installation of water breaks and water bars as necessary to slow and control surface run off. If necessary in steeper areas, the water breaks will be interrupted with rip rap to slow run off flow and reduce sedimentation until a suitable stand of vegetation is established.

3.3.7 Surface Preparation for Seeding

All compacted areas from which topsoil has been removed such as primary or secondary roads will be ripped, putting them in a roughened but contoured condition for topsoiling. Ripping to a depth of one to two feet on compacted areas will improve water infiltration and root penetration of the seedlings by breaking up impervious layers. SUI may use a winged ripper to reduce surface disturbance. Final contouring and blending will be done with topsoil application.

Surface preparation for seeding will be accomplished using a combination of the various farming techniques described above under topsoil replacement methods, handling techniques and erosion control procedures. The addition of soil amendments and/or fertilizer will be considered by reviewing baseline soils data and visual inspection of the topsoil once it has been replaced. Additives such as nitrogen, phosphorus and potassium may be applied to the topsoiled areas prior to discing and mulching. Additional laboratory testing may be necessary to establish the need or form of these fertilizers in some cases and, if applied, the application will follow rates, time of application and methods suggested by the BLM for range land applications.

3.4 Revegetation

The objective of SUI's revegetation plan is to establish a post-mining native plant community that will meet the reclamation success standard stated in Section 3.4.3 and provide long term ecological stability. Some interim cover crop techniques may be utilized during operations; however, revegetation will strive to re-establish native species consistent with the post-mining land use goals.

The Project covers a large site and the disturbances necessary for mining will not be made at the same time but more on a sequential basis. Following the baseline vegetation survey, SUI will work with the BLM to develop interim and final reclamation, including the seed mixtures appropriate for the various areas of the Project. The seed mixture will be a combination of seeds included on the BLM Commercially Available Seed list. SUI will also work with BLM to identify cultivars and will ensure that they are located within source material outside of the Project.

3.4.1 Reseeding Methods

Seeding will be done by drilling or broadcasting depending upon the size of the area, slope, time of planting, species seeded and other factors. A range drill will be used for seeding grasses, forbs and shrub species along the contours on larger areas where slope conditions are less than thirty percent. All seed mixtures drilled will be applied at the rate agreed to by BLM and WDEQ/LQD and drilled to a depth of 1/4" to 1/2". Broadcast seeding will be used on areas with steep slopes (over thirty percent) and for seeding additional shrubs if necessary. Harrowing or raking will follow broadcast seeding whenever possible. The seed rate for a given seed mixture will be doubled for areas where seeds are broadcast.

The pre-mining plant communities are dominated by cool-season grasses and final reclamation seed mixes are composed of cool-season grasses. Shrub species will initially be planted with the grasses. There are no present plans to use a two-stage seeding program and, due to the nature of the mining disturbance, opportunities for using live topsoil are not likely except in the mine units. If early evaluation of initially seeded areas indicates poor establishment of shrubs and low species diversity, an interseeding program may be considered. If interseeding becomes necessary, consideration will be given to the addition of dominant warm-season grasses, hand-broadcasting of shrub species in drainage bottoms, along side slopes and in the lee of rock piles and outcrops to add diversity to the habitats. This would increase cover and edge effect as well as shrub density. If adequate shrub densities are not established using the above methods, additional direct planting of shrub pads or tublings in low density clusters will be considered.

Seeding will be done either during the fall after October 15 and prior to the ground freezing or during early spring before April 15. Spring seeding may be extended into May in some years depending on site weather and soil conditions. Fall seeding will be preferred in most cases to take advantage of the soil moisture conditions and avoid the use of machinery during the spring when soils tend to be saturated with moisture.

3.4.2 Management of Newly Seeded Areas

Post-mining management practices will not include protection of newly seeded areas from wildlife. If any significant stands of noxious weeds are noted, they will be controlled by either physical or chemical means as suggested by the BLM and the county weed control staff and in accordance with the Weed Management Plan that will be developed as described in Section 6.6.

3.4.3 Evaluation of Reclamation Success

The basis for evaluation of reclamation success on disturbances created by SUI mining activities are those goals defined in the BLM and WDEQ/LQD rules and regulations. The goals are to achieve post-mining cover and production equal to pre-mining conditions, species composition and diversity capable of supporting the post-mining land use, the ability of the reclaimed plant community to sustain grazing pressure at least equal to pre-mining grazing pressure and all of the above must be attained for the last two consecutive years immediately prior to final bond release.

A post-seeding monitoring program will be conducted on reclaimed areas beginning the first spring after reseeding has taken place. The purpose of the initial inspection of newly seeded areas will be to check for successful germination, ground cover in relation to potential erosion and to identify any other potential problem areas. Subsequent inspections will serve to record the progress of the development of the reseeded plant community. As the reseeded area develops, additional data will be recorded to aid in determining when the reseeded area will be ready for implementation of the post-mining grazing program and final evaluation of reclamation success.

Reseeded areas will be monitored periodically during the growing season, and the field reconnaissance will include development of species lists to monitor and document diversity and composition.

The reclamation methods and seed mixes selected by SUI should enhance wildlife habitat by re-establishing native species and the inclusion of sub-shrub species. In addition to seed mix diversity, plant species diversity and life forms on the reclaimed areas should be increased through invading and volunteer species from adjoining undisturbed areas as the new plant communities develop. The relatively small, often narrow and irregularly shaped nature of most of the disturbance associated with the project should increase the potential for invasion of additional native species.

Final reclamation will be considered successful when monitoring demonstrates that revegetated areas meet the quantitative reclamation success criteria defined in the BLM RMP, Appendix 36 – Reclamation Plan, based on pre-disturbance surveys or surveys of adjacent undisturbed reference areas, as follows:

- Achievement of at least 80% of pre-disturbance ground cover
- Achievement of at least 90% of dominant species composition relative to reference areas
- Absence of noxious weeds
- Erosion features equal to or less than those observed in surrounding undisturbed areas

3.4.3.1 Reference Areas

SUI will use the extended reference area concept, as defined in WDEQ/LQD Guideline No. 2, to evaluate the success of revegetation. The extended reference area means all of the undisturbed portions of a vegetation type which has experienced disturbance in any phase of the ISR process. At the end of decommissioning, quantitative vegetation data for extended reference areas representing each disturbed vegetation type will be directly compared by statistical analysis to quantitative vegetative data from reclaimed vegetation types. WDEQ/LQD requires a confidence level of 80% with no mathematical adjustments for climatic change. Qualitative comparisons between extended reference areas and reclaimed areas will also be required for each disturbed vegetation type. WDEQ/LQD will be consulted when choosing the extended reference area and when selecting the standard procedures for qualitative comparisons. Prior to release of the WDEQ/LQD reclamation bond, SUI will demonstrate revegetation success through quantitative and qualitative comparisons between external reference areas and reclaimed areas for each disturbed vegetation type. Monitoring of revegetated areas prior to final WDEQ/LQD reclamation bond release will be conducted using a schedule approved by WDEQ/LQD. The minimum bond release period recommended by WDEQ/LQD for non-coal mines (which includes ISR uranium recovery facilities) is 5 years. Visual assessments of reclamation will be conducted to evaluate vegetation establishment prior to the final monitoring required for WDEQ/LQD reclamation bond release.

3.5 Reclamation Cost Estimate

SUI currently maintains a reclamation bond for Permit to Mine 481 in favor of the State of Wyoming. The bond will be updated to include the Project and to add the BLM as an additional beneficiary. As discussed in Section 2.10, UEC will provide BLM with a copy of the annual report for Permit to Mine 481, which will include annual updates to the surety estimate for project reclamation.

4.0 MONITORING AND MITIGATION PLANS

This section describes the monitoring and mitigation plans for the Sweetwater Uranium Project.

4.1 Cultural and Paleontological Resources Mitigation

4.1.1 Cultural Resources

Potential impacts on cultural may occur mainly during the site preparation and construction phases, especially when vegetation and topsoil removal is involved. Class I and III cultural resource surveys will be performed over the Project area and will be submitted to BLM to supplement this PoO.

Following completion of the baseline cultural surveys, SUI will work with the BLM to develop an Unanticipated Discovery Plan (UDP) consistent with applicable federal regulations, including the Native American Graves Protection and Repatriation Act (NAGPRA). The UDP will outline the process of notification, evaluation, and actions to be taken should unanticipated cultural resources be found during the development of the facility.

In the event that unanticipated cultural resources, including but not limited to archaeological materials, paleontological resources, or Native American human remains or associated funerary objects, are discovered during construction, operations, aquifer restoration, or decommissioning, all work in the vicinity of the discovery will cease immediately and the UDP will be implemented. For any discoveries subject to NAGPRA, SUI will follow the BLM RFO NAGPRA Plan of Action, which will be incorporated by reference into the UDP. Implementation will include immediate notification of the BLM Authorized Officer and adherence to all requirements for site protection, evaluation, consultation with affiliated Tribes, and subsequent actions as directed by BLM in accordance with NAGPRA.

4.1.2 Paleontological Resources

As described in Section 6.10.2, following completion of the baseline paleontological surveys SUI will work with the BLM to develop an Unanticipated Paleontological Discovery Plan (UPDP).

Potential impacts to paleontological resources may also occur during site preparation and construction, particularly in areas involving ground disturbance. A paleontological survey will be conducted for the Project area and submitted to the BLM. A paleontological treatment plan will be provided in Appendix H.

The UPDP will also include procedures to be followed in the event that unanticipated paleontological resources are discovered during construction, operations, aquifer restoration, or decommissioning. If such resources are encountered, work in the immediate area will cease and appropriate notification and mitigation measures will be implemented in coordination with the BLM.

4.2 Topsoil Management

ISR uranium recovery does not disturb soil to the extent of conventional open-pit mining, but a portion of the soils within the Project area will be impacted. Activities resulting in soil manipulation include clearing vegetation, topsoil stripping, excavation, backfill, and reclamation. In general, soil impacts will be dependent on the area, type and length of disturbance.

Most soil disturbance will occur during construction and decommissioning. Construction of access roads and mine units will result in short and long term soil disturbance. Areas such as utility corridors and well pads will be reclaimed soon after construction, while roads will be disturbed throughout the life of the project. Potential soil impacts vary by severity and may include soil loss, compaction, salinity, loss of soil productivity, and soil contamination.

An Order 1/2 soil survey will be completed over the Project area and will be submitted to BLM to supplement this PoO. Potential soil loss impacts will be minimized by implementing BMPs related to topsoil handling, storm water control, sediment control, and wind erosion protection.

4.2.1 Topsoil Handling

Several stockpiles will be used for the temporary storage of topsoil material. Stockpiles will be located on the leeward side of hills, when available, to minimize wind erosion. Topsoil stockpiles will not be located in drainage channels or other locations that could lead to a loss of material. Topsoil stockpiles in the wellfield will be located near access roads. All stockpile slopes will be built at 3H:1V or flatter, and stockpiles will be clearly marked with a “topsoil” label and unique ID. Traffic flow during stockpiling and re-spreading will be minimized to reduce compaction. Each topsoil stockpile will be seeded during inactive periods with an appropriate perennial seed mix to prevent wind and water erosion. A ring ditch and water collection sump will also be constructed around each topsoil stockpile to trap sediment.

During excavation of mud pits associated with well construction, and delineation drilling activities, topsoil will be separated from the subsoil with a backhoe. The topsoil will be removed and placed in a separate temporary stockpile, while the subsoil is removed and deposited next to the mud pit. When the use of the mud pit is complete, usually within 30 days, the subsoil will be re-deposited in the mud pit followed by replacement of topsoil. As described in Section 2.3, SUI proposes to use a combination of portable mud pits and excavated mud pits depending on surface and vegetation conditions.

Pipeline and utility trench construction follows a similar procedure. The topsoil and subsoil will be stored separately, typically on opposite sides of the trench, with the topsoil being placed on top of the subsoil after the trench has been backfilled. Alternately, the topsoil may also be bladed to the side to allow for pipeline or utility installation and then bladed back after construction is complete. SUI may also evaluate the use of spider plow which reduces surface disturbance associated with laying pipelines and utilities.

4.2.2 Sediment Control

During construction and other initial ground-disturbing activities temporary permanent sediment control best management practices (BMPs) will be implemented in accordance with the approved construction-phase Stormwater Pollution Prevention Plan (SWPPP) until final stabilization is achieved.

Following final stabilization of disturbed areas, stormwater management during the operations phase will be managed by a stormwater program authorized under the WYPDES Multi-Sector General Permit for Industrial Activities (or an equivalent permit or stormwater management plan approved by WDEQ), which will remain in effect for the life of the Project.

Sediment control mitigation measures will be implemented in all disturbed areas to minimize soil loss and water quality impacts from sediment transport. Mitigation measures include:

- Avoiding construction or minimizing disturbance in sensitive areas
- Using temporary sediment control BMPs such as silt fence, sediment logs, and straw bale check dams. Silt fence will typically be used at the toes of disturbed slopes to trap sediment. Sediment logs and straw bale check dams will typically be used in disturbed drainages to capture sediment.
- Incorporating wing ditches and water collection sumps into topsoil stockpiles
- Restoring and re-seeding disturbed areas promptly, typically within one construction season

4.2.3 Wind Erosion Protection

Mitigation measures designed to minimize soil loss from wind erosion include:

- Wetting exposed soil during construction
- Restoring and re-seeding disturbed areas promptly, typically within one construction season

4.2.4 Soil Compaction Mitigation Measures

Potential soil compaction impacts will be minimized by using existing roads where possible. Two county roads traverse the Project area, and numerous two-track roads are found throughout the Project area. These will be used by SUI during all project phases. In addition, SUI will minimize secondary access road widths and may implement a one-way in/one-way out policy to access header houses and monitor wells.

Areas that undergo compaction, such as access roads, will be ripped, as needed, to a minimum depth of 2 feet during decommissioning. Methods that may be used include ripping compacted soil with the teeth of a grader or tractor, using a winged ripper, or loosening compacted soil with a disc, or simply replacing topsoil and re-seeding. SUI will work with BLM and WDEQ/LQD to refine these techniques.

4.2.5 Soil Salinity Mitigation Measures

The baseline soil study will include an analysis of soil salinity. Saline soils can be susceptible to soil loss if disturbed due to difficulty in establishing vegetation during reclamation. Based on this, SUI will limit disturbance in areas with saline soils.

4.2.6 Loss of Soil Productivity Mitigation Measures

SUI will implement the following mitigation measures to minimize potential loss of soil productivity:

- Segregating topsoil from subsoil during construction
- Protecting topsoil stockpiles from wind and water erosion
- Seeding topsoil stockpiles during inactive periods with an appropriate perennial seed mix
- Redistributing topsoil and applying a permanent seed mix approved by BLM and WDEQ/LQD during decommissioning

4.2.7 Soil Contamination Mitigation Measures

Soils in the mine units could be contaminated by spills or leaks during the various project phases. During wellfield construction, potential soil contamination impacts from drilling fluid and drilling mud will be minimized by directing drilling fluids and muds into mud pits or portable pits to control the spread of fluids. During work over operations, contaminated liquids from production and injection wells will be contained in portable tanks and transported to the TSF ponds for disposal. Minor fuel and oil leaks will be promptly cleaned up and contaminated soil removed and disposed of in a land farm permitted through WDEQ/SHWD.

Soils contaminated with process fluids resulting from spills or leaks will be sampled, removed, and transported as necessary to the TSF or other licensed disposal facility. Soil survey and cleanup methods are presented in Section 3.2.2.

4.3 Ecological Monitoring

4.3.1 Vegetation

SUI will complete vegetation surveys within the Project area and submit the baseline vegetation report as a supplement to this PoO.

All existing rangeland monitoring locations will be protected from disturbance. If a monitoring location is anticipated to be affected by project activities, BLM will be contacted and required monitoring will be conducted prior to disturbance. If a monitoring location can no longer be maintained, a nearby replacement location may be established, in coordination with BLM, to maintain continuity of the monitoring program.

To the extent possible, SUI will avoid removing sagebrush. Methods that may be used to avoid removal of sagebrush will include using a spider plow for installation of pipelines and utilities, locating laydown areas away from dense sagebrush areas, using a winged ripper during reclamation.

Revegetation practices will be conducted in accordance with WDEQ/LQD regulations and the WDEQ/LQD permit to mine. Disturbed areas will be seeded to re-establish a vegetative cover to minimize wind and water erosion and the invasion of undesired plant species. A temporary seed mix may be used in wellfields and other areas where the vegetation will be disturbed again prior to final decommissioning and final revegetation. Permanent seeding will be accomplished with a seed mix approved by the BLM and WDEQ/LQD.

As described in Section 3.4.3.1, the extended reference area concept, as defined in WDEQ/LQD Guideline No. 2, will be used to evaluate the success of revegetation. In addition, SUI will follow BLM guidelines and recommendations on weed prevention measures.

4.3.2 Wildlife

SUI will complete wildlife surveys within and surrounding the Project area and submit the baseline wildlife report as a supplement to this PoO. Following completion of the baseline wildlife survey, SUI will develop a Mitigation Plan regarding MBTA. The plan will be provided to USFWS/BLM for review.

The following outlines the regulatory guidelines and requirements that SUI will employ:

- Fencing designed to permit big game passage;
- Use of existing roads when possible, and location of newly constructed roads to access more than one drill site;
- Implementation of speed limits to minimize collisions with wildlife, especially during the breeding season;
- Adherence to timing and spatial restrictions within specified distances of active sage-grouse leks as determined through consultation with WGFD and WDEQ/LQD;
- Consultation with WGFD, BLM, and WDEQ/LQD to determine if a sage-grouse monitoring, protection, and habitat enhancement plan is necessary for the Project;
- If direct impacts to raptors or migratory bird species of management concern result from ISR development and operations, a Monitoring and Mitigation Plan for those species must be prepared and approved by the USFWS.

Monitoring

- Wildlife monitoring will be conducted to document baseline conditions and wildlife use of the Project area.
- Monitoring activities may include raptor and migratory bird use surveys and other agency-recommended monitoring protocols.
- Monitoring will be conducted independently of potential project impacts and is not contingent upon observed effects from Project activities.

Mitigation

- Relocation of active and inactive raptor nests that would be impacted by drilling, construction, or operation activities in accordance with the approved raptor monitoring and mitigation plan;
- Creation of raptor nests and nesting habitat through enhancement efforts such as nest platforms to mitigate other nest sites impacted by ISR operations;
- Obtaining appropriate permits for all removal and mitigation activities;
- Establishing buffer zones protecting raptor nests where necessary and restricting mine-related disturbances from encroaching within buffers around active raptor nests (from egg-laying until fledging) to prevent nest abandonment, or injury to eggs or young;
- Reestablishing the ground cover necessary to attract and sustain a suitable raptor prey base after drilling, construction, and future ISR uranium recovery; and
- Required use of raptor-safe construction for overhead power lines according to current guidelines and recommendations by the Avian Power Line Interaction Commission and/or USFWS;

Reclamation and Restoration

- Reclamation and restoration of sagebrush and other shrub communities will occur following the conclusion of surface-disturbing activities, including grading to create landforms suitable for sagebrush-obligate species.
- Reclamation and restoration of pre-drilling and pre-construction native habitats will occur following the conclusion of surface-disturbing activities.
- Reclamation activities will include restoration of diverse landforms, direct topsoil replacement, and installation of habitat features such as brush piles, snags, and/or rock piles to enhance wildlife habitat.

4.4 Groundwater Monitoring

4.4.1 Monitor Well Baseline Water Quality

After delineation of the mine unit boundaries, monitor wells will be installed according to the previously noted spacing and frequency. After completion, wells will be washed out and developed (by air flushing or pumping) until water quality in terms of pH and specific conductivity appears stable and consistent with the anticipated quality of the area. After development, wells will be sampled to obtain baseline water quality.

After baseline water quality is established for the monitor wells for a particular mine unit, upper control limits (UCLs) will be established for certain chemical constituents which would be indicative of a migration of lixiviant from the well field. The constituents chosen for indicators of lixiviant migration are chloride, conductivity, and total alkalinity. Chloride was chosen due to its low natural levels in the native groundwater and because chloride is introduced into the lixiviant from the ion exchange process (uranium is exchanged for chloride on the ion exchange resin). Chloride is also a very mobile constituent in the groundwater and will show up very quickly in the case of a lixiviant migration to a monitor well. Conductivity was chosen because it is an excellent general indicator of overall groundwater quality. Total alkalinity concentrations may be affected during an excursion as bicarbonate is the major constituent added to the lixiviant.

During routine sampling, if two of the three UCL values are exceeded in a monitor well, the well is re-sampled within two days of the first sample and analyzed for the excursion indicators. If the second sample does not exceed two out of three UCLs, a third sample is taken within two days from the second sample. If neither the second or third sample results exceed two of the three UCLs, the first sample is considered in error.

If the second or third sample verify an exceedance of two out of the three UCLs, the well in question will be placed on excursion status. Upon verification of the excursion, the WDEQ is notified by telephone and e-mail within 24 hours and are notified in writing within 7 days. In addition, SUI will include BLM on all correspondence with WDEQ related to an excursion..

When an excursion is verified, the following methods of corrective action will be instituted (not necessarily in the order given; response is dependent upon the circumstances):

- A preliminary investigation will be completed to determine the probable cause.
- Production and/or injection rates in the vicinity of the monitor well will be adjusted as necessary to increase the net over-recovery, thus forming a hydraulic gradient toward the production zone.
- Individual injection wells may be pumped to enhance recovery of mining solutions.
- Injection into the well field area adjacent to the monitor well may be suspended. Recovery operations continue, thus increasing the overall bleed rate and the recovery of well field solutions.

In addition to the above corrective actions, sampling frequency of the monitor well on excursion status will be increased to weekly. An excursion is considered concluded when the concentrations of excursion indicators do not exceed the criteria defining an excursion for three consecutive one-week samples.

4.5 Surface Water Monitoring

The Project is located within the Great Divide Basin, which is closed basin. In addition, surface water is limited in the area due to low precipitation and high infiltration.

During construction activities, surface water protection measures will be implemented in accordance with the approved construction-phase SWPPP. Upon completion of construction and final stabilization, stormwater discharges associated with industrial activities will be managed under a WYPDES Multi-Sector General Permit for Industrial Activities (or an equivalent operations-phase stormwater management program).

SUI will implement the following mitigation measures to minimize potential impacts to surface water:

- Adherence to BMPs specified in SWPPP.

- Limit soil compaction and removal and protect excavated topsoil material from erosion in accordance with the Spill Prevention, Control, and Countermeasure (SPCC) Plan.
- Reclaim and reestablish vegetation in disturbed areas upon completion of construction.

4.6 Air Quality Monitoring

SUI will submit a Chapter 6, New Source Construction, permit application to the WDEQ/AQD. Emissions at the site will be limited to construction equipment (e.g., drill rigs, backhoes, etc.) and vehicles.

SUI will continue to operate the meteorological station located near the Sweetwater Mill. The meteorological station will continue to collect continuous measurements of wind speed, wind direction, temperature, relative humidity, precipitation, and evaporation.

4.7 Wetland Mitigation

As described in Section 6.4.5, SUI is working with the Army Corp of Engineers and will be completing a Level 3 Delineation to verify NWI wetlands in the spring/summer 2026. The results of the delineation will be provided to the Army Corp of Engineers. To the extent practicable SUI will avoid wetlands. In the event that wetlands may be disturbed, SUI will conduct mitigation that may include reestablishing temporarily disturbed wetlands in place, enhancing other existing wetlands, or constructing additional wetland areas in circumstances where disturbance will be long term. Mitigation measures will ensure that there is no net loss of wetlands.

4.8 Protection of Survey Monuments

As directed in 43 CFR 3809.420 Surface Management (b)(9) Protection of survey monuments. To the extent practicable, all operators shall protect all survey monuments, witness corners, reference monuments, bearing trees and line trees against unnecessary or undue destruction, obliteration or damage. If, in the course of operations, any monuments, corners, or accessories are destroyed, obliterated, or damaged by such operations, the operator shall immediately report the matter to the authorized officer. The authorized officer shall prescribe, in writing, the requirements for the restoration or reestablishment of monuments, corners, bearing and line trees.

4.9 Recreational Activities

Operations will utilize existing roads, including Min Exploration Road and Wamsutter Crooks Gap Road, for access, equipment transport, and routine operational traffic. These routes are also used by members of the recreating public. Potential hazards to public land users include interaction with heavy equipment, increased traffic volumes, reduced visibility from dust, noise, and temporary road obstructions. To minimize risks to the recreating public, SUI will implement the following precautions and operational duties:

- Install temporary and permanent warning signage at key access points and intersections.

- Use durable, weather-resistant signs with high-visibility lettering and standardized warnings.
- Implement speed restrictions for project-related vehicles on shared roads.
- Limit operational traffic to designated routes.
- Train personnel on public interaction and defensive driving practices.
- Coordinate with the BLM RFO regarding traffic volumes and mitigation measures.

4.10 Visual Resources

Section 2.4 describes the site facilities and layout that will result in changes to the landscape at the Project. These new facilities will introduce new elements of form, line, color and texture into the landscape. However, because of the small surface footprint and low profile of ISR uranium recovery facilities, no major visual impacts will occur. SUI may implement the following mitigation measures to reduce the visual effects of the wellfields and drill rigs during the construction, operation, and reclamation phases.

- Well head covers will be approximately 3 feet tall. SUI will choose a neutral color for the well head covers to further screen the locations. When aquifer restoration is complete and regulatory approval is granted in specific wellfield modules, SUI will reclaim and re-seed those areas.
- Construction equipment will be on site temporarily; however, drill rigs may be in operation for the duration of the project. To reduce the visual impacts, SUI will minimize the amount of nighttime drilling.

5.0 INTERIM MANAGEMENT

The following Interim Management Plan (IMP) was developed in compliance with 43 CFR 3809.401(b)(5). The plan addresses how SUI will manage the Project area during any temporary or seasonal closure to prevent unnecessary or undue degradation of the environment. This plan applies to both planned and unplanned non-operational periods at the facility.

The Project has an expected mine life of approximately 20 years from the installation of the ISR circuit equipment through final decommissioning and regulatory approval. As further exploration is performed, additional resources may be delineated for mining, thus extending the life of the project. Various reasons may exist for temporary closures throughout the life of mine such as:

- Uneconomical mining environment i.e. uranium price drop and/or mining costs increase.
- Lack of adequate manpower to operate the mine safely and efficiently.
- Road closures due to weather or other causes.
- Inadequate ore reserves or grade resulting in additional exploration activities prior to advanced development.
- Loss of ore purchase agreement.

5.1 Measures to Stabilize Excavations and Workings

There are no underground mine workings associated with the Project. During construction and other temporary disturbance activities, erosion and sediment controls will be implemented and maintained in accordance with the approved construction-phase SWPPP. Areas experiencing erosion and/or runoff will be monitored periodically in accordance with the approved SWPPP. All drainage features will be inspected periodically and cleaned and maintained as necessary.

Following final stabilization, stormwater and erosion controls will be maintained under the operations-phase stormwater management program authorized pursuant to the WYPDES Multi-Sector General Permit (or equivalent).

During temporary closure or interim management periods, the following measures may be implemented as necessary:

- All surface disturbances and mine unit components will be stabilized to prevent erosion, subsidence, or unsafe conditions.
- ISR wellfields: If ISR wellfields are still undergoing mining and have not been restored, a well or wells will be pumped to maintain an inward hydraulic gradient within that wellfield. The inward hydraulic gradient will be maintained by pumping a well or wells in the wellfields at appropriate rates. Water levels and water quality will be measured every two (2) weeks to ensure the inward gradient is maintained. In the event of a temporary loss of line power, the well or wells may be operated with generators.
- Surface Disturbances: Any excavation, trench, or sump undergoing construction will be stabilized to prevent stormwater accumulation.

- Erosion Control: Existing stormwater ditches, berms, and erosion controls will remain in place and be inspected following major precipitation events.
- Temporary seeding or surface roughening will be used as needed to minimize sediment transport.

5.2 Measures to Isolate or Control Toxic or Deleterious Materials

SUI will isolate and control all process fluids to ensure protection of surface and groundwater. Diversion berms and culverts will be maintained to prevent contact between stormwater and process materials, as required by 43 CFR 3809.420(c)(12)(vii).

During short-term closure, oxygen (the only chemical to be stored within the Project) will be maintained such that operations could resume at any time.

In the event of a long-term closure (six-months or longer), oxygen will continue to be stored unless the vessels are sent back to the oxygen vendor.

5.3 Provisions for the Storage or Removal of Equipment, Supplies, and Structures

Equipment and structures (header houses and booster pump stations) will be maintained during a short-term closure period. Other equipment and vehicles will be parked near the Sweetwater Mill. Structures not required for standby may be de-energized and secured against unauthorized access. Electrical and mechanical systems necessary for environmental or safety monitoring (e.g., leak detectors, alarms, etc.) will remain operational.

5.4 Measures to Maintain the Project Area in a Safe and Clean Condition

SUI will maintain the Project area in a safe, clean, and orderly condition throughout the non-operational period.

Site safety will be maintained by discouraging unauthorized access using locked gates, fences, and warning/safety signage. All buildings will be kept locked when not in use. The gates to the Sweetwater Mill will also be locked when personnel are not present. All potential hazards (e.g., open trenches, energized systems) will be secured, and warning signage maintained.

