Uranerz
ENERGY CORPORATION

March 16, 2012

Mr. Duane W. Spencer
Field Manager
Bureau of Land Management
Buffalo Field Office
1425 Fort Street
Buffalo, WY 82834-2436

Regarding: Response to Completeness Review of Nichols Ranch ISR Project Plan of Operations

Dear Mr. Spencer:

Uranerz received the BLM Buffalo Field Office (BFO) completeness review for the Nichols Ranch ISR Project Mine Plan of Operations on September 6, 2011. The BFO was provided a complete copy of the Plan of Operations (POO) for NEPA review in February 2008 as 280 acres of BLM managed surface is located within the Hank Unit area of the project. The POO includes volumes containing the Mine Plan of Operations, Reclamation Plan, reclamation cost estimate and related appendices of data and information pertaining to the project. During the Nuclear Regulatory Commission (NRC) and Wyoming Department of Environmental Quality – Land Quality Division (WDEQ-LQD) review period Uranerz supplied BLM with updates to the volumes. The last update to the POO was July, 2010. Uranerz has since received approval for the Plan of Operations from the NRC for License SUA-1597 and WDEQ-LQD for Permit to Mine 778.

Uranerz has prepared responses to the BLM comments attached herein along with associated materials. Where possible, responses reference information located within the POO to help direct the reviewer. A phone conference, to discuss the comments, was held with the BLM on February 23, 2012, and the related responses have been incorporated as required. An index of change has been included for updated maps and figures requiring replacement and insertion into the POO. A CD of the electronic version of this submittal is also enclosed as requested by BLM.

The BLM review letter indicated that the reclamation bond estimate submitted in the Mine Plan of Operations was not reviewed. During the February 23, 2012 phone conference, Uranerz informed BLM that the reclamation bond estimate had since been approved by the WDEQ-LQD and NRC.

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Uranerz noted at that time, reclamation costs for the Hank Unit were not included in the bond since plans for development of that area are not complete and activities will not commence this year. Uranerz is required however, to update the reclamation bond periodically in accordance with regulatory requirements of which the BLM will receive for review.

If you have any questions regarding the responses, please contact me at 307-265-8900 or by email at: mthomas@uranerz.com

Sincerely,

Mike Thomas
Vice President Environmental, Safety, and Health
Uranerz Energy Corporation

MT/dk

Enclosures

Uranerz Response to Request for Additional Information (plus associated materials)
Insertion Instructions (plus maps)
CD of Documents

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Request for Additional Information Regarding Identified Deficiencies of the Uranerz Energy Corporation's Nichols Ranch ISR Project POO

1) Operator Information:
   i. Taxpayer identification number is missing.

      URZ Response:

      Taxpayer ID: 98-0365605

   ii. Serial numbers for unpatented mining claims are missing.

      URZ Response:

      The unpatented mining claims are listed in the following table.

Claim Name	BLM Serial No.
B 81	26870
B 83	26872
B 85	26874
B 87	26876
B 89	26878
HB 1	297964
HB 2	297965
MB 1	278641
MB 2	278642
MB 3	278643
MB 4	278644
MB 5	278645
MB 6	278646
MB 8	278648
MB 10	278650

2) Description of Operations:
   i. Maps of the project area:
      a. Some map legends are incomplete, and not everything displayed on the maps is identified in the legends.

         URZ Response:

         Per discussion with BLM the maps in the POO related to the Hank Unit have been re-reviewed. Six maps total were updated with minor revisions including Figures D6-7b, D6-7c, D6-8 out of Appendix D-6 Volume III, and Exhibits E-2, D5-b, and D6-2. A change sheet is attached for insertion instruction. These figures have been downloaded to a CD enclosed with this submittal.

b. Please include surface and mineral ownership status.

URZ Response:

Surface and Mineral ownership status can be found in Volume I, Adjudication File, Appendix A. A map depicting the Surface and Mineral ownership is found in Exhibit A-2 of Appendix A.

c. Include locations for wellfield development such as header houses and other facilities, in-field oxygen storage tanks, staging areas, access roads within wellfields, pipelines, overhead power, fences, etc.

