RECLAMATION PLAN

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ABBREVIATIONS

ISR	In Situ Recovery
BPT	Best Practical Technology
WDEQ	Wyoming Department of Environmental Quality
TDS	Total Dissolved Solids
IX	Ion Exchange
RO	Reverse Osmosis
NRC	Nuclear Regulatory Commission
CPP	Central Processing Plant
LQD	Land Quality Division

The objective of the Reclamation Plan is to return the subsurface and surface of the Nichols Ranch ISR Project area to conditions compatible with the pre-mining uses. All groundwater that is affected by the Nichols Ranch ISR Project will be restored to a condition of use equal to or exceeding that which existed prior to project construction. All lands disturbed by the Nichols Ranch ISR Project will also be restored to their pre-mining use of livestock grazing and wildlife habitat.

1.0 GROUND WATER RESTORATION

Groundwater restoration is an important part of an ISR operation. The time it takes to restore the groundwater is primarily linked to the capacity of the deep disposal well. If the capacity of a deep disposal well is such that the time involved for groundwater restoration is unacceptable, then measures such as installing another deep disposal well will be implemented to decrease the restoration time.

1.1 WATER QUALITY CRITERIA

The primary goal of the groundwater restoration efforts will be to return the groundwater quality of the mined ore zone, on a production area average, to the pre-mining baseline water quality condition that has been defined by the baseline water quality sampling program. During the groundwater restoration, all parameters on an average basis will be returned to baseline or as close to average baseline values as is reasonably achievable. If the average baseline values of some of the parameters are unachievable using the best practical technology (BPT), Uranerz Energy Corporation will then use a secondary goal of returning the groundwater to the Wyoming Department of Environmental Quality-Water Quality Division class of use designation. This will return the groundwater to a quality consistent with the use of the water prior to the ISR mining.

The use categories of the groundwater are those established by the Wyoming Department of Environmental Quality-Water Quality Division. Pre-mining baseline water quality data, groundwater use category, available technology, and economics will be criteria used in attaining the final level of water quality during restoration.

1.2 RESTORATION CRITERIA

Groundwater restoration criteria in a production area will be based on the baseline water quality data collected in each production area. The baseline water quality data will include data collected from wells completed in the ore zone and perimeter monitoring wells. Baseline water quality parameters will be used, on a parameter-by-parameter basis, to monitor restoration activities in returning the affected groundwater back to pre-mining quality as reasonably as possible.

Specific restoration values will be established prior to mining for each production area by computing specific restoration values for specific parameters. The restoration values will be the mean plus two standard deviations of the pre-mining water quality for each parameter listed in Table 1-1. These restoration target values will not change unless the operational monitoring program indicates that baseline water quality has changed in a production area because of accelerated movement of groundwater, and that such change justifies redetermination of the baseline water quality. If this were to occur, resampling of monitor wells would be conducted along with the WDEQ reviewing and approving the change to restoration values.

The success of the restoration will be determined after the completion of the stability monitoring period. If no significant increasing trends in restoration values are identified, restoration will be deemed complete. A summary report requesting approval will be submitted along with the appropriate water quality data to the regulatory agencies. When approval is received from the regulatory agencies, final decommissioning of the production area will commence.

1.3 GROUND WATER RESTORATION METHODS

For ISR operations, a common commercial groundwater restoration program consists of two stages, 1) the restoration stage and 2) the stability monitoring stage. The restoration stage typically consists of three phases such as groundwater sweep, groundwater transfer, and groundwater treatment. The stability monitoring stage has included a six month or longer time period in which the groundwater is monitored for successful restoration by monitoring the restoration targets for consistency. Uranerz Energy Corporation will monitor the groundwater for a minimum of twelve (12) months during the groundwater stabilization period.

The three phases used in groundwater restoration are designed to efficiently, and effectively restore the groundwater so that groundwater loss is kept to a minimum and restoration equipment is optimized. Monitoring of the quality of groundwater will occur in selected wells as needed

Table 1-1 Restoration Target Values Parameters.