Stormwater controls and drainage structures will be inspected and maintained in accordance with the applicable stormwater permit or stormwater management plan in effect at the time, including the construction-phase SWPPP as well as the operations-phase stormwater program authorized under the WYPDES Multi-Sector General Permit following completion of construction.

5.5 Plans for Monitoring Site Conditions During Periods of Non-Operation

During a temporary closure or non-operation, environmental monitoring will continue in accordance with applicable licenses and permits. This will include monitoring of:

- Monitoring wells: The approved WDEQ Class III UIC monitoring network will remain active, with continued sampling of perimeter and over/underlying aquifer wells at the approved frequency for the approved constituents and water levels.

- Radiological Monitoring: Radiation and radon monitoring will continue under license conditions.
- Site Inspections: General site inspections will be conducted as required by applicable permits and licenses to verify the stability and condition of roads, drainage features, and wellfield infrastructure. Inspections will also include monitoring for the presence of noxious and invasive weed species.
- Stormwater per the SWPPP.

5.6 Schedule of Temporary Closure and Notification Procedures

No seasonal or maintenance shutdowns of the Project are anticipated at this time. In the event that wellfield transitions, major maintenance, market conditions, or other circumstances require a temporary shutdown of operations, SUI will provide notice to the BLM and WDEQ within 30 days after such suspension in compliance with Part 3802.4-7 of Title 43 of the CFR. This notice will include:

- Reason for the suspension,
- Verification of intent to maintain structures, equipment, and other facilities,
- The expected reopening date,
- Current mine contact information, and
- Any revisions to this Interim Management Plan.

If the suspension of operations extends beyond 24 months, WDEQ and BLM will be notified.

6.0 BASELINE ENVIRONMENTAL

6.1 Land Use

The land within the Project area is primarily public land, managed by the BLM through the Rawlins Field Office (92.9 percent) and the remaining 7.1 percent is owned by the State of Wyoming (Map 1-1). The surrounding area is also largely publicly owned, with the majority being public land and a smaller percentage being state land and private holdings.

Historically, the land use within the Project area and vicinity has included livestock grazing, wildlife habitat, dispersed recreation, minerals and energy development, and infrastructure.

6.1.1 Livestock Grazing

The primary land use in the Project area is rangeland for cattle and sheep; no farms, residences, or population centers are present. The only agricultural production within the Project area and vicinity is related to livestock grazing, which is managed in accordance with BLM grazing regulations (43 CFR 4100).

The Project area lies entirely within the Cyclone Rim grazing allotment (Map 6.1-1). The Cyclone Rim Allotment occupies just over 300,000 acres of which the vast majority is public. The Project area will overlap approximately 3 percent of the Cyclone Rim grazing allotment.

Animal Unit Months (AUMs) of summer and winter grazing are associated with the allotment. An AUM is a common unit of measure defined as the amount of forage to sustain one mature cow and calf (or the equivalent) for one month. The total AUMs of the Cyclone Rim grazing allotment are:

- Summer Cattle: 22,294 AUMs (21,060 AUMs for public land)
- Winter Cattle: 27,504 AUMs (26,012 AUMs for public land)
- Summer Sheep: 22,595 AUMS (21,408 AUMs for public land)
- Winter Sheep: 42,975 AUMS (40,661 AUMs for public land)
- Horses: 15,537 AUMS (14,682 AUMs for public land)

Cattle graze the project area primarily in the winter. Sheep also use the area west of the Sweetwater County Road #23 (Wamsutter-Crooks Gap Road). The portion of the Cyclone Rim allotment within the Project area provides as much as 781 AUMs of cattle grazing. Approximately 5,175 acres of the project area is within the portion of the Cyclone Rim Allotment where sheep use is authorized in the winter. This area can provide up to 860 AUMs to sheep in the winter. Water sources that support this grazing are discussed in Sections 6.4 and 6.5.

6.1.2 Recreation

The Bureau of Land Management (BLM) manages recreation on public lands using the Recreation Opportunity Spectrum (ROS), which classifies recreational settings based on physical, social, and managerial characteristics. ROS classes range from Primitive to Urban and reflect degrees of remoteness, naturalness, visitor encounters, and management controls. Based on the presence of primitive roads, nearby improved roadways, grazing infrastructure, and historic and ongoing mineral development, the Project area is characterized as Roaded Natural to Rural. Modifications to the natural environment are noticeable but generally blend with the surrounding landscape, and managerial controls and visitor services are limited. The Project area lies within lands managed consistent with the Western Extensive Recreation Management Area (ERMA) administered by the BLM Rawlins Field Office. Public access is generally classified as Middle Country, which occurs more than 0.5 miles from improved roads and allows both motorized and mechanized uses with minimal restrictions. Under these conditions, moderate levels of user encounters, vehicle tracks, and intermittent engine noise are expected.

Approximately 22 miles northeast of the Project area lies Green Mountain, which contains the only developed recreation facility in this several-hundred-square-mile region. Green Mountain provides a developed campground with 18 campsites, potable water, vault toilets, and related amenities. The campground is seasonally closed during elk calving periods and is generally under-utilized. Recreational activities at and near Green Mountain include sightseeing, hunting, rock hounding, wild horse viewing, fishing, mountain biking, and picnicking. No developed recreation facilities occur within two miles of the Project area. However, dispersed recreation use is common and represents the dominant form of public land use in the area. Dispersed recreation includes activities such as off-highway vehicle (OHV) riding, casual driving, hunting, hiking, camping, rock collecting, wildlife and wild horse viewing, mountain biking, and horseback riding.

Hunting is a principal recreation pursuit for both Wyoming residents and out-of-state visitors. In Wyoming, hunting is permitted on public and private lands alike, with state agencies such as the Wyoming Game and Fish Department (WGFD) and federal agencies such as BLM providing access. WGFD manages a range of big-game species—mule deer, white-tailed deer, elk, moose, pronghorn, bighorn sheep—and game birds including grouse, wild turkey, and pheasant.

The Project area falls within WGFD Antelope Hunt Area 61 (Chain Lakes), Deer Hunt Area 98 (Chain Lakes) and Elk Hunt Area 118 (Shamrock Hills). In 2024, 40 antelope were harvested over 221 hunter-days, 5 mule deer were harvested over 132 hunter-days, and 94 elk were harvested over 1,289 hunter-days (WGFD 2025b).

Traffic counter data collected by the BLM indicate that Mineral Exploration Road receives approximately 1,500 to 3,000 vehicle visits per month, reflecting substantial and ongoing public use. In addition, the Continental Divide National Scenic Trail (CDNST) intersects and parallels portions of Min Exploration Road and Wamsutter Crooks Gap Road. CDNST users, primarily hikers, frequently travel these routes during the late spring through early fall seasons and are particularly exposed to vehicle traffic.

The Project area lies within Wyoming Game and Fish Department Antelope Hunt Area 61, Deer Hunt Area 98, and Elk Hunt Area 118. Hunting activity typically increases from September through December, with peak use occurring in October and November.

6.1.3 Mineral Development

6.1.3.1 Uranium

Wyoming has been the nation's leading producer of uranium ore since 1995 and hosts the nation's largest-known economic uranium reserves, which are located across the Powder River Basin, Great Divide Basin, Shirley Basin, and Gas Hills. (Wyoming State Geological Survey, 2024).

The closest uranium project to the Project area is Ur-Energy's Lost Creek ISR Project. The southern boundary of the Lost Creek Project is approximately 2 miles northeast of the northern Project area boundary. The Lost Creek ISR Project has produced approximately 2.8 million pounds of U_3O_8.

To the northwest, in the Gas Hills of the Wind River Basin, there was considerable historic uranium mining. Most of the sites are in reclamation or have been reclaimed by the operator or the WDEQ. There is some continued mining interest, including exploration work, one ISR project in permitting, and potential restart of surface mining. These projects are on the order of 50 miles from the Project area, in a different geologic and ecological setting.

6.1.3.2 Oil and Gas

There has been scattered oil and gas exploration drilling in the northern portion of the Great Divide Basin. Map 6.1-2 shows the producing and plugged and abandoned oil and gas wells within the Project and 2-mile buffer. The closest gas well is temporary abandoned and located about 1.5 miles southwest of the Project area. The well is completed at a depth of 12,790 ft in the Almond Formation.

The Lost Soldier-Wertz Oil Fields near Bairoil were discovered in the early 1900s and continue to be produced. The closest portion of these fields is 20 miles northeast of the Project area. The oil fields are in their final stage of production, under carbon dioxide injection (enhanced oil recovery) since 1989. The Bison Basin Oil Field is another old, but still producing, field and is about 16 miles to the west-northwest of the Project area.

The most extensive development in the region relates to the Continental Divide and Creston Blue Gap gas fields and subsequent infill projects. The development is on the checkerboard pattern of private and federal surface and mineral ownership that resulted from historic land grants from the federal government for railroad development. One infill project is the Wind Dancer Natural Gas Development Project (WDNGDP), which encompasses about 6,400 acres, located approximately 10 miles southwest of the Project area. The WDNGDP has two wells currently producing gas (MA 2025).

6.1.3.3 Coal

There are no surface or underground coal mines in the eastern portion of the Great Divide Basin. There are two coal mines (the Bridger and Black Butte Mines) in the western portion of the Great Divide Basin over 35 miles away.

6.1.4 Infrastructure

The Project area is served by an Interstate Highway (I-80), a US Highway (US 287), local County roads including Wamsutter-Crooks Gap Road (CR23) and Mineral Exploration Road (CR 63), and BLM roads.

Wyoming has a network of pipelines that deliver carbon dioxide, oil, natural gas, and water throughout the State. Pipelines within the area are depicted on Map 6.1-3. The Project has one natural gas pipeline going through the Project, which is owned by Conoco Philips.

There is a power line that extends north-south along the western boundary of the Project area (Map 6.1-3). The right-of-way (ROW) easement for this power line is 25 feet wide.

6.2 Geology

6.2.1 Regional Geology

The Project is located in the Great Divide Basin (GDB) portion of the Greater Green River Basin (GGRB). Together the GDB and Washakie Basin make up the eastern portion of the GGRB. These basins contain up to 25,000 ft of Cretaceous to recent sedimentary rocks. Figure 6.2-1 is a generalized stratigraphic column of the GGRB.

During the end of the Cretaceous Period, the Laramide Orogeny divided the Wyoming Basin Province into a series of down-warped basins. As these basins were created, uplift created the Granite and Seminoe Mountains, and older formations were altered during the same time. In the northern regions of the GGRB, swamps, alluvial plains and fluvial fans were present at the margins of the uplifted Granite Mountains. To the southwest, the GGRB is occupied by the lacustrine Eocene Green River Formation and by the lower energy Wasatch Formation. These two facies interfinger with the high-energy fluvial facies of the Battle Spring Formation at the central and eastern areas in the GGRB (Dribus and Nanna 1982). In the Green Mountain area, the Battle Spring Formation is capped by the Eocene-Oligocene Crooks Gap Conglomerate, and the Paleocene Fort Union Formation underlies the Wasatch or Battle Spring Formation depending on position within the basin. Uranium deposits in the GDB/WB predominantly occur in roll-front redox deposits but also in desert evaporite (Gregory et al. 2010). Roll-front deposits occur in the Battle Spring, Wasatch and Fort Union formations.

The Battle Spring Formation consists of alluvial-fluvial fan deposits of a west to southwest-flowing paleo drainage. The common rock type is arkosic sandstone with interbedded claystone. These types of rock are typical of alluvial fan facies. Much of this material is sourced from the Granite Mountains, by blockages in normal drainages due to differential subsidence rates. The Wasatch Formation, due to its fluvial nature, contains interbedded siltstones, coal, carbonaceous shale, fine-grained sandstone, sandy limestone and medium-grained fluvial sandstones. The permeable medium- to very coarse-grained sandstones and arkoses are a favorable host for sandstone-type uranium deposits. Fluvial channels incised into less permeable underlying siltstones and sandstones in the Battle Spring during early Eocene time. The channels were backfilled by the massive, poorly sorted, coalescing alluvial fan deposits, known as the Battle Spring Formation. The Battle Spring Formation includes impermeable carbonaceous shales that created an impermeable boundary for uranium deposits.

The Fort Union Formation is exposed at the surface around the boundary of the GDB. The Fort Union Formation is described as an interbedded sequence of white, gray, tan, buff and brown sandstone, gray to black shale, carbonaceous shale, siltstone, local conglomerate beds and (usually) thin coal beds (Gregory et al. 2010). It may truncate and unconformably overlie older units near basin margins. The Fort Union Formation is unconformably underlain by the Cretaceous Lance Formation and regionally overlain by either the Eocene Wasatch or Battle Spring Formation.

The Lance Formation is described as a gray to buff fine-grained to very fine-grained silty sandstone interbedded with drab to light green to gray locally carbonaceous siltstone and thin conglomeratic lenses locally (Gregory et al. 2010). The Lance Formation contains the upper Red Rim Member and the lower (unnamed) member. The Red Rim Member is a prominent sandstone package named for its color as it crops out south of Interstate 80 on the eastern rim of the WB (Lynds and Carroll 2015).

Overbank and floodplain deposits in the Battle Spring Formation also were likely to restrict groundwater flow. These boundaries focused uranium-rich waters into confined permeable units. Faulting also created structural and permeability control (Wallis 2005).

6.2.2 Local Geology

Within the Project area, mineralization occurs across multiple sandstone horizons within the Battle Spring Formation. The mineralization occurs at an average depth of 340 to 490 ft and is below the water table. The average thickness of mineralization ranges from 7 ft to 9 ft, but uranium subrolls are often observed to be vertically stacked upon one another in excess of 40 ft. Map 6.2-1 and Figure 6.2-2 show a cross-section location map and cross section, respectively, for the Project.

The Project area is located in a region with low seismic activity and no known faults have been mapped within the Project area.

6.2.3 Deposit Type

Uranium mineralization is typical of Wyoming roll-front sandstone deposits. The formation of roll-front deposits is largely a groundwater process that occurs when uranium-rich, oxygenated groundwater interacts with a reducing environment in the subsurface and precipitates uranium. The most favorable host rocks for roll-fronts are permeable sandstones within large aquifer systems. Interbedded mudstone, claystone and siltstone are often present and aid in the formation process by focusing groundwater flow. The geometry of mineralization is dominated by the classic roll-front “C” shape or crescent configuration at the redox interface. The highest-grade portion of the front occurs in a zone termed the “nose” within reduced ground just ahead of the alteration front. Ahead of the nose, at the leading edge of the solution front, mineral quality gradually diminishes to barren within the “seepage” zone. Trailing behind the nose, in oxidized (altered) ground, are weak remnants of mineralization referred to as “tails,” which have resisted re-mobilization to the nose due to association with shale, carbonaceous material or other lithologies of lower permeability. Tails are generally not amenable to ISR because the uranium is typically found within strongly reduced or impermeable strata, therefore making it difficult to leach (Davis, 1969; Rackley, 1972).

6.3 Soils

The bedrock is interbedded shales and sandstones, which serve as the parent material for the soils. The resulting soils are typical of semi-arid areas in Wyoming.

According to the USDA Web Soil Survey (2025) there have not been any soil surveys completed within the Project area. An Order 1/2 soil survey will be completed between April and May 2026 over the Project area. The final report will be completed in August 2026 and will be submitted to BLM as Appendix B, which will supplement this PoO.

6.4 Surface Water, Wetlands, and Aquatic Resources

6.4.1 Drainage Basins

The Project is located in the GDB, which is a topographically closed basin that drains internally due to the divergence of the continental divide. This project lies within five separate hydrologic unit code (HUC) areas (12 digit) (Map 6.4-1). A summary of the drainage areas of each HUC area is presented in Table 6.4-1. These HUC areas drain to Battle Spring Flat or Chain Lakes Flat south of the Project area. A significant portion of the surface water conveyed through the ephemeral channels (due to precipitation) does not reach the flats; it infiltrates or is lost to evapotranspiration (NRC 2011).

Table 6.4-1 USGS HUC 12 Areas Encompassing the Project Area

HUC Area Number	Name	HUC Area (Acres)	HUC Area within Project Area (Acres)	Portion of Project Area in HUC Area (%)
140402000209	Circle Bar Lake	34,488	177	0.5%
140402000105	Eagles Nest Draw	41,097	1,253	3.0%
140402000205	Unnamed	23,916	5,254	22.0%
140402000206	Battle Spring Draw	26,860	1,398	5.2%
140402000207	Battle Springs Flat	14,490	972	6.7%

Source: USGS 2025

6.4.2 Surface Water Features

The main source of surface water within the Project area is runoff from precipitation (rainfall and/or snowmelt). Most of the runoff quickly infiltrates the ground, evaporates, or is consumed by plants and animals. All of the channels within the project area are ephemeral, with no perennial or intermittent streams within/adjacent to the project area. Since all of the channels are ephemeral and the project area lies within a closed basin, surface water features within and around the project area are not connected to a tributary of a navigable waterbody exiting the basin.

6.4.3 Surface Water Runoff and Groundwater Quality

Historically, no surface water flow monitor sites were operated within or near the Permit to Mine 481 boundary during mining operations. In this area, peak flows have a short duration without sustain flow. In June 1976 during a storm that dropped 1-inch of rain over a 2-hour period, no runoff was observed.

Runoff estimates were calculated for Permit to Mine 481 for the flood control structures incorporated in the historical mine plan. These structures included a diversion ditch to route 9.1 square miles of drainage around the Sweetwater waste dump (Waste Dump Diversion), the Wamsutter Road Dam, and a diversion ditch and berm constructed just north of the historical REB Pit 5 (REB Trend Diversion) (Woodward-Clyde Consultants 1978). Calculated flows and volumes are provided in Table 6.4-2 and locations are depicted on Map 6.4-2.

Table 6.4-2 TDS and Specific Conductance Water Quality Testing

Location	Total Drainage Area (mi^2)	PMF, 6-Hour		100-Year, 24-Hour				Lowham Peak Flow (cfs)
				AMC III		AMC II		
		Peak Flow (cfs)	Runoff Volume (ac-ft)	Peak Flow (cfs)	Runoff Volume (ac-ft)	Peak Flow (cfs)	Runoff Volume (ac-ft)	
Waste Dump Diversion	9.1	21,600	5,250	3,050	1,000	1,450	500	1,550
Wamsutter Road Dam	20.1	-	-	3,350	2,150	1,650	1,100	1,950
REB Trend Diversion	22.4	-	-	3,200	2,400	1,550	1,250	2,050

Water samples were retrieved from springs within Permit to Mine 481 boundary for water quality testing. Results from the testing are summarized in Table 6.4-3.

Table 6.4-3 TDS and Specific Conductance Water Quality Testing

Section	Township	Range	Source	TDS (mg/L)	Specific Conductance (µmhos @ 25˚C)
8	22	91	Spring	505	769
2	24	90	Spring	170	261
30	26	94	Spring	578	859

6.4.4 Surface Water Use

Surface water rights within the Project area were queried using the WSEO water rights database (WSEO 2025). There are no surface water rights within the Project area.

6.4.5 Wetlands

No field investigations have been conducted because the Project is located within the GDB, which is a closed basin. Based on this, the surface water within the Project is not classified as a Water of the U.S. but is considered “waters of the state” under WS § 35-11-103(c)(vi) and is afforded protection under state and BLM regulations.

The National Wetland Inventory (NWI) indicates that there are four wetland types within the Project as shown on Map 6.4-3 (NWI 2025). These include 0.2 acre of freshwater ponds, 0.7

acre of freshwater forested/shrub wetland, 33.1 acres of freshwater emergent wetland, and 63.5 acres of riverine.

SUI is working with the U.S. Army Corp of Engineers to determine if a jurisdictional determination is necessary because no waters of the U.S. have been identified in the GDB. The U.S. Army Corp of Engineers has requested that SUI conduct a Level 3 Delineation Method (combination of desktop and on-site) to verify the desktop delineation source (NWI). The site verification will be completed in the spring/summer and results will be provided to the U.S. Army Corp of Engineers in August 2026.

6.4.6 Aquatic Ecology

Surface water may be present occasionally, but it is highly unlikely to sustain aquatic life. Based on this no surveys for aquatic life will be completed.

6.5 Groundwater

6.5.1 Regional Groundwater

Hydrostratigraphy and geologic formations in the GDB range in age from Precambrian to Quaternary. Precambrian rock is overlain by variable but generally significant thicknesses of sedimentary rocks which can extend up to 18,000 ft in thickness (Collentine et al. 1981).

Eight major water bearing zones, each consisting of one or more aquifers, have been identified in the GDB. The Battle Springs Formation, where mineralization is targeted at the Project, is part of the Tertiary aquifer system in the GDB. The Tertiary aquifer system is the most significant and widely distributed aquifer in the GDB and is one of the most accessible ground water sources in the area. Permeable sandstones of the Wasatch Formation are present throughout most of the Great Divide and sandstones and conglomerates of the Battle Spring Formation are at the surface in the eastern part of the GDB (Collentine et al. 1981).

Transmissivities in the Tertiary aquifer system range from <300 gpd/ft in the Laney Member to more than 1,000 gpd/ft in the Wasatch, Battle Spring, and Fort Union Formations. In the eastern GDB, transmissivity is estimated at 29 to 3,157 gpd/ft with well yields ranging from 1 to 157 gpm (26 wells tested). Specific capacity is typically less than 1 gpm/ft and pay zone porosity is 15 to 25 percent. The estimated coefficient of storage is 1×10^{-3}. Shallow (<1,500 ft) Tertiary groundwaters (from all member aquifers) generally contain <3,000 mg/l TDS. The Battle Spring and Wasatch aquifers in the GDB typically yield water with TDS values less than 1,000 mg/l. Samples from these aquifers also show that sodium, calcium, sulfate and bicarbonate are the dominate ions (Collentine et al. 1981).

Overlying the Tertiary aquifer system lies the Upper Tertiary aquifers and Quaternary aquifers. The Upper Tertiary aquifers include Browns Park Formation on the western side of the Sierra Madre uplift, the North Park Formation near Rawlins, and the South Pass Formation and Bishop Conglomerate in the Rock Springs uplift area (Collentine et al. 1981). None of these aquifer systems are present within the Project area. Quaternary aquifers play an important role in water extraction throughout the basin and generally produce lower TDS (<1,000) in the water.

Underlying the Battle Springs Formation is the Fort Union Formation, which is also part of the Tertiary aquifer system and is a major aquifer around the periphery of the GDB. Water bearing strata and sandstones are lenticular in nature and cause discontinuous and isolated aquifers. Well yields range from 3 to 300 gpm and transmissivity is estimated at less than 2,500 gpd/ft. Porosity and permeability are 15 to 39 percent respectively and less than 1 gpd/ft^2 based on oil field and coal mine reports. On the eastern side of the Rock Spring Uplift, permeability is primarily dominated by faulting. Specific capacity ranges from less than 0.001 to 75 gpm/ft (data from 6 pump tests) (Collentine et al. 1981).

6.5.2 Local Groundwater

The water gradient in and around the Project area slopes southward at approximately 15 feet per mile in the northern portion of the Project area and flattens to approximately 10 feet per mile in the southern portion of the Project area (Woodward-Clyde Consultants 1978).

ISR operations will target the Battle Springs aquifer since this is where mineralization occurs. Mineralization occurring in the sands of the Battle Springs is confined by impervious strata (mudstone and siltstone). Figure 6.2-2 presents a cross section for the Project area while Map 6.2-1 presents the location of the cross section within the Project area.

SUI plans to drill and core monitor well locations for the purpose of exploration, pump testing, and groundwater monitoring. These are currently part of SUI's Notice (Case File WYWY106751833). These wells may be used by SUI throughout the project for observational purposes. Based on this, these wells will be part of the PoO upon approval and the Notice will be terminated. At this time, the plugging and abandonment cost estimate for these wells will be included in the overall reclamation cost estimate. These locations are presented on Map 6.5-1. Results of the hydrologic testing from the adjacent Lost Creek ISR Project (Lost Creek East Modification) (BLM 2017) are included in Appendix C. The uranium production zone at the Project lies within the same sandstone host intervals as that measured extensively at the Lost Creek Project. Host sandstone and confining shale hydraulic characteristics are similar in terms of porosity, transmissivity, storativity and hydraulic conductivity.

6.5.2.1 Historic Hydrogeologic Investigations and Aquifer Parameters

Historical groundwater investigations have been conducted near the Project, which include aquifer pump testing and groundwater modeling. Limited investigations have been conducted with respect to characterizing groundwater quality within the Project.

Historical pump testing was conducted on well RDW-8 (Map 6.5-1). Two separate aquifer tests were conducted on this well at pumping rates of 609 and then 402 gpm. Drawdown and transmissivity in the well were 209.7 ft and 3,200 gpd/ft, respectively (for the 609 gpm test) and 103.3 ft and 9,600 gpd/ft, respectively (for the 402 gpm test). Specific capacity ranged between 4.6 and 90 for the two tests and specific conductance ranged from 350-390 micromhos. No drawdown was seen in observation wells RDW-2-S, RDW-5, P-1, D & M, and 8-inch Well. Transmissivities for the observation wells were also calculated. RDW-6 produced transmissivities ranging from 17,000 to 19,000 gpd/ft. RDW-7 produced transmissivities ranging from 32,000 to 33,000 gpd/ft. RDW-1 produced transmissivities ranging from 42,000 to 47,000 gpd/ft (Woodward-Clyde Consultants 1978).

6.5.3 Faulting

No known faults exist within the Project area, so faulting should not affect groundwater at the Project.

6.5.4 Groundwater Quality

No groundwater quality has been collected within the Project; however, historic groundwater samples were collected for Permit to Mine 481. As described in Section 6.5.2, SUI plans to construct a groundwater monitoring network. Water quality from the adjacent Lost Creek ISR Project (Lost Creek East Modification) (BLM 2017) are provided in Appendix D. As described in Section 6.5.1, the uranium production zone and overlying and underlying aquifers at the Lost Creek ISR Project are similar to the Project.

6.5.4.1 Historic Hydrogeologic Investigations and Aquifer Parameters

Generally, groundwater quality in the area is good. Table 6.5-1 provides total dissolved solids (TDS) and specific conductance from historic wells with Permit to Mine 481. The major chemical constituents present in the groundwater are calcium, sodium, sulfate, and bicarbonate. Sulfate ranged from approximately 20 to 240 mg/l (excluding some values as high as 410 mg/l sampled from wells in the vicinity of the tailings pond). Chlorides were generally below 100 mg/l, nitrates were below 4 mg/l, and TDS was mostly below 500 mg/l (Woodward-Clyde Consultants 1978).

The groundwater was also alkaline with pH ranging from 7.3 to 9.4. Selenium exceeded 0.01 mg/l in some of the wells. Mercury exceeded 0.002 mg/l in several analyses. Other heavy metals and toxic substances tested below the standards and/or detection limits that were in effect at the time (Woodward-Clyde Consultants 1978).

Table 6.5-1 RDW-8 TDS and Specific Conductance

Section	**Township**	**Range**	**Source**	**TDS (mg/L)**	**Specific Conductance (µmhos @ 25°C)**
23	22	90	Well	746	1,160
26	23	91	Well	316	530
18	24	92	Well	188	305

6.5.5 Groundwater Use

Groundwater rights within and 2 miles surrounding the Project area are depicted on Map 6.5-2. There are four completed water supply wells within the Project area, all of which are permitted by SUI. Three of the completed wells are monitor wells and the fourth is a stock well. All other wells within the Project area have been plugged and abandoned. Five of the abandoned wells were for miscellaneous use, while the remaining wells were permitted as monitor wells. Within the 2-mile buffer there are an additional 122 completed wells (1 domestic, 1 industrial/stock, 5 stock, 15 miscellaneous, 32 industrial/miscellaneous, and 68 monitor wells). Table 6.5-2 provides information on each of the wells.