URZ Response:

The Mine Plan in Volume V contains several figures illustrating the above mentioned features at the project locations in current existence. Relevant figures include Figure 1-8 *Hank Unit Proposed Monitor Well Location*, Figure 3-10 *Hank Unit Production Areas*, and Figures 3-16 and 3-17 which illustrate the access roads and travel route. Wellfield design for the Hank Unit production areas has not been finalized and therefore infrastructure such as header houses, storage tanks, pipelines, etc. is not available. As designs for development in the Hank Unit progress, plans and figures will be updated with regulatory entities through periodic reporting, such as the Annual Report to the WDEQ-LQD or Semi-Annual Report to the NRC as required.

To show a general layout of how infrastructure such as the header houses, pipelines, etc. will occur, Figure 2 – General Location of Header Houses Access Road and Pipeline, Utility, and Communication Corridor has been attached.

ii. Preliminary designs:

a. Some of facilities need further description. An example is well header houses; their dimensions, number of wells served by each, capacity flowing in and out, and how water moves from the header houses to the processing facility all need to be described.

URZ Response:

The Mine Plan Volume V, Section 3.10.1 *Process Description,* provides details regarding header houses including dimensions, number of wells served, and process flow. Figures 3A-12 and 3B-12 of the Mine Plan in Volume V depict a typical header house. The typical header house dimensions will be a maximum of 20 feet wide by 40 feet long, able to serve upto 30 injection and 30 recovery wells. Total flow at the Hank Unit will range from 1,000 to 2,500 gpm; thus, injection and recovery well flow rates will vary based on wellfield balancing requirements to maintain a cone of depression in the wellfield.

Fluid transport between header house and processing facility is via pipeline as described in Section 3.3.5 *Proposed Injection Procedure* of the Mine Plan. Lixiviant flows from the wellfield to the header houses through a 1 to 2 inch HDPE (high density polyethylene) or PVC pipe lines. From the header house, the lixiviant flows through an approximately 8 inch pipe which ties into a 14 inch HDPE main trunkline transporting the lixiviant to the satellite processing facility.

b. Please list the total areal distribution of the ore bodies for each portion of the project (Nichols Ranch versus Hank Unit). The total area was given, but not broken down into the 2 portions.

URZ Response:

The areal distributions of the Production Areas for Nichols Ranch are: PA#1 – 54 acres, PA#2 – 51 acres. The areal distributions of the Production Areas for Hank are: PA#1 – 46 acres, PA#2 – 72 acres.

c. Please describe how often, and how, uranium-loaded resin or slurried yellowcake will be trucked to the main processing facility at Nichols Ranch.

URZ Response:

Uranerz anticipates loaded resin from the Hank Unit will be sent to the Nichols Ranch Unit at a frequency of six (6) resin trucks per week or 0.86 trucks per day. Volume V, Mine Plan, Section 2.2.3 *Yellowcake Elution Process and Resin Handling*, states that a DOT approved trailer will be used to transport resin to and from satellite facilities. Uranium loaded resin from the Hank Unit will be transported to the Nichols Ranch Unit via a tractor/trailer unit. The trailer is typically a customized 3 compartment cement trailer. The carbon steel or aluminum compartments are pressurized and typically rubber lined. The first compartment carries the uranium loaded resin, the second remains empty, and the third compartment holds unloaded resin. Each tractor/trailer shipment can contain about 2,000 to 3,000 lbs of uranium loaded resin, although the actual amount depends on the size of the trailer.

d. Any roads built on BLM surface must be constructed to comply with the "Buffalo Field Office Oil & Gas Road Submittals for Applications to Permit to Drill" 2008. Available on the BFO website: http://www.blm.gov/wy/st/en/field_offices/Buffalo.html.

URZ Response:

Uranerz acknowledges this requirement and will incorporate the BLM road construction standards for roads built within BLM managed surface areas at the Hank Unit.

e. All drilling well pits must be fenced on at least three sides while drilling and four after the drill rig moves off for the duration of time that the pit is open.

URZ Response:

Uranerz will incorporate the above stated practice of fencing the drilling pits when drilling on BLM surface.

f. Wells with no cement return to surface should be logged to determine if the cement is continuous.