Parameter	Lower Detection Limit*
Alkalinity	0.1
Ammonia	0.05
Arsenic	1
Barium	0.1
Bicarbonate	0.1
Boron	0.1
Cadmium	0.01
Calcium	0.05
Carbonate	0.1
Chloride	0.1
Chromium	0.05
Copper	0.01
Electrical Conductivity@ 25 degrees C	1 uohm
Fluoride	0.1
Iron	0.05
Lead	0.05
Magnesium	0.01
Manganese	0.01
Mercury	0.0005
Molybdenum	0.05
Nickel	0.05
Nitrate	0.01
pH	0-14 s.u.
Potassium	0.1
Radium-226	0.1 pCi/L
Radium-228	0.1 pCi/L
Selenium	0.001
Sodium	0.05
Sulfate	0.5
Total Dissolved Solids	1
Uranium	0.001
Vanadium	0.1
Zinc	0.01
Gross Alpha	pCi/L**
Gross Beta	pCi/L**

*mg/L unless specified otherwise
** Minimum Detectable Concentrations determined on a sample by sample basis

during restoration to determine the efficiency of the operations and to determine if additional or alternate techniques are necessary. Online production wells will be sampled for certain parameters, such as uranium and conductivity, to determine restoration progress on a pattern-by-pattern basis.

The sequence of the restoration methods used will be determined based on operating conditions and waste water system capacity. Depending on the progress of restoration, it is possible that not all phases of the restoration stage will be utilized. Uranerz Energy Corporation will determine the need for certain restoration steps based on the progress of restoration and the monitoring of restoration values.

During groundwater restoration, a reductant may be added to lower the oxidation potential of the mining zone. Either a sulfide or sulfite compound may be added to the injection stream in concentrations sufficient to reduce the mobilized species. The use of reductants is beneficial because several of the metals typically found in the ore zone groundwater become solubilized during the recovery process. These metals can then form stable insoluble compounds that are usually in the form of sulfides. Dissolved metal compounds that are precipitated by such reductants include those of molybdenum, selenium, uranium, and vanadium.

Once restoration activities have returned the average concentration of restoration parameters to acceptable levels, the WDEQ will be contacted for agreement that restoration has been achieved in the production area. After this, the stability monitoring stage will begin. This phase of restoration consists of monitoring the water quality in the restored production area for twelve months after the successful completion of the restoration stage. When the stability monitoring stage is completed, Uranerz Energy Corporation will make a request to the WDEQ and NRC that the production area be deemed restored.

1.3.1 Groundwater Transfer

During the groundwater transfer phase, water may be transferred between a production area beginning restoration operations and a production area beginning mining operations. Also, a groundwater transfer may occur within the same production area, if one section of the production area is in a more advanced state of restoration than another.

Pre-mining baseline quality water from the production area beginning mining may be pumped and injected into the production area in restoration. The higher TDS water from the production area in restoration will be recovered and injected into the production area beginning mining. The direct transfer of water will act to lower the TDS in the production area being restored by displacing affected ground water with pre-mining baseline quality water.

The goal of the groundwater transfer is to blend the water in the two production areas until they become similar in conductivity. The water recovered from the restoration production area may be passed through ion exchange (IX) columns and/or filtered during this phase if suspended solids are sufficient in concentration to present a problem with blocking the injection well screens.

For the groundwater transfer to occur between production areas, a newly constructed production area must be ready to begin mining. Because of this condition, a groundwater transfer can occur at any time during the restoration process, if needed. If a production area is not available to accept transferred water, then groundwater sweep will be utilized as the first phase of restoration.

The advantage of using the groundwater transfer technique is that it reduces the amount of water that must ultimately be sent to the deep disposal well during restoration activities.

1.3.2 Groundwater Sweep

During the groundwater sweep stage, the groundwater from a production area beginning restoration is pumped from the production area to the processing plant though all production wells without any reinjection. By doing this, native groundwater is drawn into the production area to flush contaminants from the mining zone thus "sweeping" the mining aquifer. The cleaner baseline water has lower ion concentrations that act to strip off the cation that have attached to the clays during mining. The water produced during groundwater sweep is usually then sent to the processing plant for treatment and removal of any uranium that could be in the production area water. Radium 226 and dissolved solids are also removed. After the treatment, the swept water is disposed of in an approved manner such as into a deep disposal well.