Table 6.5-2 Permitted Groundwater Rights within the Project Area

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P14959P	08/28/1957	Wyo State Game & Fish Dept.	ANTELOPE #13	Complete	STK	23N	93W	3	NESE	201	
P154040W	09/18/2003	Kennecott Uranium Co.	TMW-105	Abandoned	MON	24N	93W	15	SWNE	40	
P154042W	09/18/2003	SWEETWATER URANIUM INC	TMW-107	Complete	MON	24N	93W	15	NWSE	115	
P154045W	09/18/2003	SWEETWATER URANIUM INC	TMW-110	Complete	MON	24N	93W	15	NWSE	145	
P183839W	02/07/2007	KENNECUTT URANIUM COMPANY	TMW-96 & 97	Complete	MIS	24N	93W	15	SWNE	145	
P183840W	02/07/2007	KENNECUTT URANIUM COMPANY	TMW-7/TMW-57	Complete	MIS	24N	93W	15	SENE	150	
P189665W	02/17/2009	STRATTON SHEEP CO.	PIPELINE ROAD WELL #1	Complete	STK	24N	94W	22	NWSE	690	
P28342W	09/30/1974	MINERALS EXPLORATION CO.	DRE #1	Abandoned	MIS	24N	93W	29	SWSE	346	X
P28343W	09/30/1974	MINERALS EXPLORATION CO.	DRE #2	Abandoned	MIS	24N	93W	29	SWSE	346	X
P28344W	09/30/1974	MINERALS EXPLORATION CO.	DRE #3	Abandoned	MIS	24N	93W	29	SWSE	345	X
P28345W	09/30/1974	MINERALS EXPLORATION CO.	DRE #4	Abandoned	MIS	24N	93W	29	SWSE	347	X
P28346W	09/30/1974	MINERALS EXPLORATION CO.	DRE #5	Abandoned	MIS	24N	93W	29	SWSE	345	X
P35773W	11/24/1976	MINERALS EXPLORATION CO.	RDW - 6	Abandoned	MON	24N	93W	9	NESE	452	
P35774W	11/24/1976	MINERALS EXPLORATION CO.	RDW - 7	Abandoned	IND	24N	93W	10	SWSW	450	
P40337W	05/23/1977	MINERALS EXPLORATION CO.	LS 1	Abandoned	MON	24N	93W	29	NWNE	68	X
P40338W	05/23/1977	MINERALS EXPLORATION CO.	LS 2	Abandoned	MON	24N	93W	29	NWNE	68	X
P41699W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CA-DW1	Complete	IND; MIS	24N	93W	10	NESW	600	
P41700W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CA-DW2	Complete	IND; MIS	24N	93W	10	NESW	600	
P41701W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CA-DW3	Complete	IND; MIS	24N	93W	10	NESW	620	
P41702W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CA-DW4	Complete	IND; MIS	24N	93W	10	NESW	620	
P41703W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CB-DW5	Complete	IND; MIS	24N	93W	10	NWSW	600	
P41704W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CB-DW6	Complete	IND; MIS	24N	93W	10	NWSW	600	
P41705W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CB-DW7	Complete	IND; MIS	24N	93W	10	NWSW	600	
P41706W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CC-DW18	Complete	IND; MIS	24N	93W	10	SWSW	201	
P41707W	07/28/1977	SWEETWATER URANIUM INC	24-93W9DD-DW9	Complete	IND; MIS	24N	93W	9	SESE	600	
P41708W	07/28/1977	SWEETWATER URANIUM INC	24-9310CC-DW19	Complete	IND; MIS	24N	93W	10	SWSW	250	
P41709W	07/28/1977	SWEETWATER URANIUM INC	24-939DD-DW28	Complete	IND; MIS	24N	93W	9	SESE	600	
P41710W	07/28/1977	SWEETWATER URANIUM INC	24-93DD-DW29	Complete	IND; MIS	24N	93W	9	SESE	465	
P41711W	07/28/1977	SWEETWATER URANIUM INC	24-93W15BB-DW13	Complete	IND; MIS	24N	93W	10	SWSW	600	
P41712W	07/28/1977	SWEETWATER URANIUM INC	24-93W15BB-DW14	Complete	IND; MIS	24N	93W	10	SWSW	600	
P41713W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CD-DW15	Complete	IND; MIS	24N	93W	10	SESW	600	
P41714W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CD-DW16	Complete	IND; MIS	24N	93W	10	SESW	600	
P41715W	07/28/1977	SWEETWATER URANIUM INC	24-93W10CD-DW17	Complete	IND; MIS	24N	93W	10	SESW	600	
P43125W	03/22/1978	SWEETWATER URANIUM INC	24-93-15-AC P1	Fully Adjudicated	MIS	24N	93W	15	SWNE	400	
P43126W	03/22/1978	SWEETWATER URANIUM INC	24-93-15-AC-P2	Complete	MIS	24N	93W	15	SWNE	400	
P43242W	05/04/1978	Gulf Oil Corp.	BADGER #1	Abandoned	MON	25N	94W	35	SWSE	654	X
P43243W	05/04/1978	Gulf Oil Corp.	BADGER #2	Abandoned	MON	25N	94W	35	SWSE	670	X
P43244W	05/04/1978	Gulf Oil Corp.	BADGER #3	Abandoned	MON	25N	94W	35	SWSE	670	X
P43245W	05/04/1978	Gulf Oil Corp.	BADGER #4	Abandoned	MON	25N	94W	35	SWSE	670	X

Table 6.5-2 Permitted Groundwater Rights within the Project Area (Cont.)

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P43246W	05/04/1978	Gulf Oil Corp.	BADGER #5	Abandoned	MON	25N	94W	35	SWSE	670	X
P43247W	05/04/1978	Gulf Oil Corp.	BADGER #6	Abandoned	MON	25N	94W	35	SWSE	670	X
P43248W	05/04/1978	Gulf Oil Corp.	BADGER #7	Abandoned	MON	25N	94W	35	SWSE	710	X
P43249W	05/04/1978	Gulf Oil Corp.	BADGER #8	Abandoned	MON	25N	94W	35	SWSE	670	X
P48380W	05/31/1979	SWEETWATER URANIUM INC	24-93W-15BA-TM-1	Complete	MON	24N	93W	15	NENE	300	
P48382W	05/31/1979	SWEETWATER URANIUM INC	24-93W-15DD-TM-3	Complete	MON	24N	93W	15	SESE	300	
P48383W	05/31/1979	SWEETWATER URANIUM INC	24-93W-15DB-TM-4	Complete	MON	24N	93W	15	NWSE	267	
P48385W	05/31/1979	SWEETWATER URANIUM INC	24-93W-23-TM-6	Complete	MON	24N	93W	23	NENW	267	
P48388W	05/31/1979	Kennecott Uranium Co.	ENQ-W1	Abandoned	MON	24N	94W	1	SWNW	415	X
P48389W	05/31/1979	Kennecott Uranium Co.	ENQ-W2	Abandoned	MON	24N	94W	1	SWNW	415	X
P48390W	05/31/1979	Kennecott Uranium Co.	ENQ-W3	Abandoned	MON	24N	94W	1	SWNW	415	X
P48391W	05/31/1979	Kennecott Uranium Co.	ENQ-LM1	Abandoned	MON	24N	94W	1	SWNW	450	X
P48392W	05/31/1979	Kennecott Uranium Co.	ENQ-UM1	Abandoned	MON	24N	94W	1	SWNW	330	X
P48514W	06/04/1979	SWEETWATER URANIUM INC	24-93W-19CB-CLM-14	Complete	MON	24N	93W	19	NWSW	150	
P48515W	06/04/1979	SWEETWATER URANIUM INC	24-93W-17CB-CLM-13	Complete	MON	24N	93W	17	NWSW	150	
P53849W	09/04/1980	SWEETWATER URANIUM INC	24 93 9DD - DW 30	Complete	IND; MIS	24N	93W	9	SESE	460	
P54883W	11/24/1980	SWEETWATER URANIUM INC	DW 31	Complete	IND; MIS	24N	93W	16	NWNE	600	
P54886W	11/24/1980	SWEETWATER URANIUM INC	DW 34	Complete	IND; MIS	24N	93W	16	NENE	450	
P54891W	11/24/1980	SWEETWATER URANIUM INC	DW 39	Complete	IND; MIS	24N	93W	15	NWNW	600	
P54892W	11/24/1980	SWEETWATER URANIUM INC	DW 40	Complete	IND; MIS	24N	93W	15	NWNW	600	
P54893W	11/24/1980	SWEETWATER URANIUM INC	DW 41	Complete	IND; MIS	24N	93W	16	NENE	600	
P54894W	11/24/1980	SWEETWATER URANIUM INC	DW 42	Complete	IND; MIS	24N	93W	16	NENE	600	
P54896W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DA-DW20	Complete	IND; MIS	24N	93W	9	NESE	575	
P54897W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DA-DW21	Complete	IND; MIS	24N	93W	9	NESE	580	
P54898W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DA-DW22	Complete	IND; MIS	24N	93W	9	SESE	480	
P54899W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DA-DW23	Complete	IND; MIS	24N	93W	9	SESE	525	
P54900W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DC-DW24	Complete	IND; MIS	24N	93W	9	SWSE	540	
P54901W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DD-DW25	Complete	IND; MIS	24N	93W	9	SWSE	660	
P54902W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DD-DW26	Complete	IND; MIS	24N	93W	9	SESE	560	
P54903W	06/11/1980	SWEETWATER URANIUM INC	24 93 9 DD-DW27	Complete	IND; MIS	24N	93W	9	SESE	600	
P56554W	02/13/1981	Kennecott Uranium Co.	ENQ 543-B3H	Abandoned	MON	24N	94W	2	NENW	590	X
P56555W	02/13/1981	Kennecott Uranium Co.	ENQ 544-B1H	Abandoned	MON	24N	94W	2	NENW	446	X
P56556W	02/13/1981	Kennecott Uranium Co.	ENQ 545-C3H	Abandoned	MON	24N	94W	2	SESW	477	
P56557W	02/13/1981	Kennecott Uranium Co.	ENQ 546-C2H	Abandoned	MON	24N	94W	2	SESW	425	
P56558W	02/13/1981	Kennecott Uranium Co.	ENQ 547-C1H	Abandoned	MON	24N	94W	2	SESW	350	
P56559W	02/13/1981	Kennecott Uranium Co.	ENQ 548-2H	Abandoned	MON	24N	94W	2	NWNW	531	X
P56560W	02/13/1981	Kennecott Uranium Co.	ENQ 549-2H	Abandoned	MON	24N	94W	2	SWNE	502	X
P56561W	02/13/1981	Kennecott Uranium Co.	ENQ 550-2H	Abandoned	MON	24N	94W	2	SWNE	498	X
P56562W	02/13/1981	Kennecott Uranium Co.	ENQ 551-2H	Abandoned	MON	24N	94W	3	SENE	551	X

Table 6.5-2 Permitted Groundwater Rights within the Project Area (Cont.)

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P56563W	02/13/1981	Kennecott Uranium Co.	ENQ 552-2H	Abandoned	MON	24N	94W	1	NWSW	410	X
P56564W	02/13/1981	Kennecott Uranium Co.	ENQ 553-2H	Abandoned	MON	24N	94W	2	SENE	476	X
P56565W	02/13/1981	Kennecott Uranium Co.	ENQ 554-2H	Abandoned	MON	24N	94W	1	NWSW	399	X
P56566W	02/13/1981	Kennecott Uranium Co.	ENQ 555-2H	Abandoned	MON	24N	94W	1	NWNW	496	X
P56568W	02/13/1981	Kennecott Uranium Co.	ENQ 557-2H	Abandoned	MON	24N	94W	1	SWNW	456	X
P56569W	02/13/1981	Kennecott Uranium Co.	ENQ 558-2H	Abandoned	MON	24N	94W	1	NESW	403	X
P56570W	02/13/1981	Kennecott Uranium Co.	ENQ 559-2H	Abandoned	MON	24N	94W	1	SENW	415	X
P56573W	02/13/1981	Kennecott Uranium Co.	ENQ 562-1H	Abandoned	MON	24N	94W	1	NWSW	340	X
P56574W	02/13/1981	Kennecott Uranium Co.	ENQ 563-1H	Abandoned	MON	24N	94W	1	SWNW	338	X
P56576W	02/13/1981	Kennecott Uranium Co.	ENQ 565-1H	Abandoned	MON	24N	94W	1	NWSW	340	X
P56577W	02/13/1981	Kennecott Uranium Co.	ENQ 566-1H	Abandoned	MON	24N	94W	1	NESW	335	X
P56578W	02/13/1981	Kennecott Uranium Co.	ENQ 567C-2H	Abandoned	MON	24N	94W	1	NWSW	427	X
P56579W	02/13/1981	Kennecott Uranium Co.	ENQ 568-2H	Abandoned	MON	24N	94W	1	NESW	410	X
P56580W	02/13/1981	Kennecott Uranium Co.	ENQ 569C-2H	Abandoned	MON	24N	94W	1	NWSW	423	X
P56581W	02/13/1981	Kennecott Uranium Co.	ENQ 570-2H	Abandoned	MON	24N	94W	1	SWNW	498	X
P56582W	02/13/1981	Kennecott Uranium Co.	ENQ 571C-3H	Abandoned	MON	24N	94W	1	NWSW	480	X
P56583W	02/13/1981	Kennecott Uranium Co.	ENQ 572-2H	Abandoned	MON	24N	94W	1	NESW	418	X
P58688W	10/01/1981	Kennecott Uranium Co.	ENQ 574-3H	Abandoned	MON	24N	94W	1	NWNW	560	X
P58689W	10/01/1981	Kennecott Uranium Co.	ENQ 576-WT	Abandoned	MON	24N	94W	12	NENW	250	
P58690W	10/01/1981	Kennecott Uranium Co.	ENQ 573-1H	Abandoned	MON	24N	94W	1	NWNW	420	X
P58691W	10/01/1981	Kennecott Uranium Co.	ENQ 575-WT	Abandoned	MON	24N	94W	2	NESE	250	X
P59307W	01/11/1982	SWEETWATER URANIUM INC	STRATTON DRAW WATER WELL #1	Complete	MON	24N	93W	21	NENW	250	
P59662W	11/10/1981	Kennecott Uranium Co.	REB 1083 W	Abandoned	MON	23N	94W	3	NWSE	170	
P59663W	11/10/1981	Kennecott Uranium Co.	REB 1084 W	Abandoned	MON	23N	94W	3	NWSE	170	
P59664W	11/10/1981	Kennecott Uranium Co.	REB 1085 W	Abandoned	MON	23N	94W	10	SENE	160	
P59665W	11/10/1981	Kennecott Uranium Co.	REB 1086 W	Abandoned	MON	23N	94W	10	SENE	92	
P59666W	11/10/1981	Kennecott Uranium Co.	REB 1087 W	Abandoned	MON	23N	94W	10	SENE	40	
P59667W	11/10/1981	Kennecott Uranium Co.	REB 1088 W	Abandoned	MON	23N	94W	3	NWSE	120	
P59668W	11/10/1981	Kennecott Uranium Co.	REB 1089 W	Abandoned	MON	23N	94W	3	NESE	140	
P59669W	11/10/1981	Kennecott Uranium Co.	REB 1090 W	Abandoned	MON	23N	94W	3	NESE	170	
P59670W	11/10/1981	Kennecott Uranium Co.	REB 1091 W	Abandoned	MON	23N	94W	3	NESE	170	
P59673W	11/10/1981	Kennecott Uranium Co.	REB 1094 W	Abandoned	MON	23N	94W	3	NESE	50	
P59677W	11/10/1981	Kennecott Uranium Co.	REB 1098 W	Abandoned	MON	23N	94W	10	NWNE	70	
P59678W	11/10/1981	Kennecott Uranium Co.	REB 1099 W	Abandoned	MON	23N	94W	10	NWNE	160	
P59679W	11/10/1981	Kennecott Uranium Co.	REB 1100 W	Abandoned	MON	23N	94W	3	NWSE	170	
P59682W	11/10/1981	SWEETWATER URANIUM INC	REB 1103 W	Complete	MON	23N	94W	3	NWSE	170	
P59683W	11/10/1981	Kennecott Uranium Co.	REB 1104 W	Abandoned	MON	23N	94W	3	SWSE	170	
P59858W	01/11/1982	Kennecott Uranium Co.	INJ - 1	Abandoned	MON	24N	93W	19	NWNE	775	

Table 6.5-2 Permitted Groundwater Rights within the Project Area (Cont.)

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P59859W	01/11/1982	Kennecott Uranium Co.	INJ - 2	Abandoned	MON	24N	93W	20	NENW	775	
P59860W	01/11/1982	Kennecott Uranium Co.	5 M	Abandoned	MON	24N	93W	19	NWNE	775	
P59861W	01/11/1982	Kennecott Uranium Co.	M 10	Abandoned	MON	24N	93W	19	NENE	580	
P60051W	02/20/1982	SWEETWATER URANIUM INC	PH1	Complete	MON	24N	93W	10	SESW	350	
P60052W	02/20/1982	SWEETWATER URANIUM INC	PH2	Complete	MON	24N	93W	10	NESW	350	
P60053W	02/20/1982	SWEETWATER URANIUM INC	PH3	Complete	MON	24N	93W	10	NESW	350	
P60054W	02/20/1982	SWEETWATER URANIUM INC	PH4	Complete	MON	24N	93W	10	NWSW	350	
P60055W	02/20/1982	SWEETWATER URANIUM INC	PH5	Complete	MON	24N	93W	10	NWSW	350	
P60056W	02/20/1982	SWEETWATER URANIUM INC	PH6	Complete	MON	24N	93W	10	NWSW	350	
P60057W	02/20/1982	SWEETWATER URANIUM INC	PH7	Complete	MON	24N	93W	9	SWSE	350	
P60058W	02/20/1982	SWEETWATER URANIUM INC	PH8	Complete	MON	24N	93W	9	SWSE	350	
P60059W	02/20/1982	SWEETWATER URANIUM INC	PH9	Complete	MON	24N	93W	9	SWSE	350	
P61325W	06/30/1982	Kennecott Uranium Co.	BRE 865C	Abandoned	MON	24N	93W	8	NESE	170	X
P61326W	06/30/1982	SWEETWATER URANIUM INC	CLM - 16	Complete	MON	24N	94W	25	NENW	50	
P61327W	06/30/1982	SWEETWATER URANIUM INC	CLM- 17	Complete	MON	24N	93W	20	SWNW	60	
P62367W	10/06/1982	Kennecott Uranium Co.	WWL 1	Abandoned	MON	24N	93W	21	NWNW	63	
P62368W	10/06/1982	Kennecott Uranium Co.	WWL-1A	Abandoned	MON	24N	93W	21	NWNW	60	
P62369W	10/06/1982	Kennecott Uranium Co.	WWL-2	Abandoned	MON	24N	93W	21	NWNW	60	
P62370W	10/06/1982	Kennecott Uranium Co.	WWL-3	Abandoned	MON	24N	93W	21	NWNW	60	
P62371W	10/06/1982	Kennecott Uranium Co.	WWL-4	Abandoned	MON	24N	93W	21	NENW	70	
P62372W	10/06/1982	Kennecott Uranium Co.	WWL-4A	Abandoned	MON	24N	93W	21	NENW	60	
P62373W	10/06/1982	Kennecott Uranium Co.	WWL-5	Abandoned	MON	24N	93W	21	SESW	100	X
P62374W	10/06/1982	Kennecott Uranium Co.	WWL-6	Abandoned	MON	24N	93W	20	NENE	63	
P62375W	10/06/1982	Kennecott Uranium Co.	WWL-7	Abandoned	MON	24N	93W	21	SWNW	63	
P62376W	10/06/1982	Kennecott Uranium Co.	WWL-8	Abandoned	MON	24N	93W	21	NENW	50	
P62377W	10/06/1982	Kennecott Uranium Co.	WWL-9	Abandoned	MON	24N	93W	21	NENW	55	
P62378W	10/06/1982	Kennecott Uranium Co.	WWL-10	Abandoned	MON	24N	93W	21	NENW	81	
P62379W	10/06/1982	Kennecott Uranium Co.	WWL-11	Abandoned	MON	24N	93W	16	SWSE	100	
P62380W	10/06/1982	Kennecott Uranium Co.	CRE-5119	Abandoned	MON	24N	93W	21	NWNW	60	
P62381W	10/06/1982	Kennecott Uranium Co.	CRE-5120	Abandoned	MON	24N	93W	21	NWNW	50	
P62382W	10/06/1982	Kennecott Uranium Co.	CRE-5121	Abandoned	MON	24N	93W	21	NWNW	50	
P62998W	01/17/1983	Kennecott Uranium Co.	WWL-12	Abandoned	MON	24N	93W	21	NWSW	111	
P62999W	01/17/1983	Kennecott Uranium Co.	WWL-15	Abandoned	MON	24N	93W	21	NESE	120	
P63000W	01/17/1983	Kennecott Uranium Co.	WWL-13	Abandoned	MON	24N	93W	21	NWSW	105	
P63001W	01/17/1983	Kennecott Uranium Co.	WWL-14	Abandoned	MON	24N	93W	21	NWSW	105	
P63122W	01/28/1983	SWEETWATER URANIUM INC	TMW 8	Complete	MON	24N	93W	15	SENE	240	
P63124W	01/28/1983	SWEETWATER URANIUM INC	TMW 10	Complete	MON	24N	93W	15	SWNE	18.67	
P63128W	01/28/1983	MINERALS EXPLORATION COMPANY	TMW-14	Complete	MON	24N	93W	11	SWSW		
P63129W	01/28/1983	Kennecott Uranium Co.	CLM-18	Abandoned	MON	23N	94W	1	SWSW	120	

Table 6.5-2 Permitted Groundwater Rights within the Project Area (Cont.)

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P65697.0W	10/04/1983	Kennecott Uranium Co.	WWL-16	Abandoned	MON	24N	93W	21	NWNW	95	
P65698.0W	10/04/1983	Kennecott Uranium Co.	WWL-17	Abandoned	MON	24N	93W	21	NWNW	90	
P65699.0W	10/04/1983	Kennecott Uranium Co.	WWL-18	Abandoned	MON	24N	93W	21	NWNW	90	
P65700.0W	10/04/1983	Kennecott Uranium Co.	WWL-19	Abandoned	MON	24N	93W	21	NWNW	90	
P6572.0W	09/17/1970	SWEETWATER URANIUM INC	D B #1	Complete	DOM	24N	93W	17	NENE	216	
P66110.0W	12/08/1983	SWEETWATER URANIUM INC	BRE 944	Complete	MON	24N	93W	9	NENW	185	X
P66112.0W	12/08/1983	Kennecott Uranium Co.	PH 13	Abandoned	MON	24N	93W	10	SWSW	210	
P66113.0W	12/08/1983	Kennecott Uranium Co.	PH 12	Abandoned	MON	24N	93W	10	SWSW	140	
P66114.0W	12/08/1983	Kennecott Uranium Co.	PH 11	Abandoned	MON	24N	93W	10	SWSW	140	
P66115.0W	12/08/1983	Kennecott Uranium Co.	PH 10	Abandoned	MON	24N	93W	10	SWSW	210	
P66215.0W	01/09/1984	SWEETWATER URANIUM INC	REB 1408	Complete	MON	24N	94W	16	NWNW	130	X
P67391.0W	05/17/1984	SWEETWATER URANIUM INC	TMW-15	Complete	MON	24N	93W	15	NESE	128	
P67397.0W	05/24/1984	MINERALS EXPLORATION COMPANY	TMW-16	Complete	MON	24N	93W	15	SENE	145	
P68230.0W	08/06/1984	SWEETWATER URANIUM INC	TMW 17	Complete	MIS	24N	93W	14	NWNW	150	
P68275.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 19	Complete	MON	24N	93W	14	NWNW	38	
P68276.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 20	Complete	MON	24N	93W	14	NWNW	59	
P68277.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 21	Complete	MON	24N	93W	14	NWNW	53	
P68278.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 22	Complete	MON	24N	93W	14	NWNW	48	
P68279.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 23	Complete	MON	24N	93W	14	NWNW	44.5	
P68280.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 29	Complete	MON	24N	93W	14	NENW	150	
P68281.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 30	Complete	MON	24N	93W	14	NENW	38.5	
P68282.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 31	Complete	MON	24N	93W	14	NENW	149.5	
P68295.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 44	Complete	MON	24N	93W	14	NWSW	135	
P68296.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 45	Complete	MON	24N	93W	14	NWSW	135	
P68298.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 47	Complete	MON	24N	93W	14	NWSW	217	
P68299.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 48	Complete	MON	24N	93W	14	NWSW	150	
P68300.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 49	Complete	MON	24N	93W	15	NESE	150	
P68301.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 50	Complete	MON	24N	93W	15	NESE	150	
P68302.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 51	Complete	MON	24N	93W	15	NESE	160	
P68303.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 52	Complete	MON	24N	93W	15	SENE	150	
P68304.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 53	Complete	MON	24N	93W	15	NWSE		
P68305.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 54	Complete	MON	24N	93W	15	SENE	58.5	
P68306.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 55	Complete	MON	24N	93W	15	SENE	75	
P68307.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 56	Complete	MON	24N	93W	15	SENE	137	
P68312.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 64	Complete	MON	24N	93W	15	NENE	147	
P68314.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 66	Complete	MON	24N	93W	15	NENE	68	
P68315.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 67	Complete	MON	24N	93W	15	NENE	72	
P68316.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 68	Complete	MON	24N	93W	15	NENE	91	
P68317.0W	08/20/1984	SWEETWATER URANIUM INC	TMW 69	Complete	MON	24N	93W	15	NENE	150	

Table 6.5-2 Permitted Groundwater Rights within the Project Area (Cont.)

Permit No.	Priority Date	Company	Name	Status	Use	Twn	Rng	Sec	QtrQtr	Depth	Within Project
P68318W	08/20/1984	SWEETWATER URANIUM INC	TMW 70	Complete	MON	24N	93W	15	SENE	150	
P68611W	09/26/1984	SWEETWATER URANIUM INC	DRAKE 1	Complete	MIS	24N	93W	15	NWSE	360	
P68612W	09/26/1984	SWEETWATER URANIUM INC	TMW 74	Complete	MON	24N	93W	14	NWNW	62.5	
P68615W	09/26/1984	SWEETWATER URANIUM INC	TMW 77	Complete	MON	24N	93W	14	NWNW	30.5	
P68616W	09/26/1984	SWEETWATER URANIUM INC	TMW 78	Complete	MON	24N	93W	14	NWNW	149	
P68619W	09/26/1984	SWEETWATER URANIUM INC	TMW 81	Complete	MON	24N	93W	14	NWNW	47.5	
P68620W	09/26/1984	SWEETWATER URANIUM INC	TMW 82	Complete	MON	24N	93W	14	NWNW	150	
P68914W	11/02/1984	SWEETWATER URANIUM INC	TMW 84	Complete	MON	24N	93W	14	NWNW	147	
P69207W	09/07/1984	SWEETWATER URANIUM INC	TMW 24	Complete	MON	24N	93W	14	NWNW	235	
P69212W	09/07/1984	SWEETWATER URANIUM INC	TMW 61	Complete	MON	24N	93W	15	SENE	150	
P69213W	09/07/1984	SWEETWATER URANIUM INC	TMW 62	Complete	MON	24N	93W	15	SENE	150	
P69214W	09/07/1984	SWEETWATER URANIUM INC	TMW 63	Complete	MON	24N	93W	15	SENE	130	
P69217W	09/07/1984	SWEETWATER URANIUM INC	TMW 73	Complete	MON	24N	93W	15	SWNE	120	
P69652W	03/25/1985	SWEETWATER URANIUM INC	TMW 86	Complete	MON	24N	93W	14	NWNW	89.5	
P69653W	03/25/1985	SWEETWATER URANIUM INC	TMW 87	Complete	MON	24N	93W	14	NWNW	88	
P69654W	03/25/1985	SWEETWATER URANIUM INC	TMW 88	Complete	MON	24N	93W	14	NWNW	85.5	
P69655W	03/25/1985	SWEETWATER URANIUM INC	TMW 89	Complete	MON	24N	93W	14	NWNW	150	
P71543W	11/15/1985	SWEETWATER URANIUM INC	TMW 76	Complete	MIS	24N	93W	14	NWNW	76	
P72855W	06/26/1986	SWEETWATER URANIUM INC	TMW 65	Complete	MIS	24N	93W	15	NENE	77.7	
P72856W	06/26/1986	SWEETWATER URANIUM INC	TMW 79	Complete	MIS	24N	93W	14	NWNW	60	
P72857W	06/26/1986	SWEETWATER URANIUM INC	TMW 80	Complete	MIS	24N	93W	14	NWNW	82	
P72858W	06/26/1986	SWEETWATER URANIUM INC	TMW 83	Complete	MIS	24N	93W	14	NWNW	65	
P72859W	06/26/1986	SWEETWATER URANIUM INC	TMW 85	Complete	MIS	24N	93W	14	NWNW	90	
P74970W	06/19/1987	SWEETWATER URANIUM INC	BRE 174C	Complete	MON	24N	93W	6	NESW	170	X
P74975W	06/11/1987	SWEETWATER URANIUM INC	TMW 18	Complete	MIS	24N	93W	15	SENE	146	
P74976W	06/11/1987	SWEETWATER URANIUM INC	TMW 75	Complete	MIS	24N	93W	14	NWNW	147	
P7551W	12/21/1970	SWEETWATER URANIUM INC	C B #2	Complete	STK	24N	94W	21	NWNE	500	X
P76752W	05/04/1988	SWEETWATER URANIUM INC	TMW 16	Complete	MIS	24N	93W	15	SENE	145	
P7826W	12/15/1970	USDI - BLM	BATTLE SPRING WELL #4300	Complete	STK	24N	94W	17	NESE	1000	
P8461P	12/31/1919	SUN LAND & CATTLE COMPANY	JAWBONE SCHOOL SEC #1	Complete	STK	24N	93W	16	NWNW	600	
P8462P	06/25/1919	SUN LAND & CATTLE COMPANY	JAMBORN S SEC #2	Complete	STK	24N	93W	16	NWNW	600	
P95601W	05/31/1994	SWEETWATER URANIUM INC	RDW-8	Complete	MON	24N	93W	9	NESE	450	
P9742W	07/15/1971	SWEETWATER URANIUM INC	J E S #1	Complete	IND; STK	24N	94W	34	NENE	170	
P97709W	02/08/1994	SWEETWATER URANIUM INC	SWEETWATER PIT #1	Complete	MIS	24N	93W	10	SWSW	225	
CR UW01/185	07/15/1971	GREEN MOUNTAIN MINING VENTURE	J.E.S. NO. 1 WELL	Fully Adjudicated	IND; STK	24N	94W	34	NENE		

Source: WSEO 2025

6.6 Vegetation

The project area consists of flat, upland areas and gentle, south-facing slopes dissected by southerly-flowing ephemeral washes. The region has limited precipitation and high potential evaporation, which results in little soil moisture available for the growth of most plants. Limited soil moisture, when coupled with cold temperatures that persist for much of the year, results in what is called a northern cold desert plant community dominated by Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*), along with other shrubs, cushion plants, and grasses. In addition, a large portion of the project area includes salt-desert shrub communities, with substantial occurrences of Gardner's saltbush (*Atriplex gardneri*) and greasewood (*Sarcomatous vermiculatus*).