URZ Response:

Volume V, Mine Plan, Section 3.1.1 *Completion Detail for Injection and Recovery Wells* describes how if the primary cementing process fails to circulate cement slurry to the surface then the upper portion of the annulus will be cemented from the surface to stabilize the wellhead. This procedure, called "topping off", is described in the Mine Plan Addendum MP-C: *Well Completion SOP*. Furthermore, Uranerz requires an additional amount of cement (10%), over and above the calculated cement amount, be mixed and pumped downhole to ensure proper annulus filling.

Uranerz, and the uranium industry, do not use a cement bonding log and instead employ the Mechanical Integrity Test (MIT) procedure (see Addendum MP-D of the Mine Plan for this procedure) which is performed on all new wells to ensure proper completion.

g. Please address the conflict with oil and gas (particularly coal bed natural gas [CBNG]) development in the area.

URZ Response:

Because of the difference in depth between CBNG and uranium, no conflict exists with the production of both resources. Typically the CBNG extraction takes place at a depth of 1500 feet whereas the uranium mining occurs at depths of 400 – 600 feet. A detailed discussion regarding this subject is contained in Volume III, Appendix D6, Section D6.2.3.3.

iii. Water management plans:

a. Describe how water produced during pump tests will be handled.

URZ Response:

Water produced during pump tests is discharged to the surface under a Wyoming Department of Environmental Quality – Water Quality Division (WDEQ-WQD) WYPDES Discharge Permit. Prior to a pump test the ground water is sampled and analyzed for approval of the discharge permit. Under the requirements of the discharge permit, produced water must meet specific requirements and be sampled at required frequencies. Should the water not meet the criteria for approval of a discharge permit the water from the pump test would be contained and disposed accordingly.

b. Identify springs located within 1 mile of the project area and include a monitoring plan for them.

URZ Response:

No springs were located relative to the Hank Unit. Information pertaining to surface water and ground water is located in Volume III, Appendix D6, Sections D6.1 and D6.2.

c. Please provide more detailed information regarding the deep injection disposal well, including its location, the depth and formation to be injected into, and what is to be injected.

URZ Response:

WDEQ-WQD is authorized by EPA to implement the UIC Program and will issue permits for the deep disposal wells. Permit approval will include the final location of the deep disposal well. The design of the deep disposal wells is not finalized; however, as discussed in the Mine Plan of Volume V, the deep disposal wells would be equivalent in design and depth to existing deep disposal wells at similar ISR uranium recovery sites. A discussion of the geologic formations that may be used for disposal can be found in Volume II, Appendix D-5, Section D5.3.1. The desired geologic formations include the Teckla, Teapot and Parkman formations. The Parkman sandstone occurs at the greatest depth, at approximately 8,450 ft. which Uranerz anticipates would be the approximate deep disposal well depth. Fluids to be injected into the deep disposal well include process bleed, wash down water, RO restoration brine, and some general process plant water (resin wash, filter backwash, etc.). Uranerz will notify BLM when approval is received from WDEQ-WQD.

iv. Rock characterization and handling plans:

a. The plan must include the analytical protocols and criteria that will be used to identify potential acidic or reactive conditions, and how these conditions will be treated, and reclaimed if necessary. BLM is concerned with CO_2 and its possible reactivity with rock and water.

URZ Response:

ISR, unlike conventional open pit mining, does not expose rock formations at the surface which could potentially create acidic or reactive conditions. Volume V, Mine Plan, Sections 2.2 *Chemistry of Mining*, and 3.3 *Wellfield Methods of Operation*, describe how recovery is performed through a network of wells using solution extraction. The process involves dissolving water-soluble uranium compounds from the mineralized host sandstone (ore zone). The uranium in the ore zone is dissolved when the uranium is oxidized with an oxidant that is pumped into the ore zone through the well network system. As described in Section 3.3 carbon dioxide is used only to adjust the pH for concentration control which actually allows the ISR process of recovering the uranium within the targeted formation via solution.

b. BLM is also concerned about potentially harmful concentrations of other metals becoming liberated during the ISR process.