The rate of groundwater sweep will be dependent upon the capacity of the deep disposal wells and the ability of the production area to sustain the rate of withdrawal. A hydraulic barrier may be employed during this stage if there is an adjacent operational production area to prevent drawing groundwater from the operational production area to the production area undergoing restoration.

1.3.3 Groundwater Treatment

Either following or in conjunction with the groundwater sweep, water may be pumped from the mining zone to treatment equipment at the surface. Ion exchange (IX) and reverse osmosis (RO) treatment equipment will then be utilized during this phase of restoration.

Groundwater recovered from the restoration production area may be passed through the IX system prior to RO. The groundwater will either be sent to the deep disposal system or it will be reinjected into the production area. The IX columns exchange the majority of the contained soluble uranium for chloride or sulfate. Additionally, prior to or following IX treatment, the groundwater may be passed through a de-carbonation unit to remove residual carbon dioxide that remains in the groundwater after mining.

At any time during treatment, an amount of reductant sufficient to reduce any oxidized minerals may be metered into the restoration production area injection stream. The concentration and amount of reductant injected into the restoration production area is determined by how the ore zone groundwater reacts with the reductant. The goal of reductant addition is to decrease the concentrations of oxidation-reduction sensitive elements.

All or some portion of the restoration recovery water can be sent to the RO unit. The use of an RO unit; 1) reduces the total dissolved solids in the groundwater being restored, 2) reduces the quantity of water that must be removed from the aquifer to achieve restoration limits, 3) concentrates the dissolved contaminates in a smaller volume of brine to facilitate waste disposal, and 4) enhances the exchange of ions from the formation due to the large difference in ion concentration. The RO passes a high percentage of the water through the membranes, leaving 60 to 90% of the dissolved salts in the brine water or concentrate. The clean water, called permeate, will either be re-injected, stored for use in the mining process, or sent to the waste water disposal system. The permeate may also be de-carbonated prior to re-injection into the production area. The brine water that is rejected contains the majority of the dissolved salts in the affected groundwater and is sent to the deep disposal well. Make-up water, which may come from water produced from either a production area that is in a more advanced state of restoration, water being exchanged with a new production area, water being pumped from a different aquifer, the purge of an operating production area, or a combination of these sources, may be added prior to the RO or production area injection stream to control the amount of "bleed" in the restoration area.

The reductant (either biological or chemical) added to the injection stream during this stage will scavenge any oxygen and reduce the oxidation-reduction potential of the aquifer. During mining operations, certain trace elements are oxidized. By adding the reductant, the oxidation-reduction potential of the aquifer is lowered thereby decreasing the solubility of these elements. Regardless of the reductant used, a comprehensive safety plan regarding reductant use will be implemented.

If necessary, sodium hydroxide may be used during the ground water treatment phase to return the groundwater to baseline pH levels. This will assist in immobilizing certain parameters such as trace metals.

The number of pore volumes treated and re-injected during the groundwater treatment phase will depend on the efficiency of returning the production area back to pre-mining water quality conditions. This relies on the efficiency of the RO in removing contaminates from the restoration production area groundwater and the success of the reductant, if used, in lowering the uranium and trace element concentrations.

1.4 RESTORATION MONITORING

During restoration, lixiviant injection is discontinued while improving the quality of the groundwater back to restoration standards. Because of this, the possibility of an excursion is greatly reduced. The monitor ring wells, overlying aquifer wells, and underling aquifer wells sampling frequencies are changed from once every two weeks to once every 60 days during restoration. The wells are analyzed for the excursion parameters: chloride, total alkalinity and conductivity. Water levels are also obtained at these wells prior to sampling.

In the event that unforeseen conditions (such as snowstorms, flooding, and equipment malfunction) occur, the WDEQ will be contacted if any of the wells cannot be monitored within 65 days of the last sampling event.