Two BLM sensitive status plant species were identified to be highly likely to be within or in close proximity to the Project: Persistent sepal yellowcress (*Rippa calycinna*) and Meadow milkvetch (*Astragalus diversifolius*). BLM sensitive status plant species will be included in the baseline vegetation survey. Surveys for invasive species and noxious weeds will also be included. Further, vegetation surveys will be conducted in a way to establish reclamation seeding objectives, including species composition, diversity, and vegetative cover per WDEQ/LQD Guideline No. 2 (WDEQ/LQD 2014).

A desktop analysis using the Multi-Resolution Land Characteristics (MRLC) Consortium (2025) indicates that the vegetation within the Project area is predominantly shrub/scrub (97%) and herbaceous (3%). A vegetation survey will be completed between April and May 2026 over the Project area. The final report will be completed in August 2026 and will be submitted to BLM as Appendix E, which will supplement this PoO.

Following completion of the baseline vegetation surveys, SUI will work with the BLM to develop a Weed Management Plan as well as a Pesticide Use Proposal. The Weed Management Plan will reference RFO RMP Appendix 31, RFO Noxious Weed Prevention Plan, and Appendix 19, Vegetation Treatments, Forest Practices, and Range Improvements.

6.7 Wildlife

A wildlife survey will be conducted within and surrounding the Project area between April and July 2026. The final report will be completed in August 2026 and will be submitted to BLM as Appendix F, which will supplement this PoO. The following describes the results of the preliminary desktop analysis.

6.7.1 Big Game

A desktop search of the Wyoming Game and Fish Department Open Data Portal (WGFD 2025c) determined that the Project area contains no designated crucial winter range or migration corridors for big game species such as mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), or elk (*Cervus elaphus*).

6.7.2 Other Mammals

The pygmy rabbit is known to exist, or has the potential to exist, within the project area. Surveys for pygmy rabbits will be conducted.

The Wyoming pocket gopher is known to exist, or has the potential to exist, within the project area. Surveys for the Wyoming pocket gopher will be conducted.

6.7.3 Greater Sage-grouse

A desktop search showed Greater sage-grouse Core Area in a portion (approximately 5,340 acres) of the Project area as shown on Map 6.7-1. In addition, there are two leks within the 2-mile buffer area. One of which was occupied in 2023 and the other was occupied in 2022 (WGFD 2025).

6.7.4 Threatened, Endangered, and Candidate Species

A desktop review using the USFWS Information for Planning and Consultation (IPaC) system indicates that no designated critical habitat for federally listed species occurs within the Project area (USFWS 2025). The Endangered Species Act (ESA) Section 7 provides the framework for consultation with the USFWS for federally-connected actions to ensure protection of listed species and designated critical habitats.

The following BLM Sensitive Species are known to or have the potential to occur in the greater Project Area: '-Burrowing owl (*Athene cunicularia*), Ferruginous hawk (*Buteo regalis*), Greater sage-grouse (*Centrocercus urophasianus*), Mountain plover (*Anarhynchus montanus*), Pygmy rabbit (*Sylvilagus idahoensis*), Wyoming pocket gopher (*Thomomys clusius*), Swift fox (*Vulpes velox*), White-tailed prairie dog (*Cynomys leucurus*), Loggerhead shrike (*Lanius ludovicianus*), Sage thrasher (*Oreoscoptes montanus*), Brewer's sparrow (*Spizella breweri*), Sage sparrow (*Artemisiospiza nevadensis*), Great Basin spadefoot (*Spea intermontana*), Northern leopard frog (*Lithobates pipiens*), Spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*).

6.8 Wild Horses

In accordance with the Wild Free-Roaming Horse and Burro Act of 1971, the Wyoming BLM is required to protect, manage, and control wild free-roaming horses and burros on public lands (BLM 2023). The Wyoming BLM manages 14 Herd Management Areas (HMAs) throughout the state for wild horses; there are no wild burros in the state (BLM 2025a).

The Project area is located within the Lost Creek wild horse HMA, as shown on Map 6.8-1. The appropriate management level (AML) has been established by BLM for this HMA. AMLs are designed to ensure the ecological balance among all the users and resources of the HMA, such as wildlife, livestock, vegetation, water, and soil and the wild horse population (BLM 2012). Table 6.8-1 describes the AML with estimated 2025 population the Lost Creek HMA. As the table indicates, the number of wild horses is below the management AML established by BLM for the effective management of the land and resources.

Table 6.8-1 2025 Estimates of Wild Horse Populations and AMLs for Potentially Affected HMAs

Wild Horse HMA	Total Area (acres)	2025 Population Estimate	BLM AML	Percent of AML
Lost Creek	251,000	45	60-82	55-75 percent

Source: BLM 2025b

6.9 Meteorology and Climatology and Air Quality

Wyoming is primarily dominated by mountain ranges and rangelands of the Rocky Mountains and high plains. The Project is located in the intermountain semi-desert eco-region. Due to the westerly prevailing wind direction, the north-south orientation of the Rocky Mountains provides an effective barrier to the significant Pacific-generated weather systems, which causes most of the moisture to drop along the western slopes. This leaves the majority of Wyoming east of the mountains in a semi-arid condition (Curtis and Grimes, 2004). The average annual precipitation ranges from five to 14 inches (Bailey, 1995) and 2009edoes not drain to either ocean. This precipitation either evaporates or percolates into the ground.

The Project is located within the GDB, at an elevation of approximately 6,400 to 7,400 ft above mean sea level. Due to the high elevation of this basin and being situated within the Rocky Mountain province, the GDB experiences diverse weather patterns and significant fluctuations throughout the year. The area is characterized by long winters (December to April) with frequent snowstorms and brutal winter conditions. Summers can be hot but are often short in the GDB due to the lack of moisture and precipitation. Summer weather can produce occasional hail, thunderstorms, and snowstorms (Curtis and Grimes 2004).

The Sweetwater Uranium Project has a weather station that was installed in October 2020. The following summarizes the meteorology of the Project.

6.9.1 Temperature

Average, maximum, and minimum monthly temperatures are presented in Table 6.9-1. The table shows that July has the warmest average temperature, while January and February have the lowest average temperatures. In July the maximum and minimum monthly temperatures ranged from 41.5°F to 93.0°F. While in January the maximum and minimum temperatures ranged from -28.4°F to 60.1°F.

Table 6.9-1 Sweetwater Meteorological Station Temperatures

Month	Temperature (˚F)		
	Average	High	Low
January	16.2	60.1	-28.4
February	19.3	54.4	-18.4
March	28.5	68.8	-23.5
April	37.6	76.4	0.6
May	49.6	80.6	21.1
June	62.7	93.7	32.7
July	69.9	93.0	41.5
August	66.5	92.6	39.7
September	58.2	91.4	23.2
October	42.8	91.3	-13.9
November	29.7	65.0	-8.2
December	21.1	58.4	-29.4

Period of Record – October 15, 2020 to November 10, 2025

6.9.2 Wind

This region of Wyoming is very windy. While average wind speeds range from 8.0 to 11.1 mph, the area has maximum wind speeds of between 29.7 and 44.4 mph and gust speeds up to 106.1 mph. The prevailing wind direction is west-southwest, with a minor component coming from the east-northeast. The prevailing winds are generated by high-pressure systems originating in the north Pacific and Canadian Rocky Mountains. These systems move east across the Rocky Mountains, dropping most of the precipitation and leaving mainly dry, steady winds that blow into the eastern foothills and plain regions of the Rocky Mountains (Curtis and Grimes, 2004). Table 6.9-2 presents the monthly average, maximum wind speed and gust. Figure 6.9-1 shows wind roses that reflect annual and 5-year wind patterns for the Sweetwater meteorological station.

Table 6.9-2 Sweetwater Meteorological Station Maximum Wind Speed and Gust

Month	Avg Wind Speed (mph)	Max Wind Speed (mph)	Max Gust Speed (mph)
January	8.0	37.0	91.6
February	11.1	38.5	92.8
March	10.4	44.4	92.8
April	10.9	41.0	91.6
May	11.0	40.3	105.8
June	10.0	35.1	91.8
July	8.5	32.6	91.8
August	8.7	29.7	91.6
September	8.2	30.4	58
October	9.1	35.6	106.1
November	9.8	37.4	91.6
December	10.0	41.1	60.2

Period of Record – October 15, 2020 to November 10, 2025

6.9.3 Precipitation and Evaporation

The Sweetwater Project area receives relatively little rainfall and is considered semiarid. The average annual precipitation for the last 5 years at the Sweetwater Project was 7.56 inches per year. Table 6.9-3 shows the monthly precipitation for the previous year (Oct 2024-September 2025). The table also provides the evaporation measured at the Sweetwater met station. The table shows that the highest evaporation is measured during the summer months.

Table 6.9-3 Sweetwater Meteorological Station Evaporation and Precipitation

Month	Precipitation (in.)	Evaporation (in.)
January	0.52	0
February	0.35	0
March	0.71	0
April	0.58	0
May	0.70	0
June	1.35	10.5
July	0.57	12.4
August	0.89	8.6
September	0.57	7.4
October	0.86	3.4
November	0.24	0
December	0.22	0

Period of Record - October 15, 2020 to November 10, 2025

6.10 Historic, Cultural and Paleontological Resources

6.10.1 Historic and Cultural Resources

Approximately eight miles northeast of the Project area lies a remnant section of the historic Rawlins–Fort Washakie Stage Road, portions of which parallel US 287 from Rawlins toward Lander. While the route dates to the 1800s and reflects early regional transportation, it is neither formally designated nor maintained as a recreation trail in the current planning framework (BLM 2008).

Class I and III cultural resource surveys will be performed in May 2026 over the Project area. The report will be completed in June 2026 and will be submitted to BLM through WYOTrack. The full reports will not be publicly disclosed; however, a non-confidential summary of survey findings will be provided to BLM as Appendix G, which will supplement this PoO. Following the baseline cultural surveys, SUI will work with BLM to develop an Unanticipated Discovery Plan (UDP).

6.10.2 Paleontological Resources

A paleontological resource survey will be performed in April and May 2026 over the Project area. The report will be completed in June 2026 will be submitted to BLM through WYOTrack. The full reports will not be publicly disclosed; however, a non-confidential summary of survey findings will be provided to BLM as Appendix H, which will supplement this PoO. Following the baseline paleontological surveys, SUI will work with BLM to develop an Unanticipated Paleontological Discovery Plan (UPDP).

6.11 Socioeconomics

This section describes current socioeconomic factors that have the potential to be directly or indirectly affected by the Project. The project area is situated in a remote area of Sweetwater County. No communities within the county are in proximity to the project area (see Map 2.4-1). The socioeconomic discussion focuses on Sweetwater County, which would receive *ad valorem* and property tax revenues, and Carbon County and its county seat, Rawlins, which is the nearest city and source of mining services, retail, and business and consumer service establishments in the area. The State of Wyoming would also receive severance and sales and use tax revenues associated with uranium mining.

6.11.1 Demographics

According to the U.S. Census Bureau (USCB), the 2020 population of Wyoming was estimated to be 576,851. Wyoming ranked as the least populous state in the U.S. Sweetwater County's estimated 2020 population (42,272) ranked the county as Wyoming's 4th most populous among the state's 23 counties. Carbon County was the 12th most populous county in 2020 (14,537) (USCB 2025a). According to the Wyoming Department of Administration and Information, Economic Analysis Division (WDAI/EAD), the estimated 2020 population of Rawlins (8,221) ranks it as Wyoming's 12th largest city (WDAI/EAD 2025).

6.11.2 Income

Estimated income for Sweetwater and Carbon counties and for Wyoming are presented in Table 6.11-1. According to the USCB, the 2016 median household and income in Sweetwater County was above the Wyoming median, while it was below statewide median for Carbon County. The percentage of the population living below the official poverty level was about the same for Sweetwater County as the statewide percentage, but higher than the statewide percentage for Carbon County (USCB 2025b).

Table 6.11-1 2025 Income Estimates, Sweetwater and Carbon Counties and Wyoming

	Sweetwater County	Carbon County	Wyoming
Median household income (dollars)	76,464	66,721	74,815
Per capita income (dollars)	40,988	35,421	41,006
Percentage of families below the poverty level	10.9	9.5	7.1
Percentage of persons below the poverty level	13.4	12.6	10.7

Source: USCB 2025b

6.11.3 Temporary Housing

Table 6.11-2 lists the temporary housing units (hotel and motel rooms and recreational vehicle sites) in Sweetwater and Carbon counties.

Table 6.11-2 Temporary Housing in Sweetwater and Carbon Counties

	Sweetwater County	Carbon County
Hotel/motel and ranch/lodge rooms	1,998	1,753
Recreational vehicle sites	233	307

Source: Carbon County Visitors Council 2025, Sweetwater County Travel and Tourism 2025

6.11.4 Employment

The 2020 and 2024 annual average labor force and unemployment for Sweetwater and Carbon counties and Wyoming are listed in Table 6.11-3. Between 2020 and 2024, the workforce in Sweetwater County decreased by 3.5 percent and decreased in Carbon County by 7.8 percent. The 2020 unemployment rate for Sweetwater County was above the statewide rate, while the Carbon County rate was below the statewide rate. According to the Wyoming Department of Workforce Services (2025), local, state, and federal governments were the largest employers in Sweetwater County in 2024, followed by the mining industry. In Carbon County, the largest employer in 2016 was the local, state, and federal governments sector, followed by the accommodation and food services sector.

Table 6.11-3 Labor Force and Unemployment Rates for Sweetwater and Carbon Counties and for Wyoming

	Sweetwater County	Carbon County	Wyoming
	2024		
Labor Force	20,542	6,435	296,717
Unemployment Rate	3.5	3.7	3.2
	2020		
Labor Force	21,079	6,980	293,686
Unemployment Rate	7.2	5.3	5.9

Source: United States Department of Labor, Bureau of Labor Statistics 2025

6.11.5 Local Finance

Revenue from natural resource extraction is a primary source of income for local governments across the state. In general, counties collect revenue from extraction of uranium through *ad valorem* and property taxes, and the State of Wyoming collects through severance and sales and use taxes. Mineral production on state lands is also subject to state rental or royalty fees.

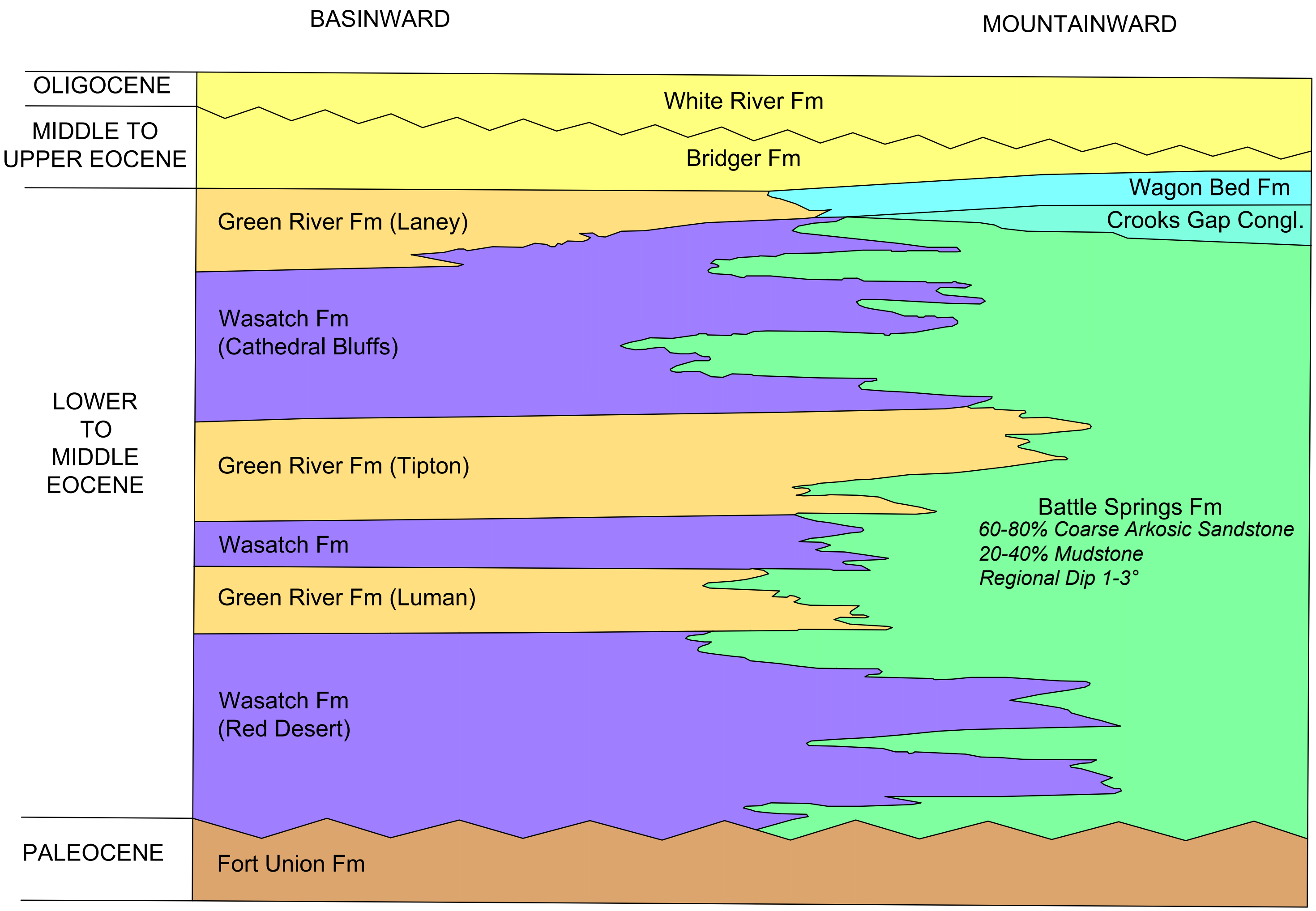
Counties receive 3.9 percent (up to $6 million) of the state's severance tax distribution, while cities and towns receive 9.3 percent (up to $14.3 million). Distributions of these funds are allocated to individual local governments based on their population relative to the state incorporated population. In fiscal year 2024 (FY2024), $20.4 million in mineral severance tax revenue was distributed to cities, towns, and counties across Wyoming (Wyoming Department of Revenue 2024). Of this amount, approximately $243,135 was distributed to Sweetwater County (Sweetwater County 2024). At the local level, county tax collectors collect *ad valorem* taxes and distribute them within their own jurisdictions. In 2024, the average tax levy on mineral production in Sweetwater County was 62.6 mills, or 6.3 percent of its market value (Wyoming Department of Revenue 2024). The estimated 2017 *ad valorem* tax revenue collected for uranium within five counties in Wyoming was $119,412, based on 2023 statewide production of 52,122 pounds of taxable uranium units (pounds U3O8) and an average tax per unit of $2.29. In addition to taxes on mineral production, the county assesses an average mill levy of 73.1 (7.3 percent) on the fair market value of property used for mineral production.

In FY2024, the State of Wyoming collected $76,289 in severance taxes from the uranium sector, based on a taxable valuation per unit of $36.59 and a severance tax rate of 4 percent (Wyoming Department of Revenue 2025). Wyoming Department of Revenue collects these severance tax revenues, aggregates them with revenues from other minerals, and distributes them according to statute. Approximately 1.5 percent of total severance tax revenues are designated for the Wyoming Permanent Mineral Fund. Depending on revenues, a maximum of $155 million in severance taxes are distributed by varying percentages to the State General Fund, water development accounts, the highway fund, capital construction funds, counties and county road construction funds, and cities.

6.12 Visual and Scenic Resources

The Project is located within visual resource management (VRM) Class IV. The objective of Class IV is to provide for management activities which require major modifications of the existing character of the landscape. The level of change to the characteristic landscape can be high.

Previous alterations to landscape date back to 1979 when the Sweetwater Mill was constructed. Additional modifications to the landscape occurred from 1981 to 1983 with the addition of a pit, tailings pile, and overburden pile. These features are all still present. Figure 6-12-1 shows an aerial photograph of the mill, pit, tailings, and overburden pile.



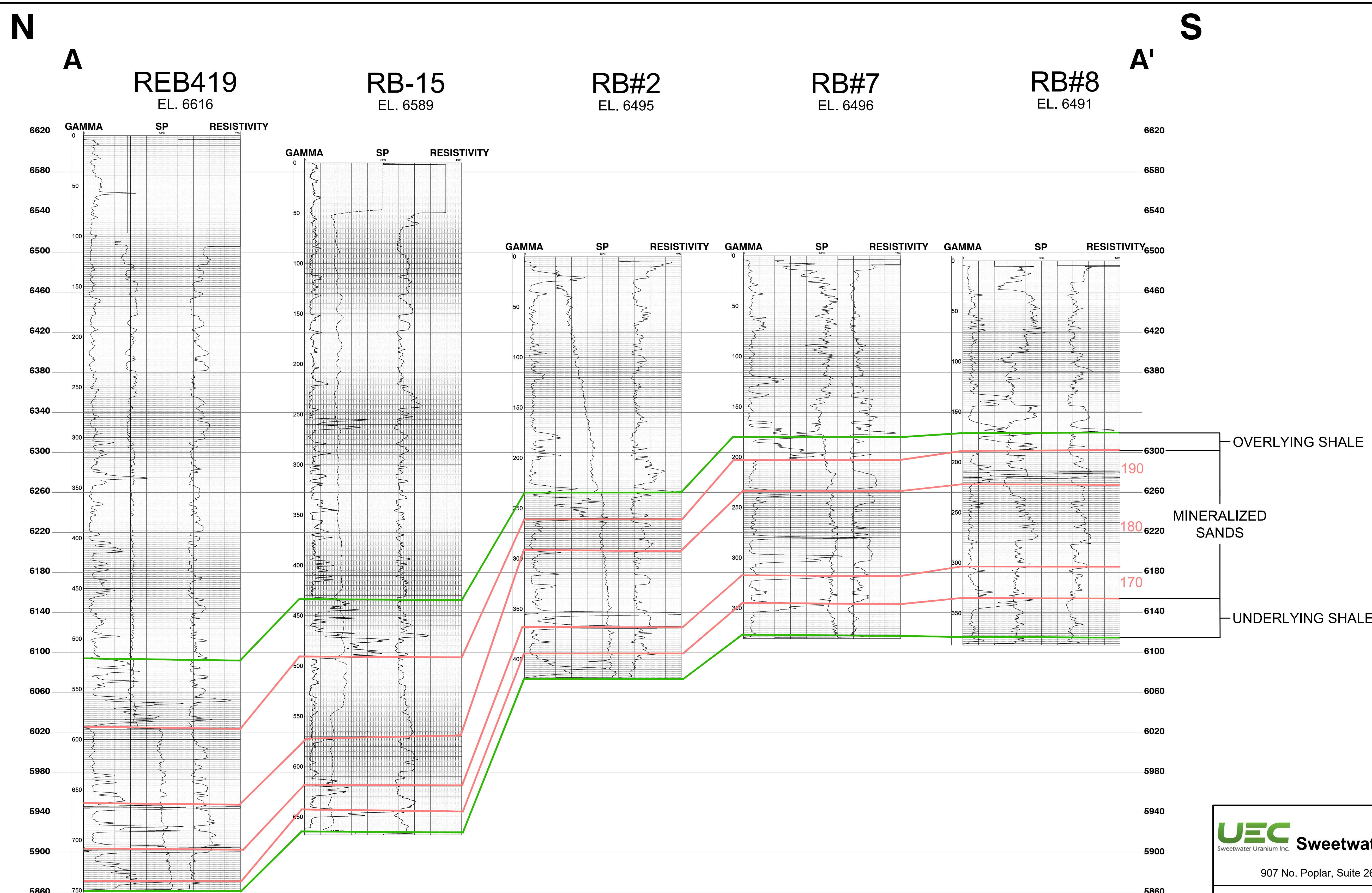
Diagrammatic relationships of Tertiary sedimentary units in the Great Divide Basin, Wyoming
(Modified from Pippiringos & Denson, 1970)

Sweetwater Uranium, Inc.

907 No. Poplar, Suite 260, Casper, Wyoming 82601

Figure 6.2-1
Great Divide Basin Stratigraphic Column

Date: June 2025	By: WWC/RAV	Checked: WWC/BJS



Sweetwater Uranium, Inc.

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Figure 6.2-2
Sweetwater Project Area
Cross Section

Date: November 2025	By: WWC/JRK	Checked: WWC/BJS

Figure 6.9-1 Wind Rose (Sweetwater Met Station, 1-Year and 5-year)

1-Year **5-Year**

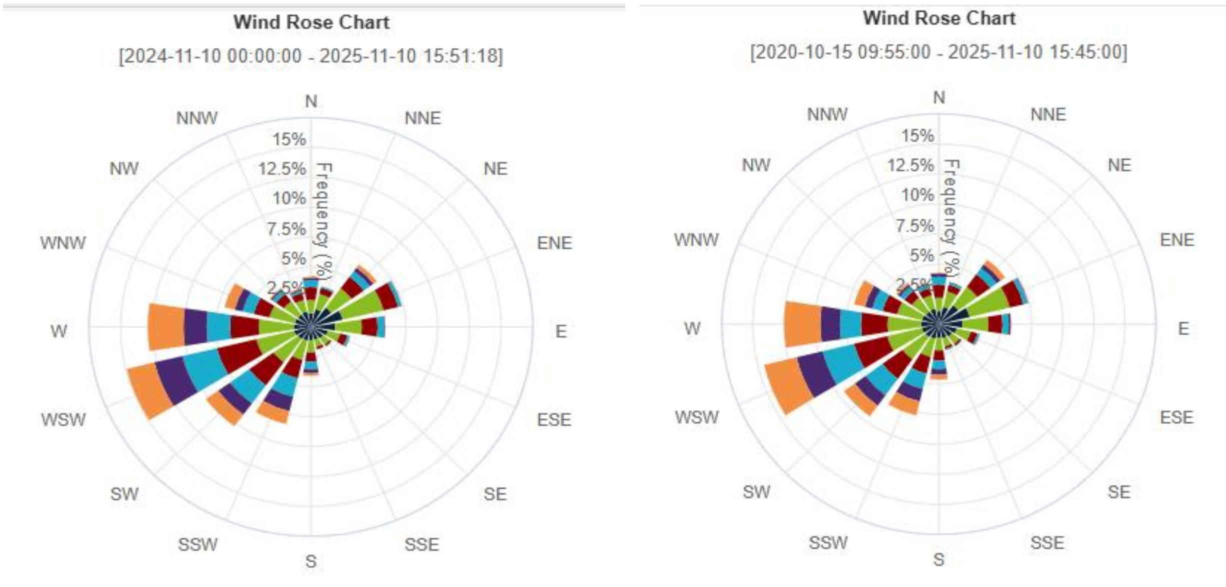
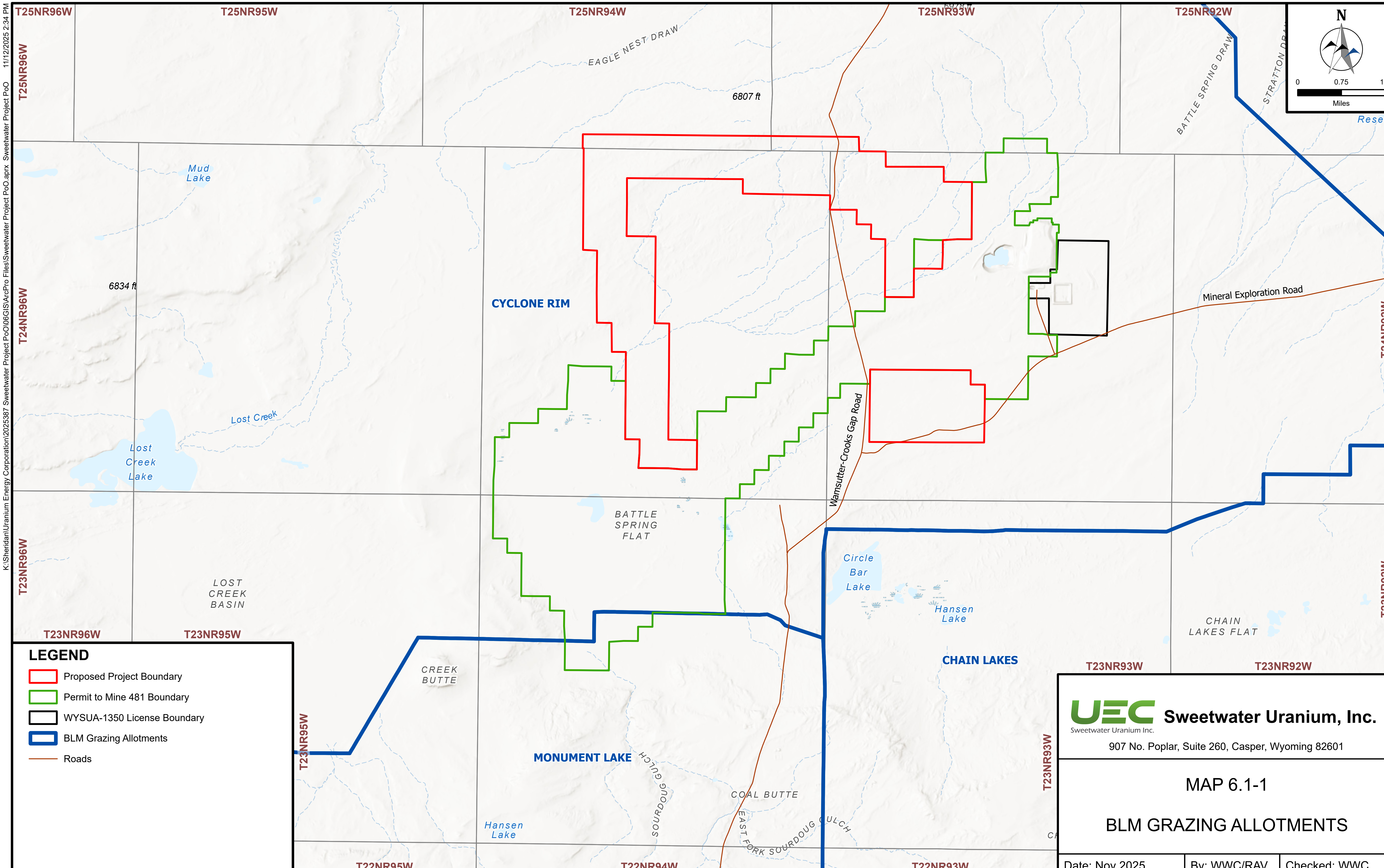