URZ Response:

Volume V, Mine Plan, Section 3.3.4 *Type of Recovery Fluid Used*, addresses the potential of liberating trace metals however, should that occur, Uranerz will add a chemical reductant, as needed, to reverse the oxidizing state of the groundwater and to precipitate the trace metals back underground. Per discussion with BLM, Uranerz does not anticipate issues with vanadium at this time.

v. Quality assurance and control plans:
A quality assurance and control plan is necessary to ensure the environmental performance of mine facilities constructed on BLM lands.

URZ Response:

Uranerz has no current construction activities planned, at this time, for the Hank Unit. However, prior to initiating construction activities on BLM lands a construction quality assurance and control plan will be submitted to BLM.

vi. Spill contingency plans:

a. Spills are briefly discussed in section 3.13.4 (System Failures) and 3.19.2 (Maintenance, Spill Prevention and Spill Reporting). The spill contingency plan must describe how an operator will respond to a spill, including containment and clean-up procedures, enhanced monitoring measures, and notification procedures to the appropriate regulatory agencies.

URZ Response:

The Mine Plan was prepared providing a general spill contingency plan, the contents of which are in Sections 3.13.4 and 3.19.2; reporting and notification of such events will be to NRC, WDEQ and BLM as required. A standard operating procedure will be the vehicle by which that plan is carried out. Uranerz is preparing these plans in coordination with NRC licenses condition and will include BLM in the submittal.

b. The spill contingency plan must include notification of the BLM when a release or spill occurs on or may affect BLM-managed lands.

URZ Response:

Uranerz will notify the BLM when a release or spill occurs on, or may affect, BLM-managed lands.

vii. Schedule of Operations:

a. The annual schedule for the production areas is included in section 3.5.3 (Proposed Time Schedule for Each Production Area) but does not provide sufficient detail in terms of operations. Knowing if the project is to operate 24-hours a day and seven days a week, as compared to only during daylight hours and a 5-day work week, or seasonally as compared to year-round, are critical to understanding the nature of the impacts.

URZ Response:

The schedule was developed based on a 24-hour day, seven days per week operation.

b. The operations schedule should include these details for start through closure of the project.

URZ Response:

Per Uranerz previous comment response, the schedule is based on a 24-hour seven day week. A Gantt chart, depicted in Figure 3-11 of the Mine Plan in Volume V, illustrates the main activities from start through closure (production, restoration and reclamation) for the specific production areas of the project. The schedule is an estimated timeline of

events and is subject to change depending on variables such as permit approval, construction efficiency, production and restoration results. Updated schedules are required to submitted to regulatory entities via periodic compliance reporting, such as the Annual Report to the WDEQ-LQD. A copy of the latest schedule, titled Nichols Ranch ISR Project *Figure 2, Production, Restoration & Reclamation Schedule for Permit to Mine #778 for Annual Report*, submitted in the 2011 WDEQ-LQD Annual Report is attached.

c. Within the wildlife section, there is mention that the operations schedule could be modified to accommodate any wildlife concerns. Please describe when and how the schedule would be modified.

URZ Response:

The operations schedule is in part reliant upon timely construction as discussed in Section 3.5.3 *Proposed Time Schedule for Each Production Area* of the Mine Plan in Volume V. In some areas of the site, project activities such as drilling and wellfield construction may be affected such that these activities are prohibited or reduced during certain times of the year to minimize impacts to wildlife activities. For example, Uranerz provides time frames for project activities with regard to upland games birds (e.g. reduce project activities in areas adjacent to an active lek between March 15 and July 15) in Section 3.15.2.2 of the Mine Plan. Because of those constraints on production development it may take longer to complete those aspects.

viii. Support facility and infrastructure plans:

a. Include descriptions of location of pipelines, power lines, and utility lines with respect to facilities, wellfields, and access routes. Details to be included are disturbance size and duration, construction procedures, operating capacity, and reclamation procedures. If the proposed project would result in upgrades, expansions, or increased maintenance requirements of existing support infrastructure operated by third parties, such impacts need to be described.