All sampling results obtained during restoration monitoring will be reported to the WDEQ-LQD on a quarterly basis.

1.5 RESTORATION STABILITY MONITORING STAGE

Once a production area has been designated as restored by the Wyoming Department of Environmental Quality, a twelve month stability period begins to ensure that the restoration goal of returning the production area groundwater to baseline water quality or pre-extraction class of use category is maintained. The following restoration stability monitoring program will be in place during the stability period:

1. The monitor ring wells are sampled once every two months and analyzed for the UCL parameters, chloride, total alkalinity and conductivity; and

2. At the beginning, middle and end of the stability period, the production wells will be sampled and analyzed for the parameters in Table 1-1.

In the event that unforeseen conditions (such as snowstorms, flooding, and equipment malfunction) occur, the WDEQ will be contacted if any of the monitor or production wells cannot be monitored within 65 days of the last sampling event.

1.6 WELL ABANDONMENT

When the groundwater has been adequately restored and determined stable by the regulatory agencies, surface reclamation and well abandonment will begin. All production, injection, monitor wells, and drill holes will be abandoned in accordance with WS-35-11-404 and Chapters 8 and 11 of the Wyoming Department of Environmental Quality-Land Quality Non-Coal Rules and Regulations to prevent adverse impacts to groundwater quality or quantity, and to ensure the safety of people, livestock, wildlife, and machinery in the area.

Wells will be abandoned using the following procedure:

1. All pumps and piping will be removed from wells.

2. All wells are plugged from total depth to within 5 ft of the collar with a well abandonment plugging gel formulated for well abandonment and mixed in the recommended proportion of 10 to 20 lbs per barrel of water, to yield an abandonment fluid with a 10 minute gel strength of at least 20 lbs/100 sq ft and a filtrate volume not to exceed 13.5 cc. The wells will be abandoned using a neat cement slurry or a high-solids bentonite grout (i.e., a minimum of 20% solids or 50# of bentonite in 23 gallons of water).
3. The casing is cut off at least two feet below the ground surface. Abandonment fluid is used to fill the void to the top of the cut-off casing.

4. A cement plug will be placed at the top of the abandoned well casing. The area is backfilled, smoothed, leveled, and reseeded to blend with the natural terrain.

Any deviation from the above procedure will be approved in advanced by the NRC and WDEQ.

1.7 GROUNDWATER RESTORATION SCHEDULE

The Nichols Ranch Unit and the Hank Unit will each be divided into two production areas. NR Production Area #1 will start at the northern part of the Nichols Ranch Unit and follow the ore zone down to the southeast portion of the permit boundary. NR Production Area #2 will begin at the northern part of the Nichols Ranch Unit and follow the ore zone down to the southwest portion of the permit boundary. Figure 3-9 of the Mine Plan depicts the planned wellfield and production areas on the Nichols Ranch Unit.

Hank Production Area #1 will begin in the northern portion of T44N, R75W, Section 31. Mining will be from north to south and end in T44N, R75W, Section 31 N1/2S1/2. Hank Production Area #2 will begin were the Hank Production Area #1 ends and continue to the south, ending in the southern portion of the permit boundary. Figure 3-10 of the Mine Plan depicts the wellfields and production areas of the Hank Unit.

Estimated groundwater restoration time for each of the production areas is demonstrated in Figure 3-11 of the Mine Plan. The actual groundwater restoration schedule will depend on such items as timing of receiving permits and licenses, actual production results, and actual restoration of the groundwater in a production area. Calculations used to determine the estimated groundwater restoration schedule are detailed in Section 3.3.7 of the Mine Plan of this permit application.