Figure 6.12-1. Aerial Photograph of Sweetwater Facilities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T25NR96W
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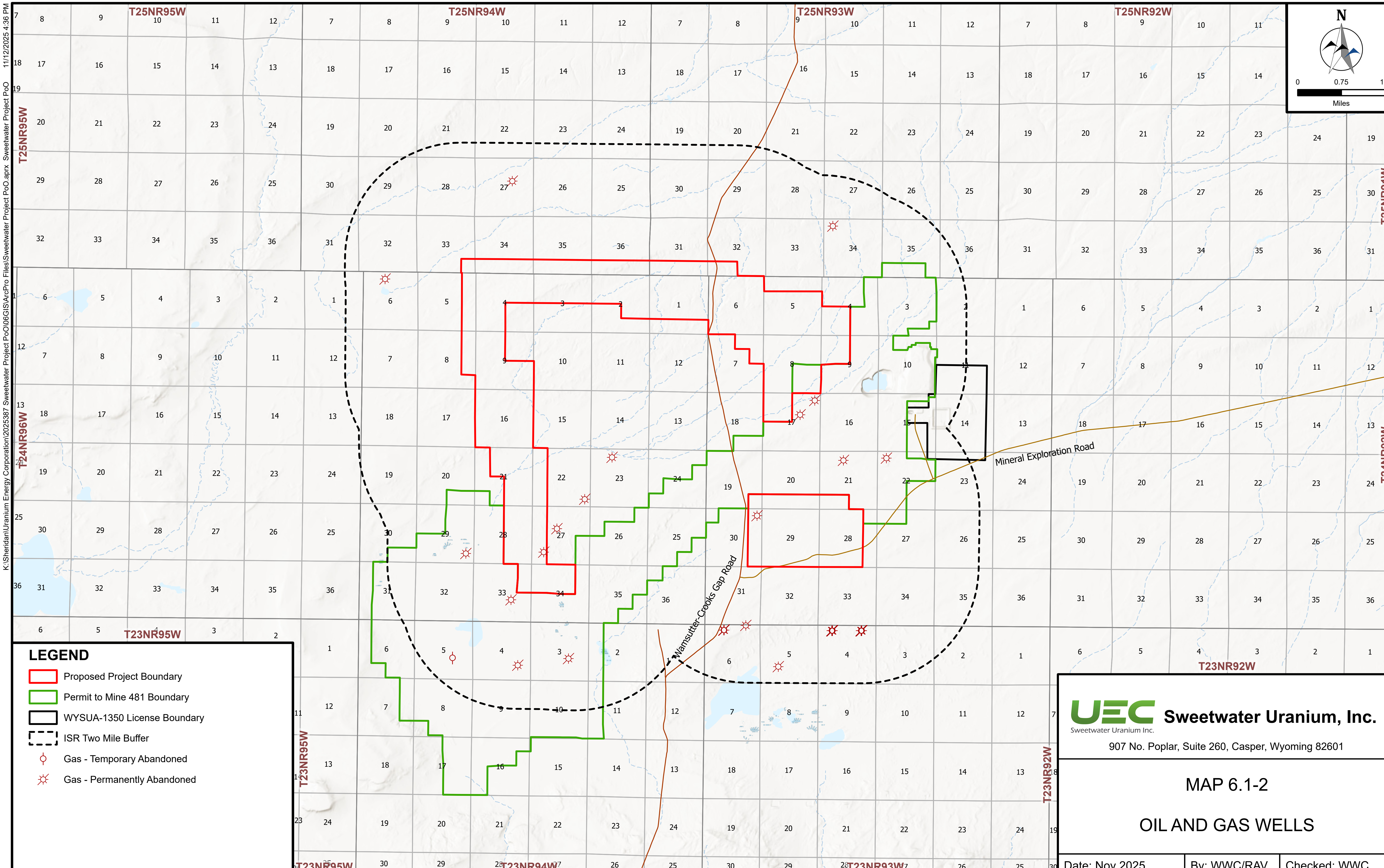
T23NR96W
T23NR95W
T23NR93W
T23NR92W
T22NR95W
T22NR94W
T22NR93W
N
0 0.75 1.5
Miles
EAGLE NEST DRAW
BATTLE SRPING DRAW
STRATTON DRAW
6807 ft
6834 ft
Mud Lake
CYCLONE RIM
Lost Creek
Lost Creek Lake
Mineral Exploration Road
Wamsutter-Crooks Gap Road
BATTLE SPRING FLAT
LOST CREEK BASIN
Circle Bar Lake
Hansen Lake
CHAIN LAKES FLAT
CHAIN LAKES
CREEK BUTTE
MONUMENT LAKE
SOURDOUG GULCH
COAL BUTTE
EAST FORK SOURDOUG GULCH
Hansen Lake
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
BLM Grazing Allotments
Roads
UEC Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.1-1
BLM GRAZING ALLOTMENTS
Date: Nov 2025
By: WWC/RAV
Checked: WWC



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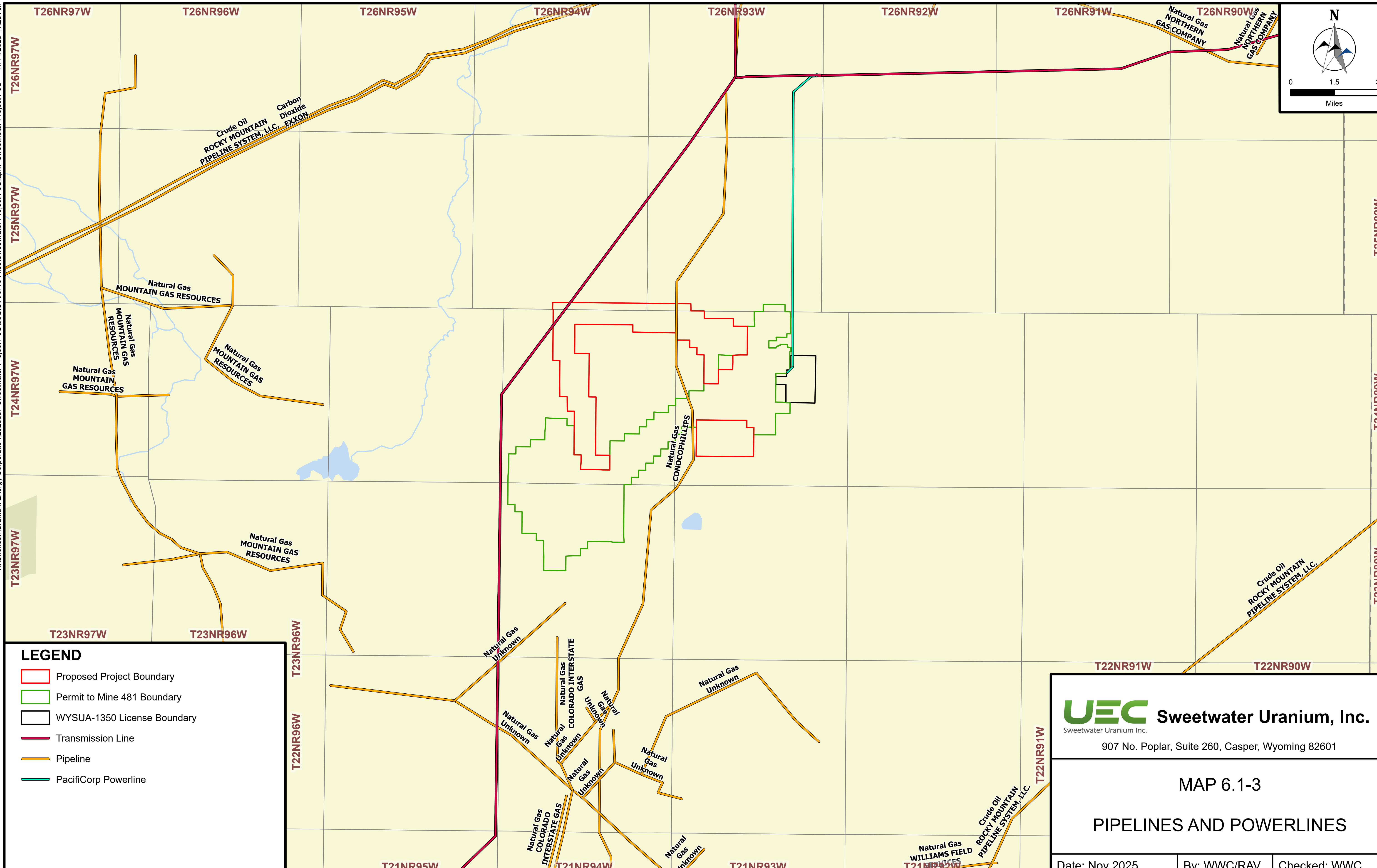
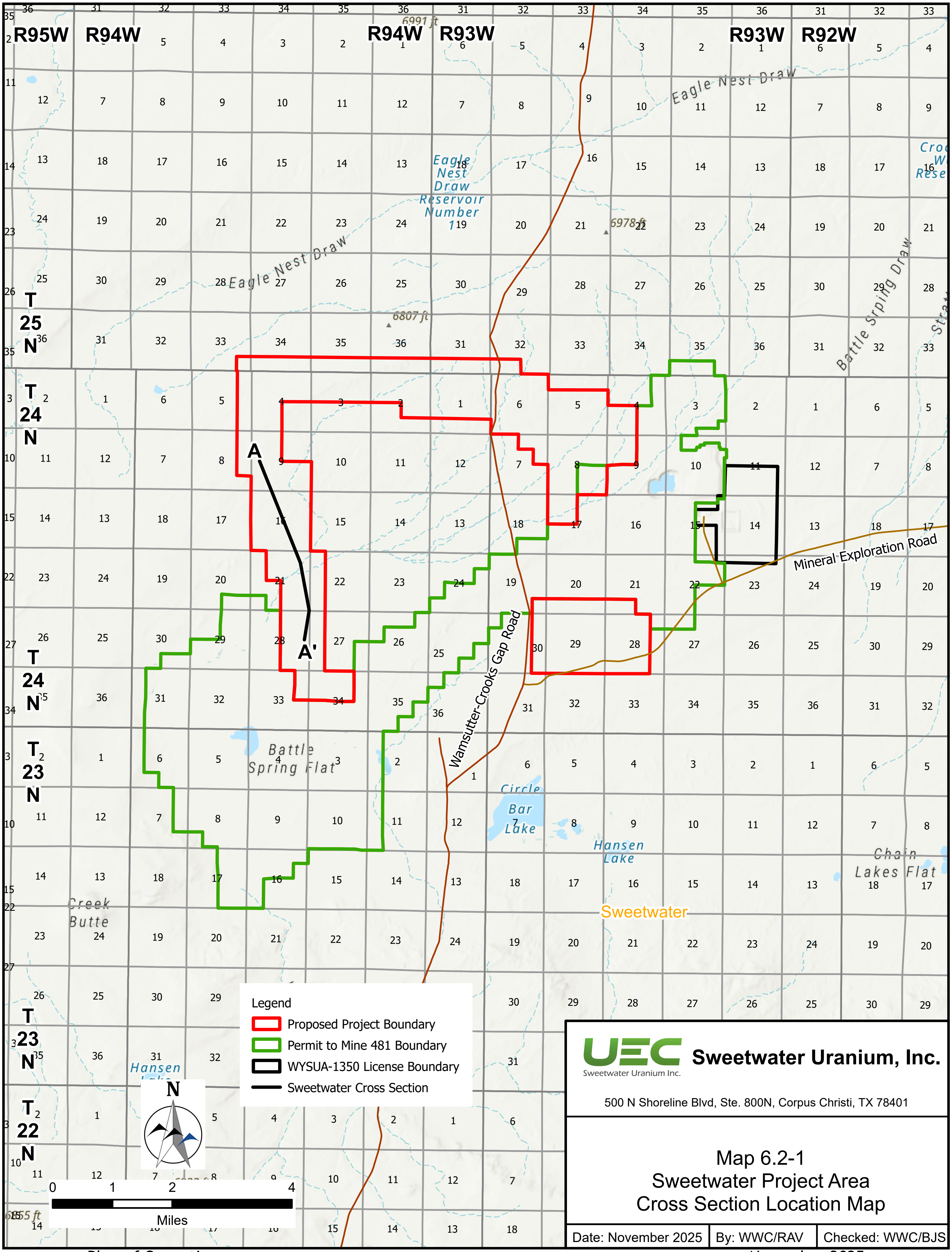
T25NR91W
T24NR96W
T24NR92W
T23NR95W
T23NR94W
T23NR93W
T23NR92W
Mineral Exploration Road
Wamsutter-Crooks Gap Road
N
0
0.75
1.5
Miles
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
ISR Two Mile Buffer
Gas - Temporary Abandoned
Gas - Permanently Abandoned
UEC
Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.1-2
OIL AND GAS WELLS
Date: Nov 2025
By: WWC/RAV
Checked: WWC

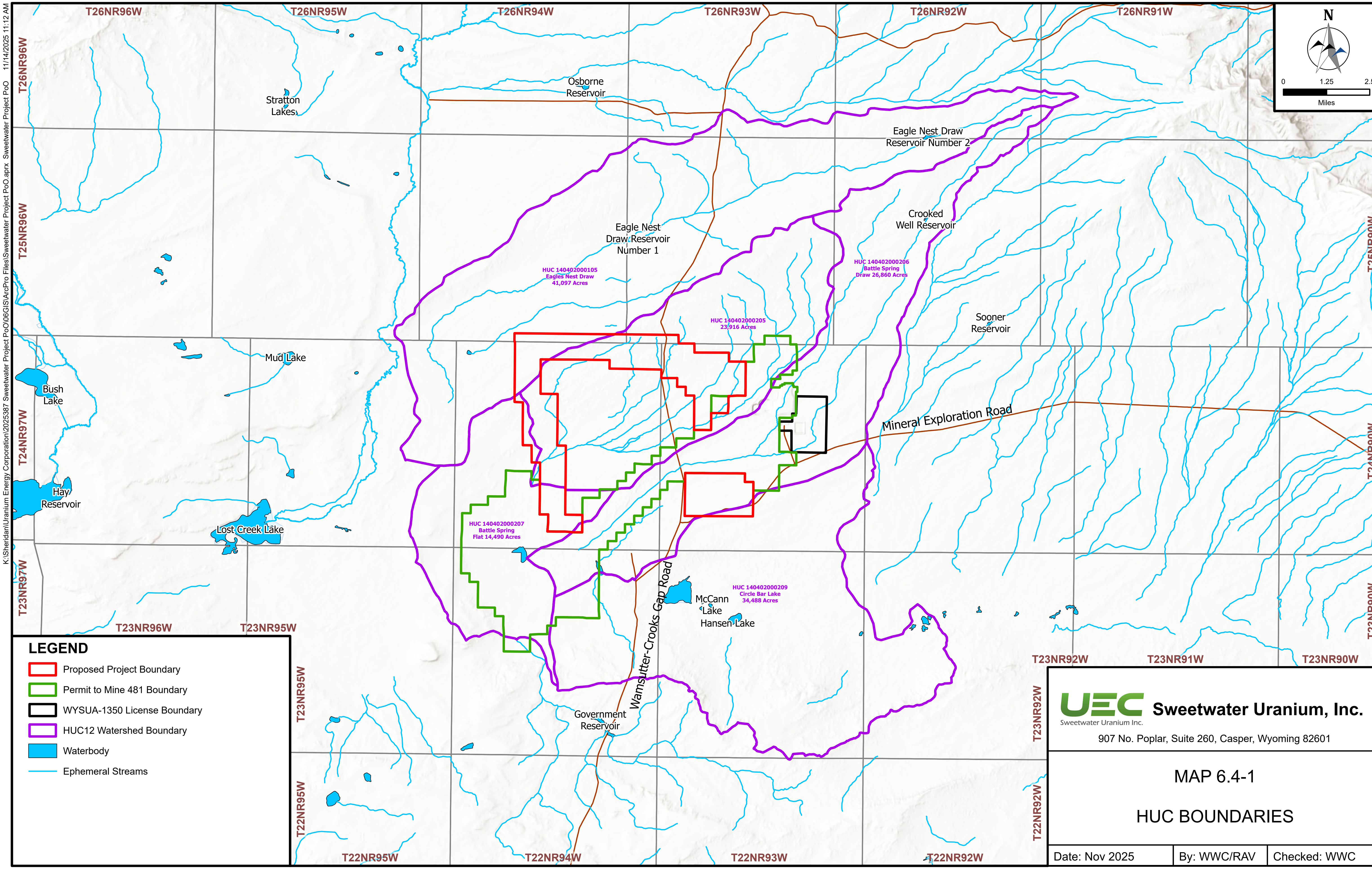


MAP 6.1-3

PIPELINES AND POWERLINES

Date: Nov 2025 | By: WWC/RAV | Checked: WWC


R95W
R94W
R93W
R92W
T 25 N
T 24 N
T 23 N
T 22 N
Eagle Nest Draw
Eagle Nest Draw Reservoir Number 1
Battle Spring Draw
Battle Spring Flat
Circle Bar Lake
Hansen Lake
Chain Lakes Flat
Creek Butte
Sweetwater
Mineral Exploration Road
Wamsutter-Crooks Gap Road
6991 ft
6978 ft
6807 ft
A
A'
Legend
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Sweetwater Cross Section
N
0 1 2 4
Miles
UEC
Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
500 N Shoreline Blvd, Ste. 800N, Corpus Christi, TX 78401
Map 6.2-1
Sweetwater Project Area
Cross Section Location Map
Date: November 2025
By: WWC/RAV
Checked: WWC/BJS