2.0 SITE DECONTAMINATION AND DECOMMISSIONING

2.1 PLANT DISMANTLING

After groundwater restoration is complete in the final production area, decommissioning of the main Nichols Ranch plant site and the Hank satellite plant will commence. (The Nichols Ranch plant may continue to be used to process materials from other satellites). All process equipment associated with the plants will be dismantled and either sold to another licensed facility or decontaminated in accordance with NRC Regulatory Guide 1.86 "Termination of Operating Licenses for Nuclear Reactors" and "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source or Special Nuclear Material." Any material that cannot be decontaminated to an acceptable level will be disposed of at an approved NRC licensed disposal facility. After decontamination, materials that will not be reused or that do not have any resale value, like building foundations, will be removed and disposed of at an off-site facility.

Gamma surveying will also be conducted when each wellfield is decommissioned. Any material or substance identified during the gamma survey as having contamination levels that require disposal in a licensed NRC facility will be removed, packaged if necessary, and then shipped to the approved NRC disposal facility.

2.2 WELLFIELD

Following the successful conclusion of the aquifer restoration stability period along with wellfield restoration report preparation, submittal, and wellfield restoration approval by the WDEQ-LQD and NRC for a particular production area, the wellfield piping, well heads and associated equipment will be removed and, if serviceable, taken to a new production area for continued service. Wellfield equipment that is no longer usable will be gamma surveyed, inside and out, and placed in either a contaminated or noncontaminated boneyard located near the main plant for subsequent removal from the site. If the final production area is being reclaimed, the nonsalvageable contaminated piping, well heads, and associated equipment will be trucked from the site to an approved NRC disposal facility.

2.3 SOIL DECOMMISSIONING

During decommissioning, if any soil cleanup is required of the wellfield or of the site facilities, 10 CFR 40 Appendix A, Criterion 6(6) clean up criteria for radium and other radionuclides (uranium and thorium) will be utilized based on the radium benchmark approach. NUREG-1575, "Multi-Agency Radiation Survey and Site Investigation Manual" (NRC, 2000) will also be utilized to ensure that acceptable survey methods are used in determining site sampling programs for the decommissioning.

2.4 DECOMMISSIONING HEALTH PHYSICS AND RADIATION SAFETY

Appropriate measures will be taken to ensure worker safety while conducting decontamination and decommissioning work at the Nichols Ranch ISR Project site. Measures to protect workers are discussed in Section 3.14.7 of the Mine Plan.

3.0 SURFACE RECLAMATION AND DECOMMISSIONING

At the completion of mining of the Nichols Ranch ISR Project, all lands disturbed by the mining project will be restored to their pre-mining land use of livestock grazing and wildlife habitat. Any buildings or structures will be decontaminated and either demolished and sent to a disposal facility or turned over to the landowner if desired. Baseline soils, vegetation, and radiological data will be used as guide in evaluating the final reclamation. A final decommissioning plan will be sent to the WDEQ and NRC for review and approval at least 12 months prior to the planned decommissioning of a wellfield or project area.

3.1 PROCESS FACILITIES RECLAMATION

Because of the nature of ISR mining, minimal surface disturbance will be associated with the Nichols Ranch ISR Project. Surface disturbance will consist of construction activities associated with the construction of the central processing plant (CPP), satellite plants, and wellfields including well drilling, pipeline installations, and road construction. Disturbances associated with the wellfield impact a relatively small area and have short-term impacts.

Surface disturbances associated with the construction of the central processing plant, satellite plants, and wellfield header houses will be for the life of those activities. Topsoil will be stripped from these areas prior to the construction of the facilities. Disturbances associated with the wellfield drilling and pipeline installation are limited and reclaimed as soon as possible after completion of these items. Access roads to and from the wellfield are also limited with minimum surface disturbance.

The Nichols Ranch plant site and Hank satellite plant site will be contoured to blend in with the natural terrain after all buildings have been removed. Gamma surveying will then be completed to verify that gamma radiation levels are within acceptable limits. Topsoil replacement and reseeding of the area will then take place.

3.2 ROAD RECLAMATION

3.2.1 Access Roads

Two access roads will be built to connect both the Nichols Ranch central processing plant (CPP) and the Hank satellite plant with the existing ranch roads. The length of the Nichols Ranch CPP road is approximately 0.20 mi in length. The Hank satellite plant road will also be approximately 0.20 mi in length. If the landowner desires, the roads will be left in place when operations are complete. If not, the roads will be reclaimed. Even if the roads are left in place, third party reclamation costs will be included in the reclamation bond estimate.

If the access roads are to be reclaimed, the first step will be to pick up and remove the scoria/gravel on the road surface. Once the scoria/gravel has been removed the roadbed will be disced or ripped. Next, the topsoil stored in the ditch will be reapplied on the road surface. Finally, the road surface will be mulched and seeded with the permanent seed mixture.

3.2.2 Wellfield Access Roads

The wellfield access roads will allow vehicular traffic to move from the plants to the wellfields and from one wellfield to another wellfield. The construction design for the wellfield access roads is present in Section 3.11 of the Mine Plan. At the time of decommissioning, the landowner will decide which wellfield access roads will remain and which roads will be reclaimed.

If wellfield access roads are to be reclaimed, the first step in reclaiming the wellfield access roads will be to pick up and remove the scoria/gravel so that the roadbed is back to the approximate original grade. Next, the roadbed will be ripped to reduce compaction. The topsoil will then be placed back on the disturbed area, will then be mulched, and seeded with the permanent seed mixture. Discing of the topsoil may be done to reduce compaction created during topsoil replacement.

3.3 TOPSOIL HANDLING AND REPLACEMENT

Topsoil will be salvaged from any building sites, permanent storage areas, and chemical storage areas prior to construction in accordance with Wyoming Department of Environmental Quality-Land Quality Division (WDEQ-LQD) requirements. To accomplish this, typical earth moving equipment such as rubber tired scrapers and frontend loaders will be used. The estimated topsoil removal depth for facility construction will be determined prior to the removal of the topsoil since topsoil depth can vary from zero to 60 inches depending on location. Topsoil salvage operations for the wellfield will be limited to the removal of topsoil at header house locations. Wellfield access roads topsoil removal will be in accordance with the landowner's road construction practices discussed in the Mine Plan. All together, an estimated 100 acres of topsoil will be salvaged, stockpiled, and reapplied during the life of the Nichols Ranch ISR Project.

Topsoil that is salvaged during construction activities will be stored in designated topsoil stockpiles. These stockpiles will be located as such to minimize topsoil losses from wind erosion. Topsoil stockpiles will also not be located in any drainage channels or other locations that could lead to a loss of material. Berms will be constructed around the base of the stockpiles along with the seeding of the stockpiles with a mixture of Western Wheatgrass, Thickspike Wheatgrass, and Slender Wheatgrass at a seeding rate of 14 pounds pure live seed per acre containing 6 pounds Western Wheatgrass, 6 pounds Thickspike Wheatgrass, and 2 pounds Slender Wheatgrass to reduce the risk of sediment runoff. Additionally, all topsoil stockpiles will be identified with highly visible signs labeled "Topsoil" in accordance with WDEQ-LQD requirements.

During excavations of mud pits associated with well construction, exploration drilling, and delineation drilling activities, topsoil is separated from the subsoil with a backhoe. The topsoil is first removed and then placed at a separate location. The subsoil is then removed and deposited next to the mud pit. When the use of the mud pit is complete (usually within 30 days of initial excavation), the subsoil is then redeposited in the mud pit followed by the replacing of the topsoil. Pipeline ditch construction will follow a similar path with the topsoil stored separately from the subsoil with the topsoil deposited on the subsoil after the pipeline ditch has been backfilled. These methods of topsoil salvaging have proven to be adequate as demonstrated by the successful revegetation and reclamation at prior and existing ISR operations.

3.4 FINAL CONTOURING

Because of the nature of solution mining, very little, if any, construction activities will take place which would require any major contouring during reclamation. Any surface disturbances that do occur will be contoured to blend in with the natural terrain. No final contour map has been included since no significant changes in the topography will result from the proposed mining operation.