T26NR96W
T26NR95W
T26NR94W
T26NR93W
T26NR92W
T26NR91W
N
0 1.25 2.5
Miles
Osborne Reservoir
Stratton Lakes
Eagle Nest Draw Reservoir Number 2
Eagle Nest Draw Reservoir Number 1
Crooked Well Reservoir
HUC 140402000105
Eagles Nest Draw
41,097 Acres
HUC 140402000206
Battle Spring
Draw 26,860 Acres
HUC 140402000205
23,916 Acres
Sooner Reservoir
Mud Lake
Bush Lake
Hay Reservoir
Lost Creek Lake
Mineral Exploration Road
HUC 140402000207
Battle Spring
Flat 14,490 Acres
HUC 140402000209
Circle Bar Lake
34,488 Acres
McCann Lake
Hansen Lake
Wamsutter-Crooks Gap Road
Government Reservoir
T26NR96W
T25NR96W
T24NR97W
T23NR97W
T23NR96W
T23NR95W
T25NR90W
T24NR90W
T23NR90W
T23NR92W
T23NR91W
T23NR90W
T23NR95W
T22NR95W
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T22NR94W
T22NR93W
T22NR92W
T23NR92W
T22NR92W
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
HUC12 Watershed Boundary
Waterbody
Ephemeral Streams
Sweetwater Uranium, Inc.
Sweetwater Uranium Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.4-1
HUC BOUNDARIES
Date: Nov 2025
By: WWC/RAV
Checked: WWC
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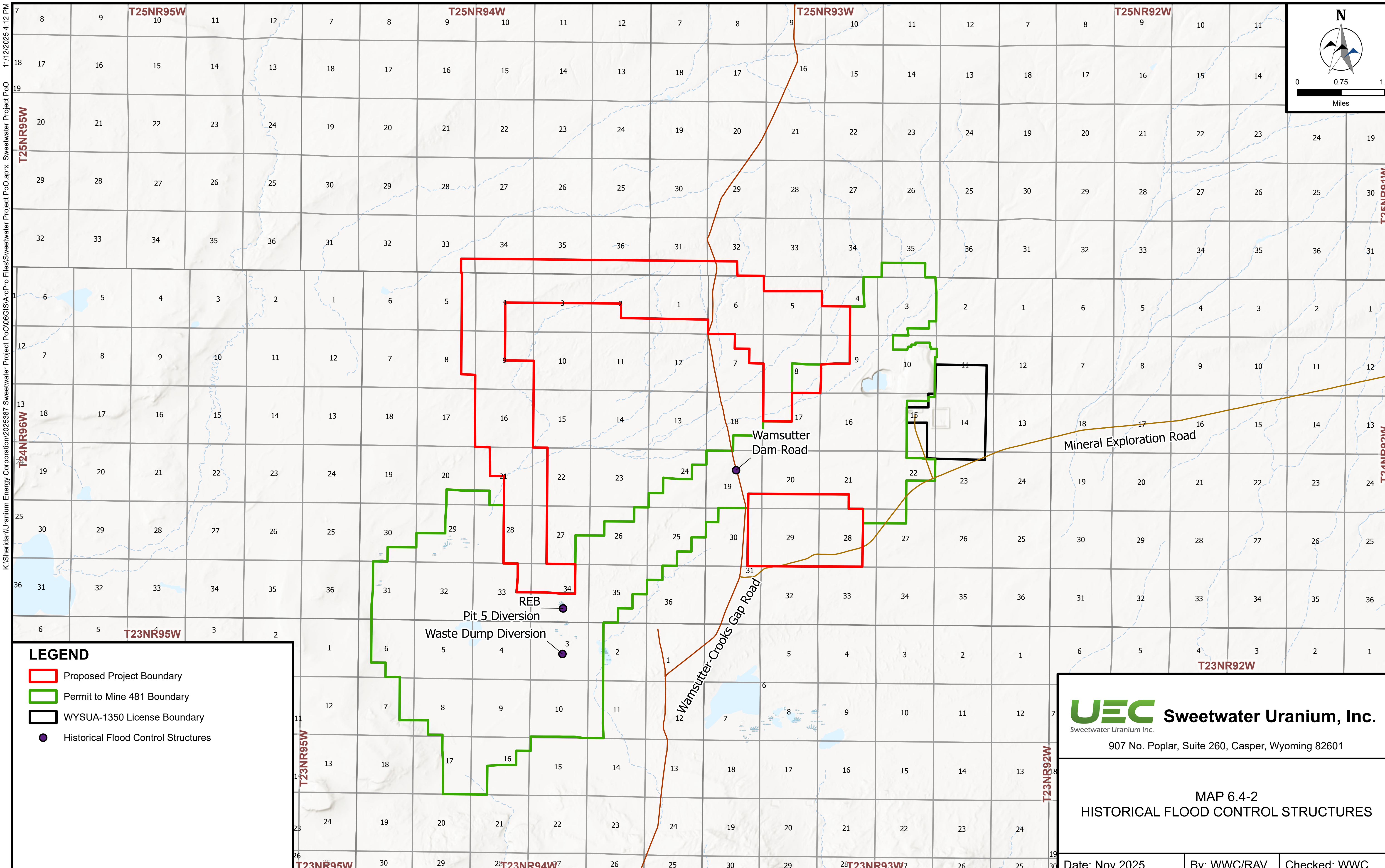
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T23NR94W
T23NR93W
T23NR92W
Wamsutter Dam Road
Mineral Exploration Road
Wamsutter-Crooks Gap Road
REB
Pit 5 Diversion
Waste Dump Diversion
N
0 0.75 1.5
Miles
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Historical Flood Control Structures
UEC Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.4-2
HISTORICAL FLOOD CONTROL STRUCTURES
Date: Nov 2025
By: WWC/RAV
Checked: WWC
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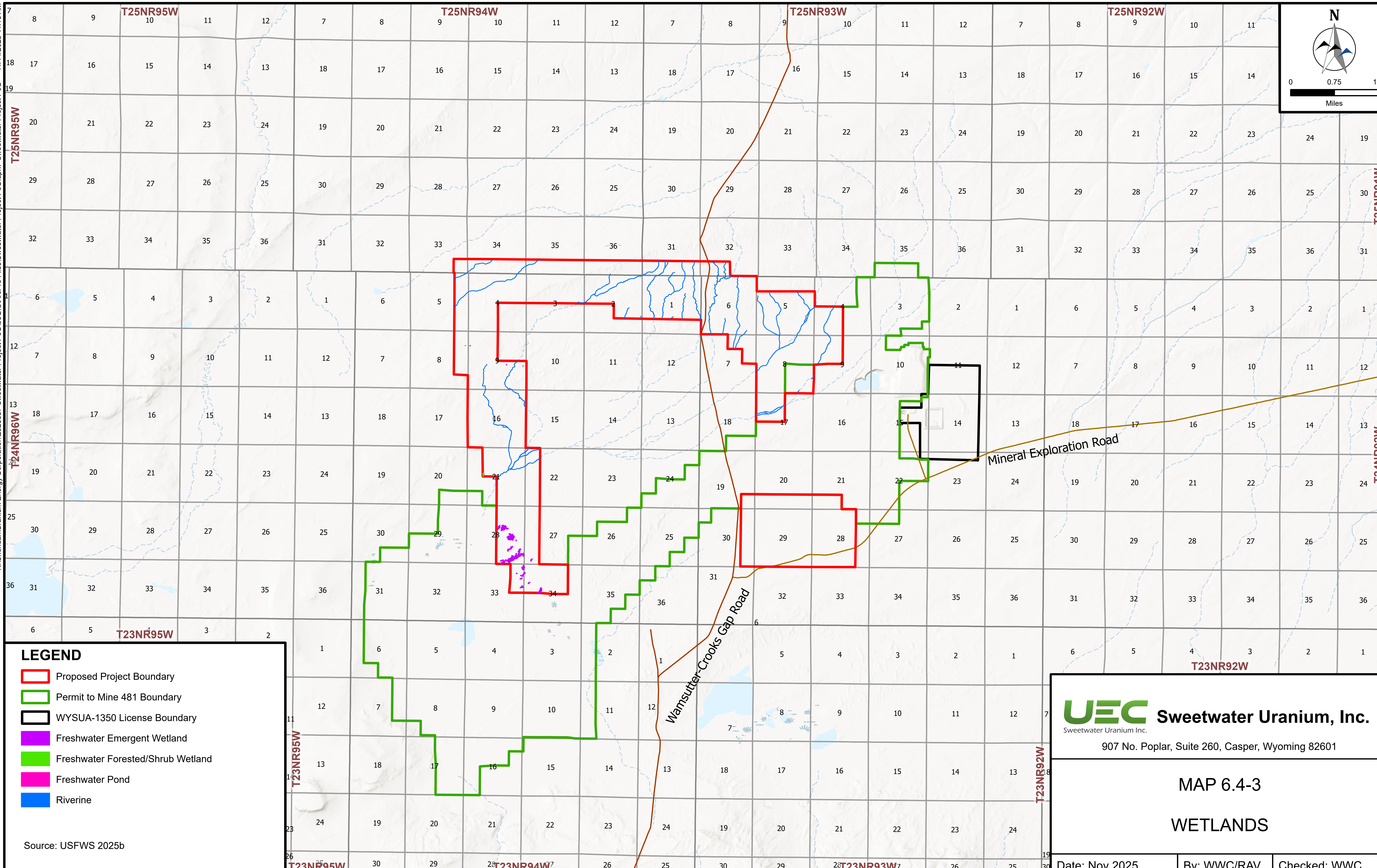
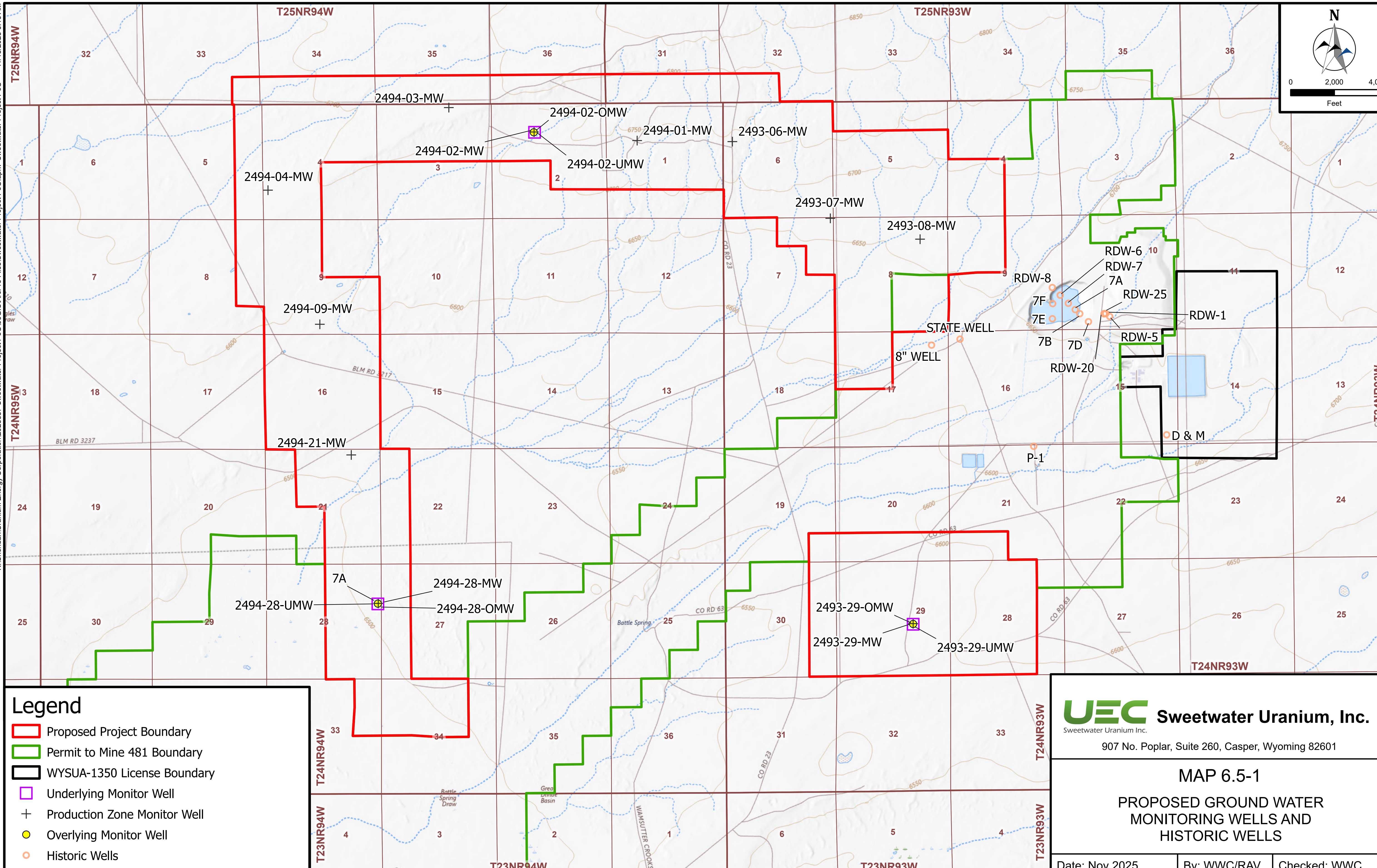
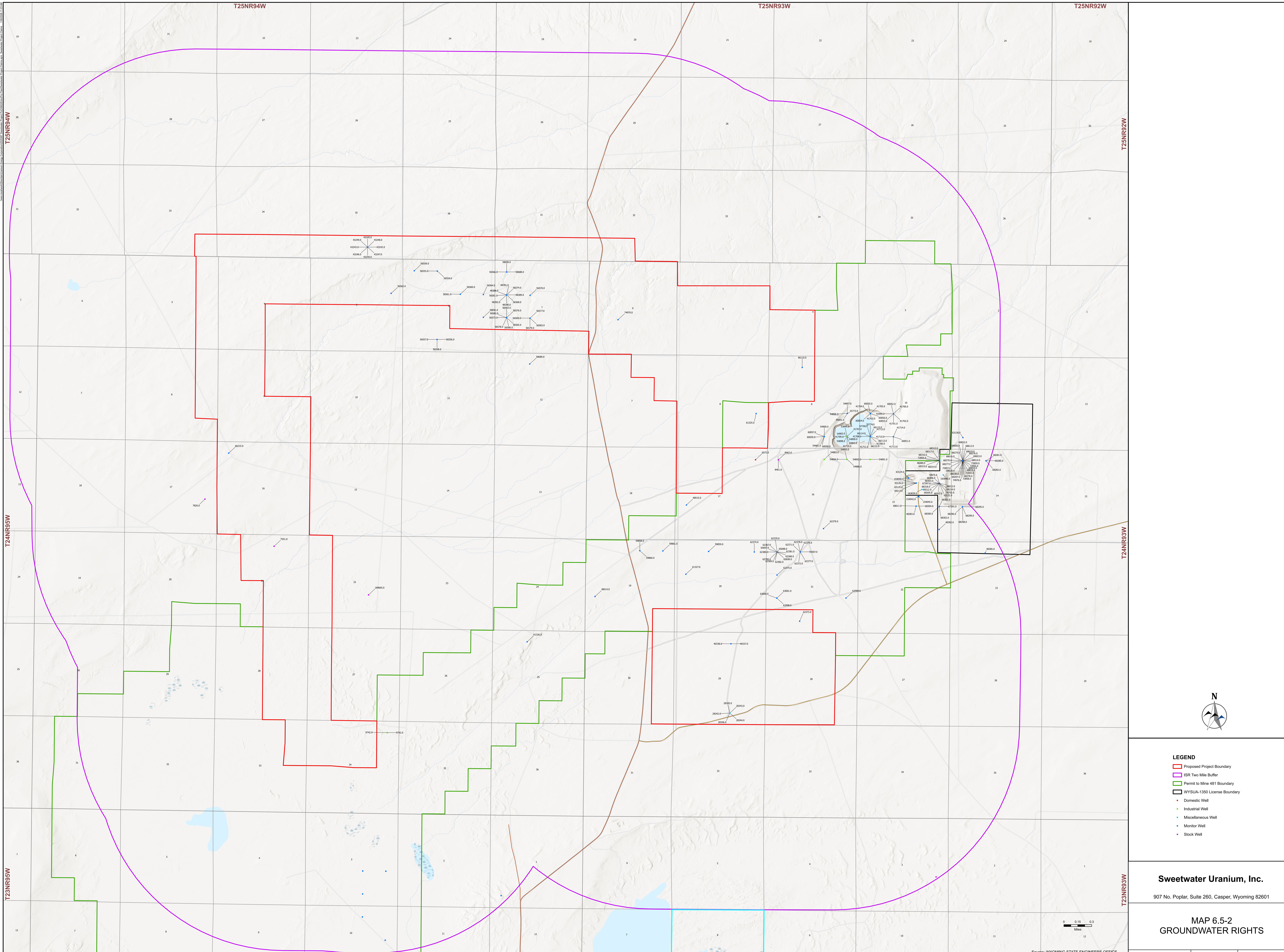
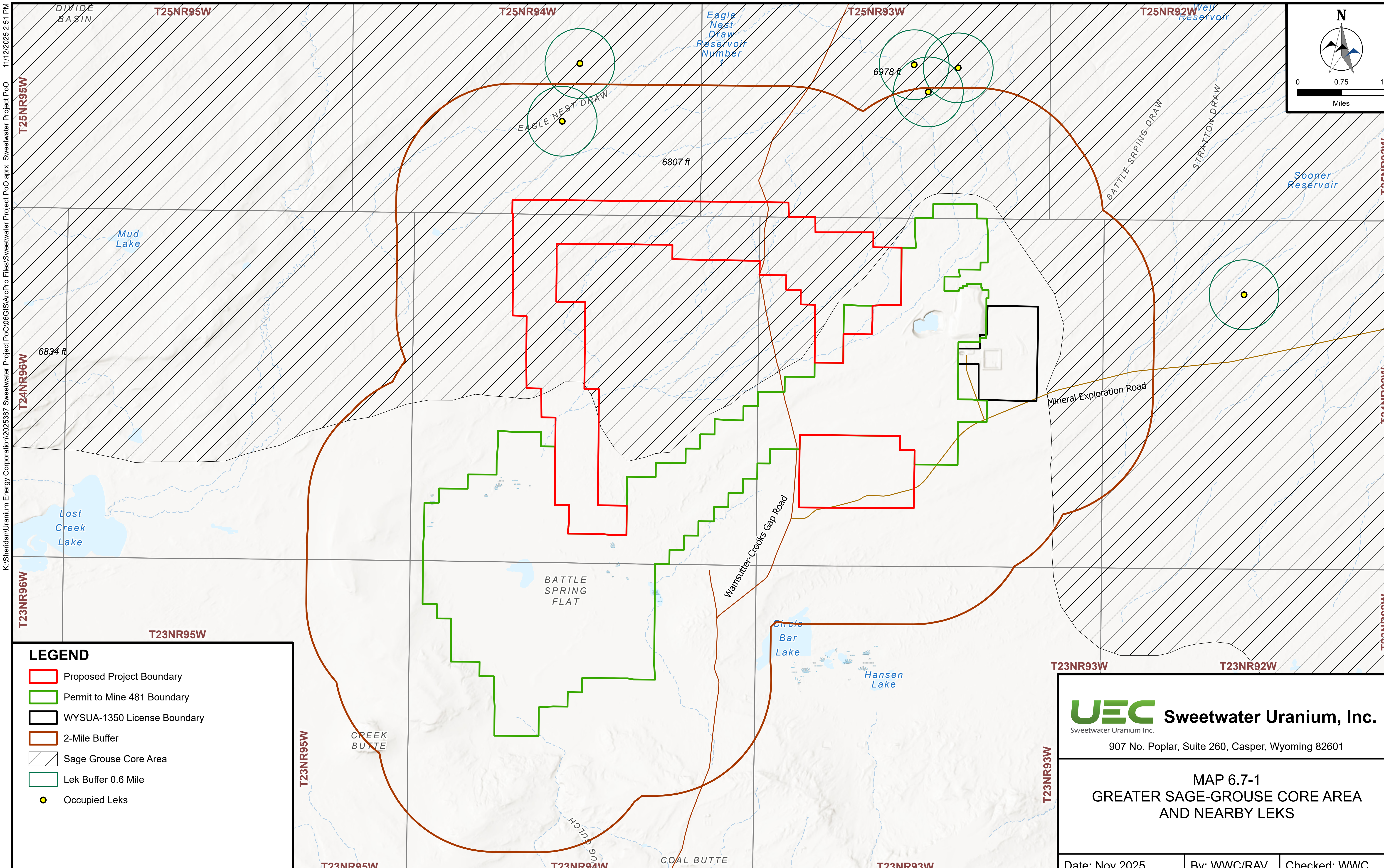

LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Riverine
Source: USFWS 2025b
N
0
0.75
1.5
Miles
T25NR95W
T25NR94W
T25NR93W
T25NR92W
T25NR91W
T24NR96W
T24NR92W
T23NR95W
T23NR94W
T23NR93W
T23NR92W
Mineral Exploration Road
Wamsutter-Crooks Gap Road
K:\Sheridan\Uranium Energy Corporation\2025387 Sweetwater Project PoO\06GIS\ArcPro Files\Sweetwater Project PoO.aprx Sweetwater Project PoO 11/14/2025 11:16 AM
Sweetwater Uranium, Inc.
Sweetwater Uranium Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.4-3
WETLANDS
Date: Nov 2025
By: WWC/RAV
Checked: WWC

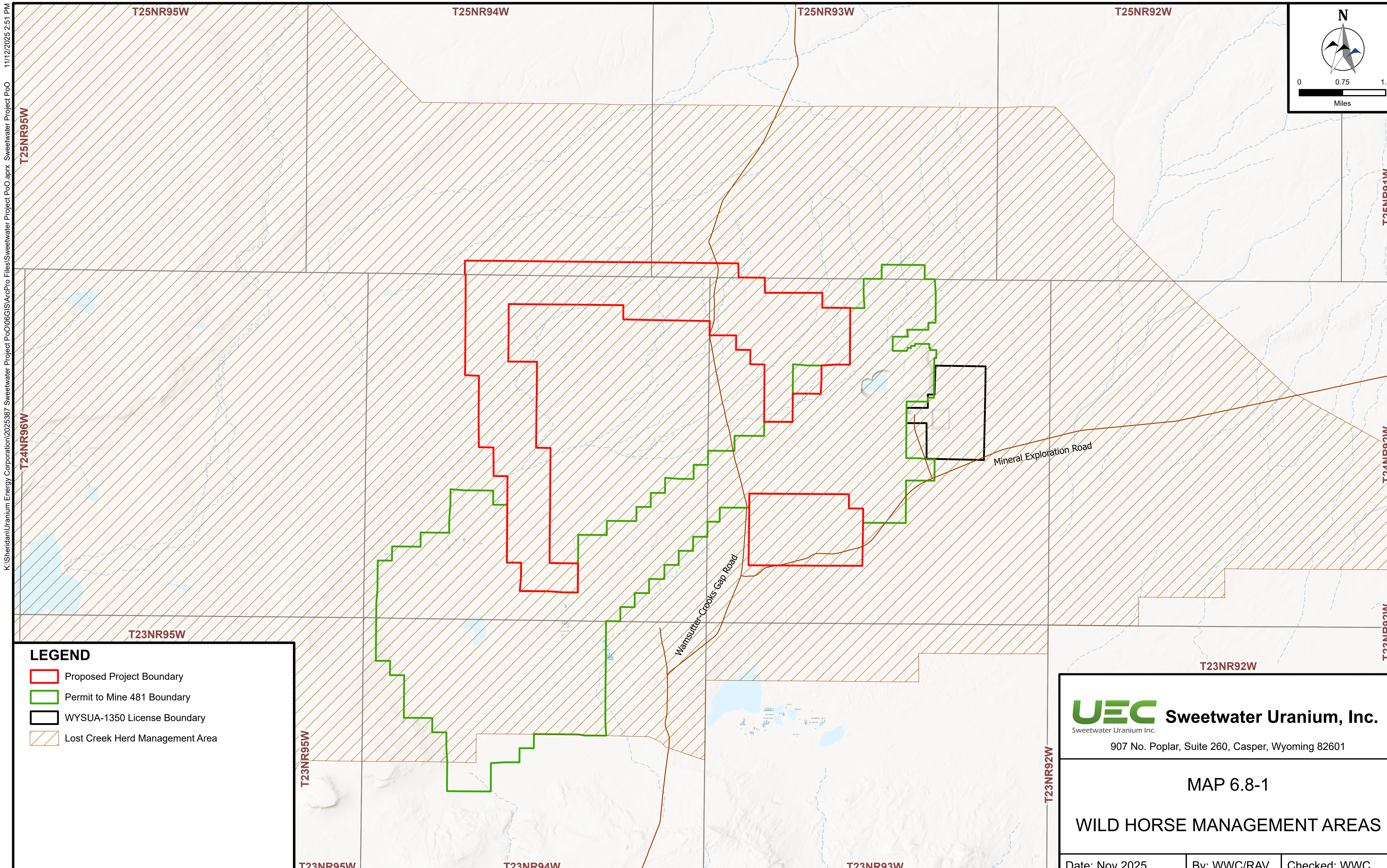


N
0 2,000 4,000
Feet
T25NR94W
T25NR93W
T24NR95W
T24NR94W
T24NR93W
T23NR94W
T23NR93W
2494-03-MW
2494-02-OMW
2494-02-MW
2494-02-UMW
2494-01-MW
2493-06-MW
2494-04-MW
2493-07-MW
2493-08-MW
2494-09-MW
2494-21-MW
2494-28-MW
2494-28-UMW
2494-28-OMW
7A
2493-29-OMW
2493-29-MW
2493-29-UMW
RDW-6
RDW-7
RDW-8
7A
RDW-25
RDW-1
7F
7E
7B
7D
RDW-5
RDW-20
STATE WELL
8" WELL
D & M
P-1
BLM RD 3217
BLM RD 3237
CO RD 23
CO RD 63
Battle Spring
Legend
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Underlying Monitor Well
Production Zone Monitor Well
Overlying Monitor Well
Historic Wells
UEC
Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.5-1
PROPOSED GROUND WATER MONITORING WELLS AND HISTORIC WELLS
Date: Nov 2025
By: WWC/RAV
Checked: WWC


T25NR94W
T25NR93W
T25NR92W
T24NR95W
T24NR93W
T23NR95W
T23NR94W
T23NR93W
N
LEGEND
Proposed Project Boundary
ISR Two Mile Buffer
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Domestic Well
Industrial Well
Miscellaneous Well
Monitor Well
Stock Well
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.5-2
GROUNDWATER RIGHTS
0 0.15 0.3
Miles
Source: WYOMING STATE ENGINEERS OFFICE
EPERMIT, JANUARY 2026
Date: Jan 2026
By: WWC/RAV
Checked: WWC



MAP 6.7-1
GREATER SAGE-GROUSE CORE AREA
AND NEARBY LEKS
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
Date: Nov 2025
By: WWC/RAV
Checked: WWC
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
2-Mile Buffer
Sage Grouse Core Area
Lek Buffer 0.6 Mile
Occupied Leks
N
0
0.75
1.5
Miles
T25NR95W
T25NR94W
T25NR93W
T25NR92W
T24NR96W
T24NR92W
T23NR96W
T23NR95W
T23NR94W
T23NR93W
T23NR92W
Eagle Nest Draw Reservoir Number 1
EAGLE NEST DRAW
DIVIDE BASIN
Mud Lake
Lost Creek Lake
BATTLE SPRING FLAT
Circle Bar Lake
Hansen Lake
Sooner Reservoir
BATTLE SPRING DRAW
STRATTON DRAW
CREEK BUTTE
COAL BUTTE
Wamsutter-Crooks Gap Road
Mineral Exploration Road
6978 ft
6807 ft
6834 ft
K:\Sheridan\Uranium Energy Corporation\2025387 Sweetwater Project PoO\06GIS\ArcPro Files\Sweetwater Project PoO.aprx Sweetwater Project PoO 11/12/2025 2:51 PM


T25NR95W
T25NR94W
T25NR93W
T25NR92W
T25NR91W
T24NR96W
T24NR92W
T23NR95W
T23NR94W
T23NR93W
T23NR92W
N
0 0.75 1.5
Miles
Mineral Exploration Road
Wamsutter-Crooks Gap Road
LEGEND
Proposed Project Boundary
Permit to Mine 481 Boundary
WYSUA-1350 License Boundary
Lost Creek Herd Management Area
UEC Sweetwater Uranium Inc.
Sweetwater Uranium, Inc.
907 No. Poplar, Suite 260, Casper, Wyoming 82601
MAP 6.8-1
WILD HORSE MANAGEMENT AREAS
Date: Nov 2025
By: WWC/RAV
Checked: WWC
K:\Sheridan\Uranium Energy Corporation\2025387 Sweetwater Project PoO\06GIS\ArcPro Files\Sweetwater Project PoO.aprx Sweetwater Project PoO 11/12/2025 2:51 PM

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Appendix A

Affected Lode Claims

Claim No.	BLM Serial No.	Claim No.	BLM Serial No.	Claim No.	BLM Serial No.
BB10	WMC307364	BB118	WMC307472	BB178	WMC307532
BB12	WMC307366	BB119	WMC307473	BB179	WMC307533
BB14	WMC307368	BB120	WMC307474	BB180	WMC307534
BB17	WMC307371	BB121	WMC307475	BB181	WMC307535
BB19	WMC307373	BB122	WMC307476	BB182	WMC307536
BB21	WMC307375	BB123	WMC307477	BB183	WMC307537
BB23	WMC307377	BB126	WMC307480	BB184	WMC307538
BB25	WMC307379	BB127	WMC307481	BB185	WMC307539
BB27	WMC307381	BB128	WMC307482	BB186	WMC307540
BB29	WMC307383	BB129	WMC307483	BB189	WMC307543
BB31	WMC307385	BB130	WMC307484	BB193	WMC307547
BB33	WMC307387	BB131	WMC307485	BB194	WMC307548
BB35	WMC307389	BB132	WMC307486	BB195	WMC307549
BB37	WMC307391	BB133	WMC307487	BB196	WMC307550
BB39	WMC307393	BB134	WMC307488	BB197	WMC307551
BB41	WMC307395	BB135	WMC307489	BB198	WMC307552
BB43	WMC307397	BB136	WMC307490	BB199	WMC307553
BB45	WMC307399	BB137	WMC307491	BB200	WMC307554
BB47	WMC307401	BB138	WMC307492	BB201	WMC307555
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BB51	WMC307405	BB141	WMC307495	BB209	WMC307563
BB53	WMC307407	BB142	WMC307496	BB211	WMC307565
BB54	WMC307408	BB143	WMC307497	BB213	WMC307567
BB57	WMC307411	BB144	WMC307498	BB214	WMC307568
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BB93	WMC307447	BB165	WMC307519	BB240	WMC307594
BB95	WMC307449	BB166	WMC307520	BB241	WMC307595
BB117	WMC307471	BB168	WMC307522	BB251	WMC307605

Claim No.	BLM Serial No.	Claim No.	BLM Serial No.	Claim No.	BLM Serial No.
BB251	WMC307605	BB399	WMC307753	BB488	WMC307842
BB253	WMC307607	BB400	WMC307754	BB489	WMC307843
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BB263	WMC307617	BB440	WMC307794	BB634	WMC309494
BB265	WMC307619	BB442	WMC307796	BB635	WMC309495
BB267	WMC307621	BB444	WMC307798	BECKY133	WMC133432
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BB374	WMC307728	BB481	WMC307835	ENQ108	WMC110705
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BB379	WMC307733	BB485	WMC307839	ENQ218	WMC110815
BB396	WMC307750	BB486	WMC307840	ENQ219	WMC110816
BB397	WMC307751	BB487	WMC307841	RE324	WMC139005
BB398	WMC307752	BB488	WMC307842	RE1184	WMC139653

Claim No.	BLM Serial No.	Claim No.	BLM Serial No.	Claim No.	BLM Serial No.
RE1200	WMC139669	SP37	WMC309226	SP82	WMC309271
RE1296	WMC139765	SP38	WMC309227	SP83	WMC309272
RE1298	WMC139767	SP39	WMC309228	SP84	WMC309273
RE1312	WMC139781	SP40	WMC309229	SP85	WMC309274
RE1314	WMC139783	SP41	WMC309230	SP86	WMC309275
RE1176A	WMC227866	SP42	WMC309231	SP87	WMC309276
REB311	WMC134798	SP43	WMC309232	SP88	WMC309277
SP1	WMC309190	SP44	WMC309233	SP89	WMC309278
SP2	WMC309191	SP45	WMC309234	SP91	WMC309280
SP3	WMC309192	SP46	WMC309235	SP92	WMC309281
SP4	WMC309193	SP47	WMC309236	SP93	WMC309282
SP5	WMC309194	SP48	WMC309237	SP94	WMC309283
SP6	WMC309195	SP49	WMC309238	SP95	WMC309284
SP7	WMC309196	SP50	WMC309239	SP96	WMC309285
SP8	WMC309197	SP51	WMC309240	SP97	WMC309286
SP9	WMC309198	SP52	WMC309241	SP98	WMC309287
SP10	WMC309199	SP53	WMC309242	SP99	WMC309288
SP11	WMC309200	SP54	WMC309243	SP100	WMC309289
SP12	WMC309201	SP55	WMC309244	SP101	WMC309290
SP13	WMC309202	SP56	WMC309245	SP102	WMC309291
SP14	WMC309203	SP57	WMC309246	SP103	WMC309292
SP15	WMC309204	SP58	WMC309247	SP105	WMC309294
SP16	WMC309205	SP59	WMC309248	SP111	WMC309300
SP17	WMC309206	SP60	WMC309249	SP112	WMC309301
SP18	WMC309207	SP61	WMC309250	SP113	WMC309302
SP19	WMC309208	SP62	WMC309251	SP114	WMC309303
SP20	WMC309209	SP63	WMC309252	SP115	WMC309304
SP21	WMC309210	SP64	WMC309253	SP116	WMC309305
SP22	WMC309211	SP65	WMC309254	SP117	WMC309306
SP23	WMC309212	SP66	WMC309255	SP118	WMC309307
SP24	WMC309213	SP67	WMC309256	SP119	WMC309308
SP25	WMC309214	SP68	WMC309257	SP120	WMC309309
SP26	WMC309215	SP69	WMC309258	SP121	WMC309310
SP27	WMC309216	SP70	WMC309259	SP122	WMC309311
SP28	WMC309217	SP71	WMC309260	SP123	WMC309312
SP29	WMC309218	SP72	WMC309261	SP124	WMC309313
SP30	WMC309219	SP73	WMC309262	SP137	WMC309326
SP31	WMC309220	SP74	WMC309263	SP139	WMC309328
SP32	WMC309221	SP75	WMC309264	SP141	WMC309330
SP33	WMC309222	SP77	WMC309266	SP142	WMC309331
SP34	WMC309223	SP79	WMC309268	SP143	WMC309332
SP35	WMC309224	SP80	WMC309269	SP144	WMC309333
SP36	WMC309225	SP81	WMC309270	SP145	WMC309334

Claim No.	BLM Serial No.	Claim No.	BLM Serial No.
SP146	WMC309335	SP189	WMC309378
SP147	WMC309336	SP190	WMC309379
SP148	WMC309337	SP191	WMC309380
SP149	WMC309338	SP192	WMC309381
SP150	WMC309339	SP193	WMC309382
SP151	WMC309340	SP194	WMC309383
SP152	WMC309341	UE513	WY106747143
SP153	WMC309342	UE514	WY106747144
SP154	WMC309343	UE515	WY106747145
SP155	WMC309344	UE516	WY106747146
SP156	WMC309345	UE517	WY106747147
SP157	WMC309346	UE518	WY106747148
SP158	WMC309347	UE519	WY106747149
SP159	WMC309348	UE520	WY106747150
SP160	WMC309349		
SP161	WMC309350		
SP162	WMC309351		
SP163	WMC309352		
SP164	WMC309353		
SP165	WMC309354		
SP166	WMC309355		
SP167	WMC309356		
SP168	WMC309357		
SP169	WMC309358		
SP170	WMC309359		
SP171	WMC309360		
SP172	WMC309361		
SP173	WMC309362		
SP174	WMC309363		
SP175	WMC309364		
SP176	WMC309365		
SP177	WMC309366		
SP178	WMC309367		
SP179	WMC309368		
SP180	WMC309369		
SP181	WMC309370		
SP182	WMC309371		
SP183	WMC309372		
SP184	WMC309373		
SP185	WMC309374		
SP186	WMC309375		
SP187	WMC309376		
SP188	WMC309377		


Legend
PT 481 Boundary
WYSUA-1350 License Boundary
Future Amendment Boundaries
Patent Mining Claims
Active Claims
BB
BECKY
BONANZA
ENQ
FILL
FLAT
GDB
GEM
KUMS
MEMS
MS
PATENT
RE
REA
REB
SP
WYO
Sweetwater Uranium Inc.
907 N Poplar, Suite 260, Casper WY 82601 (307)234-8235
Sweetwater Uranium Inc.
Claims
2025
Appendix A
Revision 2
Date: 2/2/2026
By: RGRANT
Sweetwater Pit
Battle Spring Flat
Circle Bar Lake
McCann Lake
Hansen Lake
Creek Butte

Appendix B

Baseline Soil Survey

Appendix C

Lost Creek ISR Project Baseline Hydrologic Testing

A number of aquifer tests have been conducted within the adjacent Lost Creek ISR Project area to characterize the aquifers and the confining intervals which are similar to those at the Sweetwater Uranium Project. The results of the aquifer tests were used to determine aquifer characteristics, including transmissivity, storativity, and hydraulic conductivity. In addition to determining the aquifer parameters, many of the aquifer tests were also designed to test the confining intervals and the potential for communication between aquifers. Aquifer tests in the Battle Spring aquifers were first conducted for Conoco in the early 1980s. More recently tests have been conducted by LCI in 2006, 2007, and 2008 for the Lost Creek ISR Project. Additional aquifer testing was conducted in 2009, 2010, 2011, and 2012 to further characterize the aquifers specifically for the proposed KM Modification and in 2013 for the proposed LCE Modification.

The aquifer tests conducted in 2008 in the Lost Creek project area were two of the most extensive aquifer tests. In addition to determining aquifer characteristics, the 2008 tests collected information specific to operations of MU1, including: demonstration of hydraulic communication between the HJ pumping well and HJ monitor wells installed around the perimeter of the wellfield, the influence of the LC fault within MU1, and the degree of hydraulic communication between the production zone and the overlying and underlying aquifers in MU1. Testing similar to that conducted in 2008 for MU1 will be required for each mine unit prior to its being brought into production. Table 1 summarizes the aquifer tests that have been performed within the Study Area. Table 2 summarizes the aquifer parameters for each horizon.