3.5 EROSION CONTROL PRACTICES

The potential for erosion and potential movement of sediments into drainages may occur during construction and reclamation activities associated with processing facilities and wellfields. Berms and contouring will be utilized when and where possible, to minimize potential erosion and sediment movement. Reseeding with native seed mixture or cover crops will also occur upon completion and reclamation of the project area. Reseeding of an area will take place during the appropriate growing seasons, either spring or fall, whichever comes first.

Surface water runoff should not be affected by the presence of any surface facilities including the wellfields and associated structures, access roads, office and maintenance buildings, pipelines, and processing facilities (both main and satellite facilities). In the event that surface runoff flows are impeded by any facilities, culverts and diversion ditches will be implemented to control the runoff and prevent excessive erosion. If the surface runoff is concentrated in an area, measures such as energy dissipaters will be used to slow the flow of the runoff so that erosion and sediment transport are minimized in the runoff.

Impacts to ephemeral drainages may occur with some of the mining activities such as wellfield operations or the construction of access roads. To avoid impacts to the drainages, existing roads within the project area will be utilized. If an ephemeral drainage may be impacted by the roads or wellfield operations, appropriate measures will be taken to minimize the impact to the ephemeral drainage including the prevention of erosion and sediment movement into the drainage.

Access road construction will be minimized by using existing roads within the project area. When new roads are needed, design and construction practices will incorporate such parameters as drainages, elevations contours, location with regard to weather conditions, and land rights to ensure the least amount of impact. If a new road has to cross an ephemeral drainage, efforts will be made to cross the drainage at right angles to minimize erosion with the appropriate sized culverts installed. In the event that a drainage has to be crossed, but cannot be crossed at a right angle or along elevation contours, appropriate measures for erosion control will be examined and implemented.

Wellfield construction activities will result in some short term or temporary effects on erosion. The ongoing drilling, well development, pipeline construction, header house construction, lateral pipeline placement, and access road construction activities will incorporate erosion protection measures based on the conditions where construction activities are taking place. Protection measures that may be used are: grading and contouring, placement of hay bales, culvert installation, sedimentation breaks, or placement of water contour bars.

In areas where steep grades are encountered during construction activities, re-seeding of the disturbed area will take place along with the erosion protection measures mentioned in the previous paragraph. The reseeding will take place in the spring or fall, whichever comes first after the construction activity takes place.

Wells that are constructed in any ephemeral drainage will use the appropriate erosion protection controls to minimize the impact to the drainage. Protection controls that could be used, but not limited to, are: grading and contouring, placement of hay bales, culvert installation, placement of water contour bars, and designated traffic routes. The drainage bottoms will be restricted to the work activities that are needed to construct and maintain the wells. If the wells are placed in a location in the drainage where runoff has the potential to impact the well, measures will be taken to protect the well and well head. Barriers surrounding the well such as cement blocks, protective steel casing around the well heads, or other measures to protect the wells from damage will be utilized.

3.6 VEGETATION RECLAMATION PRACTICES

All revegetation practices will be conducted in accordance to the Wyoming Department of Environmental Quality-Land Quality Division (WDEQ-LQD) regulations and the methods outlined in the mining permit. Topsoil stockpiles, along with as many as practical disturbed areas of the wellfield, will be seeded with vegetation throughout the mining operation to reduce wind and water erosion. Final revegetation of the mine area will consist of seeding the area with one final reclamation seed mix. Table 3-1 shows the seed mixture that will be used for reclamation. This mixture was developed through discussions with the landowner and approved by the WDEQ-LQD. A seeding rate of 15 pounds of pure live seed per acre will be used when using a rangeland drill. On areas where it is not practicable to use a drill, the seed will be broadcast at a rate of 30 pounds pure live seed per acre.

Table 3-1 Uranerz Reclamation Seed Mixture.