Table 1. Summary of Aquifer Tests Conducted in the Study Area

Date	Pumping Well Completion	Pumping Rate (gpm)	Time (days)	Summary of Test Results
1982	Production Zone	30	1.05	Data were used to develop aquifer parameters for the ore-bearing zone.
1982	Production Zone	30	1.04	Test evaluated the hydraulic connection between the HJ and adjacent aquifers and demonstrated no responses to pumping in the overlying and underlying aquifers.
2006	Production Zone	Varies (see table 9)	Varies See Table 9	1) Test identified the LC fault as a hydraulic barrier. 2) Minimal responses to pumping in the HJ were observed in the overlying FG and underlying KM Horizons.
Oct. 2007	Production Zone	42.9	5.7	1) Small responses to pumping were observed in the overlying FG and underlying KM horizons. 2) The fault acted as a hydraulic barrier with only minor drawdowns observed on the south side of the fault.
Nov. 2007	Production Zone	28.8	5.96	1) Significant response observed in Lower KM Horizon, which was the monitored underlying zone. 2) Minimal (<1') response observed in overlying HJ.
Dec. 2007	Production Zone	37.4	5.5	1) Responses in the overlying and underlying horizons were minimal as compared to responses in the HJ Horizon. 2) The LC fault, while not impermeable, acted as a hydraulic barrier.
Nov. 2008	Production Zone	70.9	2	1) Test demonstrated suitability of MU1 for ISR operations. 2) The perimeter wells were in hydraulic communication with the production wells. 3) Minor communication with overlying and underlying horizons were observed but the test demonstrated sufficient hydraulic isolation such that ISR operations could commence.
Dec. 2008	Production Zone	58.1	2.9	1) The LC fault will act as a partial barrier to groundwater flow. 2) Minor communication between the overlying and underlying horizons was observed but the test demonstrated sufficient hydraulic isolation such that ISR operations could commence.
June 2009	Production Zone	68.3	0.33	1) Demonstrated successful abandonment of MU-108; communication due to completion issues were suggested during 2008 MU1 testing. 2) Drawdown muted across the LC fault. 3) No response observed in overlying HJ Horizon. 4) Response observed in underlying L Horizon well.
June July 2009	Production Zone	63.0	6.91	1) Minimal responses observed in overlying HJ Horizon. 2) The LC fault acted as a partial barrier to flow in the KM Horizon. 3) Drawdowns in the L Horizon were lower than drawdowns in the KM Horizon south of the fault. North of the fault, the drawdowns in the L and KM horizons were similar, although the drawdown in the KM Horizon decreased by an order of magnitude compared to the drawdown observed south of the fault.

Table 1. Summary of Aquifer Tests Conducted in the Study Area (Cont.)

Date	Pumping Well Completion	Pumping Rate (gpm)	Time (days)	Summary of Test Results
April 2010	Production Zone	50.0	1.0	1) Conducted to confirm whether re-abandonment of nearby historical drill holes affected drawdown in deeper L and M horizons. 2) Data suggests limited hydraulic separation between the KM and L Horizons. 3) No drawdown response was observed in the M Horizon. 4) This test and subsequent testing demonstrated that re-abandonment of nearby historical exploration drill holes appeared to have no effect, and the results of previous testing were not likely influenced by improperly abandoned drill holes.
Nov. 2010	Production Zone	62.2	4.0	1) Data suggest limited hydraulic separation between the KM, L, and M Horizons. Drawdowns observed in the L Horizon were less than ½ the magnitude of drawdowns observed in the KM Horizon, and responses observed in the M Horizon were less than ½ the magnitude of responses in the L Horizon. 2) Drawdown muted across the LC fault. 3) Communication across the composite KLM Horizon decreases with depth.
Oct. 2011	Production Zone	70	4.92	1) Test confirmed varying degrees of hydraulic communication in the KLM (the communication decreases with depth) between the underlying L and M Horizons of the composite KLM. 2) Verified KM Horizon aquifer properties are conducive to uranium ISR.
Oct. 2012	Production Zone	28.5	3.1	1) 5-spot injection/recovery test confirmed the viability of uranium ISR in the KM Horizon. 2) Drawdown responses were minor in the HJ and N Horizons, demonstrating ISR operations can be safely conducted with proper engineering controls.
2013	Multiple	Varies	Varies	1) Tests evaluated hydraulic properties in the proposed LCE Modification area. 2) Computed transmissivity of the HJ and KM Horizons was equal to or higher than values measured in previous aquifer tests. 3) No measurable hydraulic communication between the HJ and KM Horizons was observed. 4) Minor hydraulic communication noted between the HJ and FG Horizons. 5) Preliminary findings suggest the faults in Section 21 are not impermeable but may act as low-flow boundaries.

Table 2. Summary of Aquifer and Confining Shale Characteristics

Hydrostratigraphic Unit	Thickness[1] (ft) [typical]	Porosity[2]	Transmissivity ft^2/d	Storativity	Kv[3] (ft/d)
FG Horizon	0 to 180 [50]	0.28	4-40	--	--
LC Shale	5 to 45 [10-25]	--	--	--	0.016 to 0.15
HJ Horizon	0 to 160 [130]	0.28	30-402	3.5×10^{-5} to 9.1×10^{-4}	--
SB Shale	2 to 75 [20 - 30]	--	--	--	0.0009 to 0.004
KM Horizon	20 to 110 [50]	0.28	26-384	1.3×10^{-6} to 5.6×10^{-4}	--
K Shale	2 to 40 [12]	--	--	--	--

Notes:
[1] Thickness summarized from Geology, Seismology, Mineral Resource, and Paleontology Data Report (WWC 2016b) and LCI 2010.
[2] Porosity as presented in LCI 2010.
[3] Vertical hydraulic conductivities from LCI 2010.
Kv = vertical hydraulic conductivity
ft^2/d = square feet per day
-- = No data available

Appendix D

Lost Creek ISR Project Groundwater Quality

Baseline sampling has been conducted at the Lost Creek ISR Project since September 2006. The baseline sampling was completed in different sands, including the production zone and overlying and underlying aquifers. In general, the groundwater quality results at the Lost Creek ISR Project indicate little variation in major ion chemistry between horizons. The water contains varying concentrations of calcium, sodium, bicarbonate and sulfate. Uranium and radionuclide concentrations exceeded WDEQ/WQD and EPA water quality criteria for all horizons, with the exception of the most underlying aquifer. Table 1 provides a summary of water quality within each aquifer from samples collected between 2012 and 2013.

Table 1. Summary of the Groundwater at the Lost Creek ISR Project

Constituent	Fraction	Units	Overlying Aquifer Min	Overlying Aquifer Avg	Overlying Aquifer Max	Production Zone Min	Production Zone Avg	Production Zone Max
Alkalinity as $CaCO_3$	T	mg/L	106	131.5	160	104	116.7	130
Carbonate as CO_3	T	mg/L	<5	*	<5	<5	*	10
Bicarbonate as HCO_3	T	mg/L	122	162.3	196	91	137.5	159
Calcium	T	mg/L	39	92.7	157	43	59.0	96
Chloride	T	mg/L	5	5.8	7	5	5.7	7
Fluoride	T	mg/L	<0.1	*	0.2	0.1	0.16	0.2
Magnesium	T	mg/L	3	4.6	6	2	2.8	5
Ammonia as N	T	mg/L	<0.05	*	0.09	<0.05	*	0.1
Nitrate+Nitrite as N	T	mg/L	<0.1	*	0.5	<0.1	*	0.8
Potassium	T	mg/L	2	5.9	21	2	2.5	5
Silica	T	mg/L	11.8	15.8	19.4	13.5	15.6	20.2
Sodium	T	mg/L	17	23.9	32	16	21.0	29
Sulfate	T	mg/L	40	173	307	39	87.2	188
Conductivity	T	µmhos/cm	301	600.8	879	313	411.1	623
pH	T	s.u.	7.73	8.06	8.53	7.81	8.11	8.90
TDS	T	mg/L	189	426.5	654	191	268.7	436
SAR	T	unitless	0.63	0.68	0.75	0.52	0.73	1.00
Aluminum	D	mg/L	<0.1	*	<0.1	<0.1	*	0.04
Arsenic	D	mg/L	<0.001	*	0.005	<0.001	*	0.025
Barium	D	mg/L	<0.1	*	0.1	<0.1	*	<0.1
Boron	D	mg/L	<0.1	*	<0.1	<0.1	*	<0.1
Cadmium	D	mg/L	<0.005	*	<0.005	<0.005	*	<0.005
Chromium	D	mg/L	<0.05	*	<0.05	<0.05	*	<0.05
Copper	D	mg/L	<0.01	*	<0.01	<0.01	*	<0.01
Iron	D	mg/L	<0.03	*	0.16	<0.03	*	<0.03
Iron	T	mg/L	<0.03	*	1.75	<0.03	*	0.08
Lead	D	mg/L	<0.001	*	0.004	<0.001	*	0.002
Manganese	D	mg/L	<0.01	*	0.03	<0.01	*	0.04
Manganese	T	mg/L	<0.01	*	0.04	<0.01	*	0.01
Mercury	D	mg/L	<0.001	*	<0.001	<0.001	*	<0.001
Molybdenum	D	mg/L	<0.1	*	0.001	<0.1	*	<0.1
Nickel	D	mg/L	<0.05	*	<0.05	<0.05	*	<0.05
Selenium	D	mg/L	<0.001	*	0.063	<0.001	*	0.059
Silver	D	mg/L	<0.001	*	<0.001	<0.001	*	<0.001
Uranium	D	mg/L	0.0098	0.475	0.933	0.0178	0.101	0.415
Uranium	S	mg/L	<0.0003	*	0.0031	<0.0003	*	0.0281
Vanadium	D	mg/L	<0.1	*	<0.1	<0.1	*	<0.1
Zinc	D	mg/L	<0.01	*	0.09	<0.01	*	0.04
Gross Alpha	T	pCi/L	36.1	347.9	649	20.4	91.3	386
Gross Beta	T	pCi/L	16.8	68.9	229	5.6	23.9	100
Radium-226	D	pCi/L	1.9	7.2	14	2.7	6.2	11
Radium-226	S	pCi/L	-0.08	0.32	1.4	-0.2	0.06	0.29
Radium-228	D	pCi/L	0.8	4.3	9.0	2.0	3.6	8.7
Radium-226+Radium-228	D	pCi/L	4.2	11.5	20.2	5.5	9.8	18.7
Lead-210	D	pCi/L	-0.3	0.39	1.3	-0.3	1.43	3.6
Lead-210	S	pCi/L	-0.2	0.80	3.2	-0.20	0.43	1.7
Polonium-210	D	pCi/L	-0.02	0.45	0.8	-0.05	0.35	1.3
Polonium-210	S	pCi/L	-0.1	0.54	1.4	0.08	0.38	1
Thorium-230	D	pCi/L	0.0006	0.04	0.1	-0.01	0.56	7.5
Thorium-230	S	pCi/L	0.02	0.093	0.3	-0.03	0.08	0.2

Source: LCI 2014
Shading indicates a value greater than WDEQ/WQD Class I and/or EPA water quality criteria (table 12)
D = dissolved, T = total, S = suspended
* Indicates that one or more values are less than the detection limit thus an average was not calculated
< Less than, where the value following the "<" value is the detection limit

Table 1. Summary of the Groundwater at the Lost Creek ISR Project (Continued)

Constituent	Fraction	Units	Production Zone			Underlying		
			Min	Avg	Max	Min	Avg	Max
Alkalinity as $CaCO_3$	T	mg/L	81	104.5	126	85	91.8	105
Carbonate as CO_3	T	mg/L	<5	*	10	<5	*	10
Bicarbonate as HCO_3	T	mg/L	86	126.8	153	83	105.6	123
Calcium	T	mg/L	22	45.6	101	23	34.2	48
Chloride	T	mg/L	2	5.2	7	4	4.3	5
Fluoride	T	mg/L	0.1	0.2	0.2	0.1	0.2	0.2
Magnesium	T	mg/L	<1	*	4	<1	*	2
Ammonia as N	T	mg/L	<0.05	*	0.11	<0.05	*	0.12
Nitrate+Nitrite as N	T	mg/L	<0.1	*	1	<0.1	*	<0.1
Potassium	T	mg/L	1	2.6	6	1	3.1	6
Silica	T	mg/L	12.2	15.2	18.1	14.1	16.2	20.5
Sodium	T	mg/L	13	20.9	28	23	29.3	37
Sulfate	T	mg/L	8	60.7	200	24	59.3	106
Conductivity	T	µmhos/cm	208	338.9	668	232	311.5	416
pH	T	s.u.	7.76	8.22	9.04	8.13	8.43	9.15
TDS	T	mg/L	119	220.8	461	139	202.8	280
SAR	T	unitless	0.53	0.88	1.25	1.08	1.35	1.52
Aluminum	D	mg/L	<0.1	*	0.04	<0.1	*	<0.1
Arsenic	D	mg/L	<0.001	*	0.004	<0.001	*	0.004
Barium	D	mg/L	<0.1	*	<0.1	<0.1	*	<0.1
Boron	D	mg/L	<0.1	*	<0.1	<0.1	*	<0.1
Cadmium	D	mg/L	<0.005	*	<0.005	<0.005	*	<0.005
Chromium	D	mg/L	<0.05	*	<0.05	<0.05	*	<0.05
Copper	D	mg/L	<0.01	*	<0.01	<0.01	*	<0.01
Iron	D	mg/L	<0.03	*	0.05	<0.03	*	<0.03
Iron	T	mg/L	<0.03	*	1.28	<0.03	*	0.31
Lead	D	mg/L	<0.001	*	0.002	<0.001	*	<0.001
Manganese	D	mg/L	<0.01	*	0.02	<0.01	*	<0.01
Manganese	T	mg/L	<0.01	*	0.01	<0.01	*	<0.01
Mercury	D	mg/L	<0.001	*	<0.001	<0.001	*	<0.001
Molybdenum	D	mg/L	<0.1	*	0.003	<0.1	*	<0.1
Nickel	D	mg/L	<0.05	*	<0.05	<0.05	*	<0.05
Selenium	D	mg/L	<0.001	*	0.023	<0.001	*	<0.001
Silver	D	mg/L	<0.001	*	<0.001	<0.001	*	<0.001
Uranium	D	mg/L	0.0053	0.078	0.314	0.0005	0.002	0.0136
Uranium	S	mg/L	<0.0003	*	0.0023	<0.0003	*	0.0004
Vanadium	D	mg/L	<0.1	*	<0.1	<0.1	*	<0.1
Zinc	D	mg/L	<0.01	*	0.06	<0.01	*	0.01
Gross Alpha	T	pCi/L	9.2	69.3	269	2.1	6.4	11.3
Gross Beta	T	pCi/L	3.3	19.3	85.2	2.5	6.8	10
Radium-226	D	pCi/L	0.68	3.73	14	1.1	1.9	2.4
Radium-226	S	pCi/L	-0.04	0.44	3.3	-0.08	0.13	0.49
Radium-228	D	pCi/L	0.8	3.2	6.1	0.8	4.0	9.5
Radium-226+Radium-228	D	pCi/L	2.4	6.9	19.1	3	5.9	10.7
Lead-210	D	pCi/L	0.05	0.80	2.0	0.2	0.48	1.0
Lead-210	S	pCi/L	-0.10	0.80	6.2	-0.08	0.18	0.5
Polonium-210	D	pCi/L	-0.03	0.33	1.6	-0.02	0.22	0.6
Polonium-210	S	pCi/L	-0.07	0.38	1.8	-0.05	0.30	0.8
Thorium-230	D	pCi/L	-0.008	0.05	0.2	0.001	0.05	0.1
Thorium-230	S	pCi/L	0.03	0.15	0.5	0.001	0.09	0.2

Source: LCI 2014
Shading indicates a value greater than WDEQ/WQD Class I and/or EPA water quality criteria (table 12)
D = dissolved, T = total, S = suspended
* Indicates that one or more values are less than the detection limit thus an average was not calculated
< Less than, where the value following the "<" value is the detection limit

Appendix E

Baseline Vegetation Survey

Appendix F

Baseline Wildlife Survey

Appendix G

Baseline Cultural Survey

Appendix H

Baseline Paleontological Survey

Appendix I

Reclamation Cost Estimate

		2026 Estimate			Comments
I GROUNDWATER RESTORATION - Worksheet 1:					
2026 Groundwater Restoration		$0			*No groundwater restoration required since first year activities for Mine Unit 3 are limited to initial construction to support future commencement of operations.*
Subtotal Groundwater Restoration		*$0*			
II DECOMMISSIONING AND SURFACE RECLAMATION:					
A. Process Plant(s) Equipment Removal and Disposal Worksheet 2		$23,229			*No 11e.(2) licensed material disposal costs since first year activities in Mine Unit 3 do not include uranium recovery operations.*
B. Plant Building(s) Demolition and Disposal Worksheet 3		$24,523			*No decontamination costs or 11e.(2) licensed material disposal costs since first year activities in Mine Unit 3 do not include uranium recovery operations.*
C. Process Pond Sludge and Liner Handling Worksheet 4		$532,417			
D. Well Abandonment Worksheet 5		$162,855			
E. Wellfield Equipment Removal and Disposal Worksheet 6		$131,871			*No decontamination costs or 11e.(2) licensed material disposal costs since first year activities in Mine Unit 3 do not include uranium recovery operations.*
F. Topsoil Replacement and Revegetation Worksheet 7		$152,513			*No radiation survey and soil sampling or remedial action since first year activities in Mine Unit 3 do not include uranium recovery operations.*
G. Miscellaneous Reclamation Activities Worksheet 8		$16,886			*No cost included for powerline, power pole, and transformer removal due to salvage value.*
Subtotal - Decommissioning and Surface Reclamation		*$1,044,293*			
Section I and II Subtotal		**$1,044,293**			
MISCELLANEOUS COSTS ASSOCIATED WITH THIRD PARTY CONTRACTORS					
Mobilization/Demobilization	10%	$104,429			*OSMRE Directive 882*
Liability Insurance	1.5%	$15,664			*BLM H-3809-1, Section 6.2.1.9.4*
Performance and Payment Bonds	3%	$31,329			*BLM H-3809-1, Section 6.2.1.9.5*
Contract Administration	6%	$62,658			*Estimate*
Indirect Costs (% of Contract Admin.)	21%	$13,158			*BLM H-3809-1, Section 6.2.1.9.7*
Prime Contractor Profit	10.0%	$104,429			*BLM H-3809-1, Section 6.2.1.9.3*
Total miscellaneous additions to surety		$331,667			
Subtotal - Section I, II, and Miscellaneous		*$1,375,961*			
CONTINGENCY					
Contingency	10%	$104,429			*Estimate*
GRAND TOTAL RESTORATION AND RECLAMATION		**$1,480,390**			

Sweetwater Uranium Project
Plant Equipment Removal and Disposal
Wyoming Operations
WORKSHEET 2

	Sweetwater			
PLANT EQUIPMENT REMOVAL AND DISPOSAL	Resin + Sand Filter Media	Restoration Extension	Wellfield Modules	Sub Total
Volume (Yds³)	215.6	0	10	
Quantity Per Truck Load (Yds³)	20	20	20	
Number of Truck Loads	10.8	0.0	0.5	
I Decontamination Cost				
Decontamination Cost ($/Load)	$435	$435	$435	
Percent Requiring Decontamination	0.0%	100.0%	100.0%	
Total Cost	$0	$0	$218	$218
II Dismantle and Loading Cost				
Cost Per Truck Load ($)	$300	$300	$300	
Total Cost	$3,234	$0	$150	$3,384
III Oversize Charges				
Percent Requiring Permits	0.0%	40.0%	0.0%	
Cost Per Truck Load ($)	$326	$326	$326	
Total Cost	$0	$0	$0	$0
IV Transportation & Disposal				
A. Landfill				
Percent To Be Shipped	100.0%	100.0%	100.0%	
Transportation Cost Per Truck Load	$414	$414	$414	
Transportation Cost	$4,463	$0	$207	
Disposal Fee Per Ton (1 yd^3 = 1 ton)	$66.30	$66.30	$66.30	
Disposal Cost ($)	$14,294	$0	$663	
Total Cost	$18,757	$0	$870	
B. Licensed Site				
Percent To Be Shipped	0.0%	0.0%	0.0%	
Transportation Cost Per Truck Load	$53	$53	$53	
Transportation Cost	$0	$0	$0	
Disposal Cost Per Cubic Foot ($)	$2.59	$2.59	$2.59	
Quantity Per Truck Load (Yds³)	20.0	20.0	20.0	
Quantity Per Truck Load (Ft³)	540	540	540	
Disposal Cost	$0	$0	$0	
Total Cost Licensed Site	$0	$0	$0	
Total Cost Transportation & Disposal	$18,757	$0	$870	$19,627
TOTAL COST	$21,991	$0	$1,238	$23,229
TOTAL COST - Sweetwater				$23,229

Sweetwater Uranium Project
Building Demolition and Disposal
Wyoming Operations
WORKSHEET 3

BUILDING DEMOLITION AND DISPOSAL	Sweetwater		
	Wellfield Modules	Booster Pump Bldgs.	Sub Total
Structural Character	1 Story Pre Fab (4)	1 Story Pre Fab (1)	
Demolition Volume (Ft³)	17280	29200	
Cost of Demolition Per Ft³	$0.3900	$0.3900	
Demolition Cost ($)	$6,739	$11,388	$18,127
Factor For Gutting	0.0%	0.0%	
Cost For Gutting ($)	$0	$0	$0
Weight (pounds)	66660	28032	
Weight per Truckload (Tons)	20	20	
Number of Truckloads	1.7	0.7	
Distance to Landfill	115	115	
Unit Cost (Ton/Mile)	$0.18	$0.18	
Transportation Cost per Truckload	$414	$414	
Transportation Cost ($)	$690	$290	$980
Disposal Cost per Truckload	$1,326.00	$1,326.00	
Disposal Cost ($)	$2,210	$929	$3,139
TOTAL COST	$9,639	$12,607	$22,246
TOTAL COST SWEETWATER			$22,246

CONCRETE DECON., DEMOLITION & DISPOSAL			
Area (Ft²)	0	1800	
Average Thickness (Ft)	0.0	0.5	
Volume (Ft³)	0	900	
Percent Requiring Decontamination	0.0%	0.0%	
Percent Decontaminated	0.0%	0.0%	
Decontamination ($/Ft²)	$0.134	$0.134	
Decontamination Cost	$0	$0	$0
Demolition ($/Ft²)	$1.07	$1.07	
Demolition Cost	$0	$1,926	$1,926
Transportation & Disposal			
A. Onsite Disposal			
Percent to be Disposed Onsite	0%	100%	
Transportation Cost	$0	$0	
Disposal Cost per Cubic Foot	$0.390	$0.390	
Disposal Cost ($)	$0	$351	$351
B. Licensed Site			
Percent to be Shipped	100%	0%	

Sweetwater Uranium Project
Building Demolition and Disposal
Wyoming Operations
WORKSHEET 3

	Sweetwater		
BUILDING DEMOLITION AND DISPOSAL	Wellfield Modules	Booster Pump Bldgs.	Sub Total
Transportation Cost per Truckload	$53	$53	
Transportation Cost ($)	$0	$0	$0
Disposal Cost per Cubic Foot	$2.59	$2.59	
Quantity Per Truck Load (Yds³)	20	20	
Quantity Per Truck Load (Ft³)	540	540	
Disposal Cost ($)	$0	$0	$0
TOTAL COST	$0	$2,277	$2,277
TOTAL COST SWEETWATER			$2,277

SOIL REMOVAL & DISPOSAL

Assume removal of 3" of Contaminated Soil under Primary Areas, Disposal at a Licensed facility.				
Removal with Loader ($116/hr)	$72	$0	$0	$0
Quantity to be Shipped (Ft³)		0	0	
Transportation Cost per Truckload		$53	$53	
Transportation Cost ($)		$0	$0	$0
Disposal fee Per Cubic Foot($)		$2.59	$2.59	
Quantity per Truckload (Ft³)		540	540	
Disposal Cost ($)		$0	$0	$0
Removal, NPDES Pts.				
Quantity to be Shipped (Ft³)				
Transportation Cost per Truckload		$53	$53	

Sweetwater Uranium Project
Building Demolition and Disposal
Wyoming Operations
WORKSHEET 3

	Sweetwater		
BUILDING DEMOLITION AND DISPOSAL	Wellfield Modules	Booster Pump Bldgs.	Sub Total
Transportation Cost ($)	$0	$0	$0
Disposal fee Per Cubic Foot($)	$2.59	$2.59	
Quantity per Truckload (Ft³)	540	540	
Disposal Cost ($)	$0	$0	$0
TOTAL COST	$0	$0	$0
TOTAL COST SWEETWATER			$0

RADIATION SURVEY			
Area required (acres)	0.00	0.00	
Survey Cost ($/acre)	$682.00	$682.00	
TOTAL SURVEY COST ($)	$0	$0	$0

TOTAL COST	$9,639	$14,884	$24,523
TOTAL COST SWEETWATER			$24,523

Sweetwater Uranium Project
Pond Reclamation
Wyoming Operations
WORKSHEET 4

POND RECLAMATION COST	Sweetwater Pond 1	Pond 2	Pond 3	Pond 4	
POND SLUDGE:					
Average Sludge Depth (Ft)	0.150	0.150	0.000	0.000	
Average Area of Sludge (Ft²)	435,600	435,600	-	-	
Volume of Sludge (Ft³)	65,340	65,340	-	-	
Volume of Sludge (Yds³)	2,420	2,420	0	0	
Volume of Sludge Per Truck Load (Yds³)	25.0	25.0	25.0	25.0	
# of Truck Loads of Sludge	96.8	96.8	0.0	0.0	
Sludge Handling Cost Per Load ($)	$178.00	$178.00	$178.00	$178.00	
Total Sludge Handling Cost ($)	$17,230	$17,230	$0	$0	
Transportation & Disposal					
Percent To Be Shipped to Licensed Site	100.0%	100.0%	100.0%	100.0%	
Transportation Cost per Truckload	$53	$53	$53	$53	
Transportation Cost ($)	$5,111	$5,111	$0	$0	
Disposal Cost Per Cubic Foot ($)	$2.59	$2.59	$2.59	$2.59	
Quantity Per Truck Load (Yds³)	20.0	20.0	20.0	20.0	
Quantity Per Truck Load (Ft³)	540	540	540	540	
Disposal Cost ($)	$135,499	$135,499	$0	$0	
Total Transportation & Disposal ($)	$140,610	$140,610	$0	$0	
TOTAL SLUDGE COST ($)	$157,841	$157,841	$0	$0	$315,681
POND LINER:					
Total Pond Area (Acres)	10.00	10.00	0.00	0.00	
Total Pond Area (Ft²)	435600	435600	0	0	
Factor For Sloping Sides	20.0%	20.0%	20.0%	20.0%	
Total Liner Area (Ft²)	522720	522720	0	0	
Liner Thickness (Mil)	320	320	320	320	
Liner Thickness (Inches)	0.3200	0.3200	0.3200	0.3200	
Liner Thickness (Ft)	0.0267	0.0267	0.0267	0.0267	
"Swell" Factor	25.0%	25.0%	25.0%	25.0%	
Liner Volume (Ft³)	17446	17446	0	0	
Truck Loads of Liner	32.3	32.3	0.0	0.0	
Liner Handling Cost ($)					
Labor Crew Cost per Hour ($)	$127	$127	$127	$127	
Hours per Load	2.0	2.0	2.0	2.0	
Liner Handling Cost Per Load ($)	$253.16	$253.16	$253.16	$253.16	
Total Liner Handling Cost ($)	$8,177	$8,177	$0	$0	
Transportation & Disposal					
Percent To Be Shipped to Licensed Site	100.0%	100.0%	100.0%	100.0%	
Transportation Cost per Truckload	$53	$53	$53	$53	
Transportation Cost ($)	$1,705	$1,705	$0	$0	
Disposal Cost Per Cubic Foot ($)	$2.59	$2.59	$2.59	$2.59	
Quantity Per Truck Load (Ft³)	540	540	540	540	
Disposal Cost ($)	$45,213	$45,213	$0	$0	
Total Transportation & Disposal ($)	$46,919	$46,919	$0	$0	
TOTAL LINER COST ($)	$55,096	$55,096	$0	$0	$110,191
POND BACKFILL:					
Backfill required (Yds³)	32500	32500	0	0	
Backfill Cost ($/Yd³)	$0.57	$0.57	$0.57	$0.57	
TOTAL BACKFILL COST ($)	$18,655	$18,655	$0	$0	$37,310
RADIATION SURVEY					
Area required (acres)	10.00	10.00	0.00	0.00	
Survey Cost ($/acre)	$682.00	$682.00	$682.00	$682.00	
TOTAL SURVEY COST ($)	$6,820	$6,820	$0	$0	$13,640

Sweetwater Uranium Project
Pond Reclamation
Wyoming Operations
WORKSHEET 4

POND RECLAMATION COST	Sweetwater				
	Pond 1	Pond 2	Pond 3	Pond 4	
LEAK DETECTION PIPING REMOVAL					
Volume of Piping (Ft³) (Assume 3")	10,000	10,000	0	0	
Quantity per Truckload (Ft³)	1,350	1,350	1,350	1,350	
Quantity to be Shipped to Licensed Site (Loads)	7	7	0	0	
Transportation Cost per Truckload	$53	$53	$53	$53	
Transportation Cost ($)	$0	$0	$0	$0	
Total Handling Cost per load	$1,875	$1,875	$0	$0	
Disposal Fee per Cubic Foot ($)	$2.59	$2.59	$2.59	$2.59	
Disposal Cost ($)	$25,922	$25,922	$0	$0	
TOTAL LEAK DETECTION SYSTEM REMOVAL	$27,797	$27,797	$0	$0	$55,594
TOTAL POND RECLAMATION COST	$266,209	$266,209	$0	$0	$532,417