Species	Percent of Mix	Pounds PLS/acre
Western Wheatgrass	28	4.2
Revenue Slender Wheatgrass	28	4.2
Bozoisky Russian Wildrye	19	2.85
Greenleaf Pubescent	9	1.35
Gulf Annual Ryegrass	6	0.9
Yellow Blossom Sweet Clover	5	0.75
Ladak 65 Alfalfa	5	0.75
Total	100	15

The success of the final revegetation will be determined by measuring the revegetation in meeting prior mining land use conditions and reclamation success standards as compared to the "Extended Reference Area" outlined in WDEQ-LQD Guideline No. 2. The Extended Reference Area allows for a statistical comparison of the reclaimed area with an adjacent undisturbed area of the same or nearly the same vegetation type. The area that the Extended Reference Area has to encompass needs to be at least one half the size of the reclaimed area that is being assessed, or at least no smaller than 25 acres in size.

In choosing the Extended Reference Area, the WDEQ-LQD will be consulted. This will ensure that the Extended Reference Area adequately represents the reclaimed area being assessed. The success of the final revegetation and final bond release will be determined by the WDEQ-LQD.

Measures such as fencing off newly seeded areas and reseeding when livestock is not present will be implemented to protect newly seeded areas from being disturbed. The fencing will be used to protect the newly seeded areas from being grazed on by livestock and wildlife in the revegetated area. Additionally, livestock on the private ranch land where the Nichols Ranch ISR Project is located will be moved to different pastures throughout the year. Communications with the landowner on the location of their livestock will be maintained so that seeding of areas can be conducted when livestock is not present in the area so that the newly seeded area will be allowed to grow. Seeding of the wellfield disturbance will take place while the wellfield is in production. While the wellfield is in production, it will be fenced off not only for security measures, but also to protect the wellfield from livestock entry.

4.0 GENERAL RECLAMATION SCHEDULE

A general reclamation schedule for the Nichols Ranch ISR Project is shown as Figure 3-11 in the Mine Plan document.

5.0 EVALUATION OF RECLAMATION SUCCESS

A final decommissioning plan will be sent to the WDEQ and NRC for review and approval at least 12 months prior to the planned decommissioning of a wellfield or project area. The successful reclamation and restoration of the Nichols Ranch ISR Project will be based upon returning the affected land back to its original use of livestock grazing and wildlife habitat. This will be accomplished by restoring the groundwater to pre-mining baseline conditions or alternatively pre-mining class of use, re-vegetating the disturbed area, removing all structures, except for those desired by the landowner, and restoring and reclaiming all land disturbed by the Nichols Ranch ISR Project.

6.0 RECLAMATION COST ESTIMATES

Uranerz Energy Corporation will maintain surety instruments to cover the costs of reclamation for the Nichols Ranch ISR Project. The surety instruments will cover the costs of groundwater restoration, decommissioning, dismantling, and disposal of all facilities including buildings and the wellfield, and the reclamation and revegetation of all affected mining areas. Additionally, the NRC and WDEQ-LQD require an updated Annual Surety Estimate Revision to be submitted each year to adjust the surety instrument amount to reflect existing operations and those planned for construction or operation in the following year. Uranerz Energy Corporation will revise any surety instrument amount to reflect any changes to the Annual Surety Estimate Revision after its review and approval by the NRC and WDEQ-LQD.

Once the WDEQ-LQD, NRC, and Uranerz Energy Corporation have agreed to the estimated reclamation and restoration costs, a reclamation performance bond, irrevocable letter of credit, or other acceptable surety instrument will be submitted to the WDEQ-LQD with a copy to the NRC.

Addendum A contains the calculations and estimate of the proposed surety bond for the first year of operation for the Nichols Ranch ISR Project. The surety estimate is based on the first year of operation consisting of the construction of the Nichols Ranch central processing plant and the start up of the first production area at the Nichols Ranch Unit. The construction of the Hank satellite plant and the first Hank production area are also included in the surety estimate. Although the first Hank production area will be put in place, it is not anticipated to be operational in the first year thus the surety bond will not include a cost estimate for restoring the groundwater at the Hank Unit.

Additionally, Uranerz will attempt to negotiate a clause in any agreement with the owner of a licensed disposal facility that the agreement be transferrable to the WDEQ and NRC so that the WDEQ and NRC can dispose of material at the same rate negotiated by Uranerz in the event that the WDEQ and NRC has to assume reclamation liability of the Nichols Ranch ISR Project.