SUMMARY - SWEETWATER:

TOTAL SLUDGE COST ($)	$315,681
TOTAL LINER COST ($)	$110,191
TOTAL BACKFILL COST ($)	$37,310
TOTAL RADIATION SURVEY COST ($)	$13,640
LEAK DETECTION SYSTEM REMOVAL	$55,594
TOTAL POND RECLAMATION COST	$532,417
TOTAL PROJECT COST - SWEETWATER	$532,417

Sweetwater Uranium Project
Well Plugging and Abandonment
Wyoming Operations
WORKSHEET 5

WELL PLUGGING AND ABANDONMENT	Sweetwater Mine Units #1	#2	#3	#4	#5	#6	#7	#8	#9	Total
Number of Wells										
Production Wells			106							106
Injection Wells			176							176
Monitor Wells (Shallow, Deep, Perimeter)			28							28
Baseline Water Quality wells (prod or inj)			20							20
Total			330							330
Average Depth			350							
Average Diameter			4.5							
Number										
Pilot Holes										0
Average Depth										
Average Diameter										
Well abandonment Cost per foot										
Injection, Production and Monitor Wells 5"			$1.41							
Pilot Holes										
Total Cost per Well ($)			$493.50							
TOTAL WELL ABANDONMENT COST ($)			$162,855							$162,855
GRAND TOTAL										$162,855

Sweetwater Uranium Project
Wellfield Equipment Removal and Disposal
Wyoming Operations
WORKSHEET 6

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
I Wellfield Piping										
A. Removal										
Length/Well (Ft)			915							
Total Number of Wells			330							
Total Quantity (Ft)			301950							
Cost of Removal ($/Ft)			$0.202							
Cost of Removal ($)			$60,994							$60,994
Average OD (Inches)			1.0							
Chipped Volume Reduction (Ft³/Ft)			0.016							
Chipped Volume (Ft³)			4,831							
Quantity Per Truck Load (Ft³)			540							
Total Number of Truck Loads			8.9							
B. Survey & Decontamination										
Percent Requiring Decontamination			0%							
Loads for Decontamination			0.0							
Cost for Decontamination ($/Load)			$435.00							
Cost for Decontamination ($)			$0							$0
C. Transport & Disposal										
1.) Landfill										
a. Transportation										
Percent To Be Shipped			100.0%							
Loads To Be Shipped			8.9							
Transportation Cost per Load			$1,326							
Transportation Cost ($)			$11,863							$11,863
b. Disposal										
Disposal Fee Per Yd³			$66.30							
Yds³ Per Load			20							
Disposal Cost ($)			$11,863							
Total Cost - Landfill			$23,727							$23,727
2.) Licensed Site										
a. Transportation										
Percent To Be Shipped			0.0%							
Loads To Be Shipped			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							$0
b. Disposal										
Disposal Cost Per Ft³			$2.59							

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Disposal Fee Per Yd³			$69.99							
Quantity Per Truck Load (Yds³)			20							
Disposal Cost ($)			$0							$0
Total Cost - Licensed Site			$0							$0
Total Cost - Transport & Disposal			$23,727							$23,727
Total Cost - WF Piping Removal & Disposal			$84,720							$84,720
II Production Well Pumps										
A. Pump and Tubing Removal										
Number of Production Wells			106							
Cost of Removal ($/well)			$53.34							
Cost of Removal ($)			$5,654							$5,654
Number of Pumps Per Truck Load			180							
Number of Truck Loads (Pumps)			1.0							
B. Survey & Decontamination (Pumps)										
Percent Requiring Decontamination			0.0%							
Loads for Decontamination			0.0							
Cost for Decontamination ($/Load)			$435.00							
Cost for Decontamination ($)			$0							$0
C. Tubing Volume Reduction & Loading										
Length per Well (Ft)										
Total Quantity (Ft)										
Cost of Removal ($/Ft)			Accounted							
Cost of Removal ($)			for in Section							$0
Average OD (Inches)			I (A) above							
Chipped Volume Reduction (Ft³/Ft)										
Chipped Volume (Ft³)										

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Quantity per Truckload (Ft³)										
Number of Truck Loads			0.0							
D. Transport & Disposal										
1.) Landfill										
a. Transportation										
Percent To Be Shipped (Pumps)			100.0%							
Loads To Be Shipped			1.0							
Transportation Cost per Load			$1,326							
Transportation Cost ($)			$1,326							$1,326
b. Disposal										
Disposal Fee Per Yd³			$66.30							
Yds³ Per Load			20							
Disposal Cost ($)			$1,326							$1,326
Total Cost - Landfill			$2,652							$2,652
2.) Licensed Site										
a. Transportation										
Percent To Be Shipped (Pumps)			0.0%							
Percent To Be Shipped (Tubing)			0.0%							
Loads To Be Shipped			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							$0
b. Disposal										
Disposal Cost Per Ft³			$2.59							
Disposal Fee Per Yd³			$69.99							
Quantity Per Truck Load (Yds³)			0							
Disposal Cost ($)			$0							$0
Total Cost - Licensed Site			$0							$0
Total Cost - Transport & Disposal			$2,652							$2,652
Total Cost - Pump Removal & Disposal			$8,306							$8,306
III Lateral Piping										
A. Removal										
Total Quantity (Ft)			3125							
Cost of Removal ($/Ft)			$3.12							
Cost of Removal ($)			$9,750							$9,750
Average OD (Inches)			3.750							
Chipped Volume Reduction (Ft³/Ft)			0.022							
Chipped Volume (Ft³)			69							
Quantity Per Truck Load (Ft³)			540							
Total Number of Truck Loads			1.0							
B. Survey & Decontamination										
Percent Requiring Decontamination			0.0%							
Loads for Decontamination			0.0							

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Cost for Decontamination ($/Load)			$435.00							
Cost for Decontamination ($)			$0							$0
C. Transport & Disposal										
1.) Landfill										
a. Transportation										
Percent To Be Shipped			100.0%							
Loads To Be Shipped			1.0							
Transportation Cost per Load			$1,326							
Transportation Cost ($)			$1,326							$1,326
b. Disposal										
Disposal Fee Per Yd³			$66.30							
Yds³ Per Load			20							
Disposal Cost ($)			$1,326							$1,326
Total Cost - Landfill			$2,652							$2,652
2.) Licensed Site										
a. Transportation										
Percent To Be Shipped			0.0%							
Loads To Be Shipped			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							$0
b. Disposal										
Disposal Cost Per Ft³			$2.59							
Disposal Fee Per Yd³			$69.99							

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Quantity Per Truck Load (Yds³)			0							
Disposal Cost ($)			$0							$0
Total Cost - Licensed Site			$0							$0
Total Cost - Transport & Disposal			$2,652							$2,652
Total Cost - Lateral Piping Removal & Disposal			$12,402							$12,402
IV Trunkline										
A. Removal										
Total Quantity (Ft)			6200							
Cost of Removal ($/Ft)			$3.12							
Cost of Removal ($)			$19,344							$19,344
Average OD (Inches)			8.750							
Chipped Volume Reduction (Ft³/Ft)			0.088							
Chipped Volume (Ft³)			546							
Quantity Per Truck Load (Ft³)			540							
Number of Truck Loads			2.0							
B. Survey & Decontamination										
Percent Requiring Decontamination			0.0%							
Loads for Decontamination			0.0							
Cost for Decontamination. ($/Load)			$435.00							
Cost for Decontamination. ($)			$0							$0
C. Transport & Disposal										
1.) Landfill										
a. Transportation										
Percent To Be Shipped			100.0%							
Loads To Be Shipped			2.0							
Transportation Cost per Load			$1,326							
Transportation Cost ($)			$2,652							$2,652
b. Disposal										
Disposal Fee Per Yd³			$66.30							
Yds³ Per Load			20							
Disposal Cost ($)			$2,652							$2,652
Total Cost - Landfill			$5,304							$5,304
2.) Licensed Site										
a. Transportation										
Percent To Be Shipped			0.0%							
Loads To Be Shipped			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							$0
b. Disposal										
Disposal Cost Per Ft³			$2.59							
Disposal Fee Per Yd³			$69.99							
Quantity Per Truck Load (Yds³)			0							

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Disposal Cost ($)			$0							$0
Total Cost - Licensed Site			$0							$0
Total Cost - Transport & Disposal			$5,304							$5,304
Total Cost - Buried Trunkline Removal & Disposal			$24,648							$24,648
V Manholes										
A. Removal										
Total Quantity			4							
Cost of Removal ($ Each)			$117.00							
Cost of Removal ($)			$468							$468
Quantity Per Truck Load			10							
Number of Truck Loads			1.0							
B. Survey & Decontamination										
Percent Requiring Decontamination			0.0%							
Loads for Decontamination			0.0							
Cost for Decontamination ($/Load)			$435.00							
Cost for Decontamination ($)			$0							$0
C. Transport & Disposal										
1.) Landfill										
a. Transportation										
Percent To Be Shipped			100.0%							
Loads To Be Shipped			1.0							
Transportation Cost per Load			$1,326							

WELLFIELD EQUIPMENT REMOVAL & DISPOSAL	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Transportation Cost ($)			$1,326							$1,326
b. Disposal										
Disposal Fee Per Yd³ ($)			$66.30							
Yds³ Per Load			0							
Disposal Cost ($)			$0							$0
Total Cost - Landfill			$1,326							$1,326
2.) Licensed Site										
a. Transportation										
Percent To Be Shipped			0.0%							
Loads To Be Shipped			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							$0
b. Disposal										
Disposal Cost Per Ft³			$0.00							
Disposal Fee Per Yd³			$0.00							
Quantity Per Truck Load (Yds³)			0							
Disposal Cost ($)			$0							$0
Total Cost - Licensed Site			$0							$0
Total Cost - Transport & Disposal			$1,326							$1,326
Total Cost Manhole Removal & Disposal			$1,794							$1,794
TOTAL COST - WELLFIELD EQUIP REMOVAL & DISP			$131,871							$131,871

Sweetwater Uranium Project
Topsoil Replacement and Revegetation
Wyoming Operations
Worksheet 7

TOPSOIL REPLACEMENT & REVEGETATION	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
I Process Plant and Office Building										
A. Topsoil Handling & Grading										
Affected Area (Acres)			0.0							
Average Affected Thickness (Ins)			0.0							
Topsoil Volume (Yds³)			0							
Unit Cost - Haul/Place ($/Yd³)			$0.57							
Topsoil Handling Cost ($)			$0							
Unit Cost - Grading ($/Ac)			$36.93							
Grading Cost ($)			$0							
Sub Total - Topsoil			$0							$0
B. Radiation Survey & Soil Analysis										
Unit Cost ($/Ac)			$682.00							
Sub Total - Survey & Analysis			$0							$0
C. Revegetation										
Fertilizer ($/Ac)			$46.49							
Seeding Prep & Seeding ($/Ac)			$400.00							
Mulching & Crimping ($/Ac)			$276.54							
Sub Total Cost/Acre			$723.03							
Sub Total - Revegetation			$0							$0
Sub Total - Process Plant and Office Bldg.			$0							$0
II Ponds										
A. Topsoil Handling & Grading										
Affected Area (Acres)			20.0							
Average Affected Thickness (Ins)			12.0							
Topsoil Volume (Yds³)			32267							
Unit Cost - Haul/Place ($/Yd³)			$0.57							
Topsoil Handling Cost ($)			$18,521							
Unit Cost - Grading ($/Ac)			$36.93							
Grading Cost ($)			$739							
Sub Total - Topsoil			$19,260							$19,260
B. Radiation Survey & Soil Analysis										
Unit Cost ($/Ac)			$682.00							
Sub Total - Survey & Analysis			$13,640							$13,640
C. Revegetation										
Fertilizer ($/Ac)			$46.49							
Seeding Prep & Seeding ($/Ac)			$400.00							
Mulching & Crimping ($/Ac)			$276.54							
Sub Total Cost/Acre			$723.03							

Sweetwater Uranium Project
Topsoil Replacement and Revegetation
Wyoming Operations
Worksheet 7

TOPSOIL REPLACEMENT & REVEGETATION	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Sub Total - Revegetation			$14,461							$14,461
Sub Total - Ponds			$47,360							$47,360
III Wellfields										
A. Topsoil Handling & Grading										
Affected Area (Acres)			74.4							
Average Affected Thickness (Ins)			6.0							
Topsoil Volume (Yds³)			60016							
Unit Cost - Haul/Place ($/Yd³)			$0.57							
Topsoil Handling Cost ($)			$34,449							
Unit Cost - Grading ($/Ac)			$36.93							
Grading Cost ($)			$2,748							
Sub Total - Topsoil			$37,197							$37,197
B. Radiation Survey & Soil Analysis										
Unit Cost ($/Ac)			$682.00							
Sub Total - Survey & Analysis			$0							$0
C: Spill Cleanup										
Affected Area (Acres)			0							
Affected Area (ft^2)			0							
Average Affected Thickness (ft)			0							
Affected Volume (ft³)			0							
Quantity per Truckload (ft³)			540							
Quantity to be Shipped (Loads)			0.0							
Transportation Cost per Load			$53							
Transportation Cost ($)			$0							
Handling Cost ($240/load)			$0							
Disposal Fee per Cubic Foot ($)			$2.59							
Disposal Cost ($)			$0							

TOPSOIL REPLACEMENT & REVEGETATION	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Sub Total - Spill Cleanup			$0							$0
D. Revegetation										
Fertilizer ($/Ac)			$46.49							
Seeding Prep & Seeding ($/Ac)			$400.00							
Mulching & Crimping ($/Ac)			$276.54							
Sub Total Cost/Acre			$723.03							
Sub Total - Revegetation			$53,793							$53,793
Sub Total - Wellfields ($)			$90,990							$90,990
IV Roads										
A. Topsoil Handling & Grading										
Affected Area (Acres)			5.9							
Average Affected Thickness (Ins)			12.0							
Topsoil Volume (Yds³)			9519							
Unit Cost - Haul/Place ($/Yd³)			$0.57							
Topsoil Handling Cost ($)			$5,464							
Unit Cost - Grading ($/Ac)			$36.93							
Grading Cost ($)			$218							
Sub Total - Topsoil			$5,682							$5,682
B. Radiation Survey & Soil Analysis										
Unit Cost ($/Ac)			$682.00							
Sub Total - Survey & Analysis			$0							$0
C. Revegetation										
Fertilizer ($/Ac)			$46.49							
Seeding Prep & Seeding ($/Ac)			$400.00							
Mulching & Crimping ($/Ac)			$276.54							
Sub Total Cost/Acre			$723.03							
Sub Total - Revegetation			$4,266							$4,266
Sub Total - Roads ($)			$9,947							$9,947
V Other										
A. Topsoil Handling & Grading										
Affected Area (Acres)			2.5							
Average Affected Thickness (Ins)			12.0							
Topsoil Volume (Yds³)			4033.3							
Unit Cost - Haul/Place ($/Yd³)			$0.57							
Topsoil Handling Cost ($)			$2,315							
Unit Cost - Grading ($/Ac)			$36.93							
Grading Cost ($)			$92							
Sub Total - Topsoil			$2,407							$2,407
B. Radiation Survey & Soil Analysis										

Sweetwater Uranium Project
Topsoil Replacement and Revegetation
Wyoming Operations
Worksheet 7

TOPSOIL REPLACEMENT & REVEGETATION	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Unit Cost ($/Ac)			$682.00							
Sub Total - Survey & Analysis			$0							$0
C. Revegetation										
Fertilizer ($/Ac)			$46.49							
Seeding Prep & Seeding ($/Ac)			$400.00							
Mulching & Crimping ($/Ac)			$276.54							
Sub Total Cost/Acre			$723.03							
Sub Total - Revegetation			$1,808							$1,808
Sub Total - Other			$4,215							$4,215
VI Remedial Action										
A. Topsoil Handling & Grading										
Affected Area (Acres)			0.0							
Average Affected Thickness (Ins)			0.0							
Topsoil Volume (Yds³)			0.0							
Unit Cost - Haul/Place ($/Yd³)			$0.00							
Topsoil Handling Cost ($)			$0							
Unit Cost - Grading ($/Ac)			$0.00							
Grading Cost ($)			$0							
Sub Total - Topsoil			$0							$0
B. Radiation Survey & Soil Analysis										
Unit Cost ($/Ac)			$0.00							
Sub Total - Survey & Analysis			$0							$0
C. Revegetation										
Fertilizer ($/Ac)			$0.00							
Seeding Prep & Seeding ($/Ac)			$0.00							
Mulching & Crimping ($/Ac)			$0.00							
Sub Total Cost/Acre			$0.00							

Sweetwater Uranium Project
Topsoil Replacement and Revegetation
Wyoming Operations
Worksheet 7

TOPSOIL REPLACEMENT & REVEGETATION	Sweetwater Mine Unit(s) #1	Sweetwater Mine Units #2	Sweetwater Mine Unit #3	Sweetwater Mine Unit #4	Sweetwater Mine Unit #5	Sweetwater Mine Unit #6	Sweetwater Mine Unit #7	Sweetwater Mine Unit #8	Sweetwater Mine Unit #9	Total Sweetwater
Sub Total - Revegetation			$0							$0
Sub Total - Remedial Action			$0							$0
TOTAL COST - TOPSOIL & REVEGETATION			$152,513							$152,513

Sweetwater Uranium Project
Miscellaneous Reclamation
Wyoming Operations
WORKSHEET 8

	MISCELLANEOUS RECLAMATION	Sweetwater Mine Unit 1	Sweetwater Mine Unit 2	Sweetwater Mine Unit 3	Sweetwater Mine Unit 4	Sweetwater Mine Unit 5	Sweetwater Mine Unit 6	Sweetwater Mine Unit 7	Sweetwater Mine Unit 8	Sweetwater Mine Unit 9	Total Sweetwater
I	Fence Removal & Disposal										
	Quantity (Feet)			20011							
	Cost of Removal/Disposal ($/Ft)			$0.78							
	Cost of Removal/Disposal ($)			$15,609							$15,609
II	Powerline Removal & Disposal										
	Quantity (Feet)			9413							
	Cost of Removal/Disposal ($/Ft)			$0.00							
	Cost of Removal/Disposal ($)			$0							$0
III	Powerpole Removal & Disposal										
	Quantity			60							
	Cost of Removal/Disposal ($/Each)			$0.00							
	Cost of Removal/Disposal ($)			$0							$0
IV	Transformer Removal & Disposal										
	Quantity			0							
	Cost of Removal/Disposal ($/Each)			$0.00							
	Cost of Removal/Disposal ($)			$0							$0
V	Booster Pump Assembly Removal & Disposal										
	Quantity			1							
	Cost of Removal/Disposal ($/Each)			$248							
	Cost of Removal/Disposal ($)			$248							$248
VI	Culvert Removal & Disposal										
	Quantity (Feet)			300							
	Cost of Removal/Disposal ($/Ft)			$3.43							
	Cost of Removal/Disposal ($)			$1,029							$1,029
VII	Guardrail Removal										
	Quantity (Feet)			0							
	Cost of Removal/Disposal ($/Ft)			$5.36							
	Cost of Removal/Disposal ($)			$0							$0
VIII	Low Water Stream Crossing										
	Quantity			0							
	Cost of Removal/Disposal ($/Each)			$4,500							
	Cost of Removal/Disposal ($)			$0							$0
IX	Utilities Cost										
	Quantity (Mos)			0							
	Power ($/Month)			$0							
	Telephone ($/Month)			$0							
	Total Cost ($)			$0							$0

Sweetwater Uranium Project
Miscellaneous Reclamation
Wyoming Operations
WORKSHEET 8

MISCELLANEOUS RECLAMATION	Sweetwater Mine Unit 1	Sweetwater Mine Unit 2	Sweetwater Mine Unit 3	Sweetwater Mine Unit 4	Sweetwater Mine Unit 5	Sweetwater Mine Unit 6	Sweetwater Mine Unit 7	Sweetwater Mine Unit 8	Sweetwater Mine Unit 9	Total Sweetwater
TOTAL MISCELLANEOUS COST			$16,886							$16,886

2026 Cost Summary Sheet

	Amount ($)	Units	Cost Basis
RECURRING COST			
ELECTRICAL			
Power Cost (actual costs)	$0.02868	kw/hr	*Current operating cost of electricity - Rocky Mountain Power - Dec 2025*
CHEMICALS			
Antiscalent	$0.0105	$/Kgal	*Based on current cost.*
Elution (GW Sweep)	$0.044	$/Kgal	*Based on current cost.*
Elution (RO)	$0.018	$/Kgal	*Based on current cost.*
WDW Antiscalent ($/Kgals)	$0.350	$/Kgal	*Based on current cost.*
HCL	$0.298	$/Kgal	*Based on current cost.*
Sodium Hypo Chloride	$0.036	$/Kgal	*Based on current cost.*
Propane	$583.333	month	*Based on current cost.*
UTILITIES			
Power for Plant and Office Month	$11,072.69		*Current operating cost of electricity - Rocky Mountain Power - Dec 2025*
Phone Monthly Cost	$236.00		*Based on current site costs.*
RESTORATION OPERATIONS			
Repair and Maintenance	$0.1427		*Based on Actual costs 2021 operations include submersible pumps, piping, fittings, filters and mics supplies*
Repair and Maintenance GWS and RO	$0.05740		*Based on Actual costs 2021 operations include pumps, piping, fittings, filters and mics supplies*
Generator Rental	$553		*Stabilization Monitoring rental of portable generator based on 2021 quote.*
DISPOSAL WELLS			
Repair and Maintenance	$0.05740		*Based on actual cost for pump parts, filters, oil and lube, fittings*
LABOR RATES			
Supervisor	$30.00	Hour	*Operator Wage below + $5.00 referenced in WDEQ Guideline 12, Section I*
Plant Operator	$25.00	Hour	*Based on current average wage structure for Willow Creek Operators*
Plant Operator	$25.00	hour	*Based on current average wage structure for Willow Creek Operators*
Laborers (Group 1)	$19.84	hour	*From April 2023 State Wages Department of Transportation Prevailing Wages (All Counties).*
Laborers (Group 2)	$23.74	hour	*From April 1, 2023 State Wages Department of Transportation Prevailing Wages (All Counties).*
ANALYTICAL			
Guideline 8	$380.00	batch	*Current 2023 cost rate for Guideline 8 from vendor laboratory*
TRANSPORTATION AND DISPOSAL			
Distance to Landfill	115	(miles)	*The distance from Christensen Ranch/Irigaray to Casper Landfill is ~115 miles*
Transportation Cost	$0.18	($/Ton-Mile)	*Actual cost from trucking company (February 2021)*
Solid Waste landfill disposal cost	$66.30	Ton	*Casper City landfill rates for outside of Natrona County commercial trailer over 8 feet in length (July 2022).*
Quantity Per Truck Load	20	(Tons)	
Quantity Per Truck Load	28.0	(Yds^3)	
11e2 disposal cost	$69.99	cubic yard	*Based on dump truck and loader with a 1/2 hour load time and disposal at Sweetwater Tailings Facility*
11e2 disposal cost	$2.59	cubic foot	*Based on dump truck and loader with a 1/2 hour load time and disposal at Sweetwater Tailings Facility*
11e2 disposal cost	$2.59	cubic foot	*Based on dump truck and loader with a 1/2 hour load time and disposal at Sweetwater Tailings Facility*

2026 Cost Summary Sheet

11e2 disposal cost	$69.99	cubic yard	*Based on dump truck and loader with a 1/2 hour load time and disposal at Sweetwater Tailings Facility*
Onsite Disposal	$0.39	cubic foot	*WDEQ Guideline 12, Appendix K, Concrete Disposal On Site $9.16yd^3$ = $0.339ft^3$*
11e2 Transportation Cost Per Truck	$52.80	hour	*Based for onsite trucking to licensed tailing facility*
Oversize Load Transport Charges	$326.00	load	*Based on quote from trucking company*
VEHICLE OPERATION			
Pick up 4X4 (diesel)	$6.68	unit	*Cost per WDEQ Guideline 12A Table 2A*
PLANT DISMANTLING			
Concrete Floor Demolition	$1.07	square foot	*Costs per WDEQ Guideline 12, Appendix K*
Cost of Demolition Per Ft^3	$0.39	Cubic foot	*WDEQ Guideline 12, Appendix K*
Dismantle and Loading	$300.00		*Based on labor cost estimated at 4 hours, equipment rental front end loader at 2 hours to load.*
POND RECLAMATION			
Pond Sludge	$178.00	Load	Based on labor hourly rate and front end loader rate for 2 hours
GUARD RAIL			
Removal of Guard Rails	$5.36	ft	Based on Wyoming DOT Average Bid Prices 2022
PLANT/EQUIPMENT DECONTAMINATION AND DISPOSAL			
Decontamination	$0.13	square foot	*Based on costs site labor, equipment and chemicals*
Decontamination	$435.00	truck load	*Based on costs site labor and equipment*
WELL PLUGGING AND ABANDONMENT			
Plugging Abandonment 5 inch Wells	$1.41	per foot	*Based on draft memorandum from Kyle Wendtland cost of no less than $1.20 for bentonite briquette well plugging with CPI index adjustment.*
Plugging Abandonment 3 inch drill holes	$1.41	per foot	*Based on 2019 Independent Cost Estimate Provided By Drilling Contractor*
EQUIPMENT			
Caterpillar 16M Motor Grader Final Grading	$36.93	acre	*Cost per WDEQ Guideline 12, App G, Final Grading*
Backhoe Loader (Cat 430E 4WD)	$32.21	hour	*Cost per WDEQ Guideline 12, Table D-1b*
Loader (Cat 980K)	$71.58	hour	*Cost per WDEQ Guideline 12, Table D-1b*
Pick up 4X4 1/2 ton (diesel)	$6.68	hour	*Cost per WDEQ Guideline 12A, Table 2A*
Hose Reel	$45.00	hour	*Based on costs for equipment rental*
Dump Truck (10-12 cy)	$52.80	hour	*Cost per WDEQ Guideline 12, Table D-1b*
CULVERT REMOVAL			
20 foot culvert	$68.60		*Cost per WDEQ Guideline 12, Appendix J*
per foot	$3.43	foot	
ELECTRICAL POWERLINES & TRANSFORMERS			
Distribution/Transmission Lines	$0.00		*Tri-County Electric will remove at no cost, WDEQ Guideline 12, Appendix H*
Transformers	$0.00		*Tri-County Electric will remove at no cost, WDEQ Guideline 12, Appendix H*
FENCING			
Removal	$0.78	linear foot	*WDEQ Guideline 12, Appendix H*

2026 Cost Summary Sheet

RECLAMATION			
Disking and Seeding	$400	acre	*Cost per Guideline 21A Section II(I)*
Top Soil Application	$0.57	cu/yd	*Cost per WDEQ Guideline 12A, II(A) Average travel distance of 750 feet*
Unit Cost - Haul/Place ($/Yd³)	$0.57	cu/yd	*Cost per WDEQ Guideline 12A, II(A) Average travel distance of 750 feet based on distances from topsoil piles to module buildings*
Unit Cost - Haul/Place ($/Yd³)	$0.52	cu/yd	*Cost per WDEQ Guideline 12A, II(A) Average travel distance of 500 feet for MU8 based on distance from topsoil piles to module buildings*
Unit Cost - Haul/Place ($/Yd³)	$0.63	cu/yd	*Cost per WDEQ Guideline 12A, II(A) Average travel distance of 1000 feet based on distance from topsoil piles to module buildings*
Unit Cost - Haul/Place ($/Yd³)	$0.72	cu/yd	*Cost per WDEQ Guideline 12A, II(A) Average travel distance of 1500 feet based on distance from topsoil piles to module building*
Unit Cost - Grading ($/Ac)	$40.43	acre	*Cost per WDEQ Guideline 12, App G, Final Grading*
RADIOLOGICAL SURVEY			
Gamma Survey and Characterization	$682.00	acre	*Based on cost estimate with contractor August 2024 for CR MU 2, 3, 4 and 6 gamma survey costs.*
WELLFIELD RECLAMATION			
Piping Removal ($/ft)	$0.202	ft	*Based on labor costs, backhoe rental, pipe removal, chipping and sizing and backfill of trenches at 196 hour for completion.*
Tubing Volume Reduction	$0.025	linear/ft	*Based on labor costs, loader and chipping costs.*
Wellfield Spills	$240.00	load	*Based on pond sludge removal costs of $240/load. Current labor and equipment rate utilizing backhoe and truck.*
Fertilizer	$46.49	acre	*Based on actual cost for application.*
Mulching and Crimping	$276.54	acre	*Based on previous cost estimates from Guideline 12 will be utilized on steep slopes only.*
Low Water Crossing Removal	$4,500	per crossing	*Based on backhoe rental, labor onsite pond disposal at 3 days*
Booster Pump Removal and Disposal	$248.00	unit	*Based on labor, equipment and 11e2 disposal costs.*
Buried Trunkline Removal	$3.12	linear/ft	*Based on labor, backhoe rental, pipe chipping and loading*

References

Guideline 12 Reclamation cost were updated using December 2025 version
Guideline 12A Reclamation cost were updated using December 2025 version