URZ Response:

The Mine Plan and Reclamation Plan contain descriptions of the features commented on above, as they currently exist. As discussed in Uranerz response to BLM comment (i)(c) above, the wellfield production area designs for the Hank Unit are not complete. Each planned Hank Unit production area includes a number of injection wells, recovery wells, monitor wells, headerhouses and associated piping and power supply. The Hank Unit is anticipated to include approximately 168 injection wells, 150 recovery wells, 53 monitoring wells and 6 headerhouses. Plans for future construction activities are reported in periodic documents to the regulatory agencies, including the BLM. The object of ISR is to contain all surface disturbance activities within the wellfield monitoring well ring and then only what is necessary to install the infrastructure. Once production development (i.e. installation of wells, pipelines, header houses and utility corridors) is complete, surface disturbance is reclaimed for the interim of operations. Development of a wellfield area may take 6 months to 1 year to complete and areas are stabilized and reclaimed in the interim as development progresses. The Hank Unit is composed of 2,250 acres, with the well fields occupying approximately 118 acres, a fraction of the total acreage. The total BLM surface within the Hank Unit is

approximately 280 acres of which less than 30 acres will be occupied by a portion of a wellfield.

b. A Right-of-Way across BLM surface is not necessary, but may be pursued, for access associated with a Mine POO. An explanation of this should be included.

URZ Response:

The roads that currently exist will be used to access the area and no new roads within the area of review are planned at this time.

c. Please identify if a Storm Water Pollution Prevention Permit (SWPPP) has been secured from the WDEQ.

URZ Response:

Uranerz has secured a SWPPP with the WDEQ-WQD under Authorization #WYR104331.

3) Reclamation Plan:

i. Drill-hole plugging:

a. CBNG wells are cemented back to surface to plug. This requirement will also apply to ISR wells on BLM surface.

URZ Response:

Uranerz agrees with this abandonment technique. The use of cement as a well abandonment material is described in Section 1.6 *Well Abandonment* of the Reclamation Plan in Volume V.

b. When wells are plugged and abandoned, they should be cut off 3 feet below surface leaving no surface expression.

URZ Response:

As described in Volume V, Mine Plan Section 3.8 *Repair and Abandonment of Wells*, the casing will be cut off at least (i.e. minimum of) two feet below the ground surface. This requirement is pursuant to WDEQ-LQD Chapter 11 Section 8(f)(iv) Non-Coal Rules and Regulations applicable to the approved Permit to Mine 778. Two feet is the minimum, therefore allowing a deeper cut while still maintaining compliance which will be required for future bond release.

ii. Regrading and reshaping:

a. Should include discussion of soil types and identify any special treatments required for reclamation.

URZ Response:

Volume IV, Appendix D-7 contains the soil inventory, laboratory analysis, and soil suitability evaluations for soils in the project area. During decommissioning, if any soil cleanup is required within 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. Further description can be found in Section 2.3 *Soil Decommissioning*, of the Reclamation Plan in Volume V.

b. All reclamation must meet the criteria of the Wyoming State Reclamation Policy (IM WY2009-022).

URZ Response:

Uranerz appreciates this guidance and the Reclamation Plan provided in Volume V was prepared in accordance with WDEQ and NRC rules and regulations, which closely mirrors the Wyoming State Reclamation Policy.

c. All improvements on BLM surface will be removed and reclaimed for abandonment.

URZ Response:

As described in Volume V, Reclamation Plan, Sections 2.0 *Site Decontamination and Decommissioning* and 3.0 *Surface Reclamation and Decommissioning*, subsequent to final restoration, final decommissioning will commence. Decommissioning will entail the dismantling of process facilities, and disturbances associated with wellfields and final reclamation to include contouring, topsoil replacement and seeding of those areas.

iii. Mine reclamation:

a. Please indicate the approved NRC licensed disposal facility and where it is located to which radioactive waste, including contaminated equipment and buildings, will be disposed.

URZ Response:

Uranerz is in the process of negotiating a contract for a licensed disposal facility and will notify the BLM upon finalization.

b. Topsoil handling needs to be described.

URZ Response:

Topsoil handling is described in Volume V, Mine Plan Section 3.12 *Construction Considerations and Topsoil Handling*, and Addendum MP-A *Landowner Road Construction Design Letter*, as well as the Reclamation Plan Section 3.3 *Topsoil Handling and Replacement*.

c. Surface reclamation on BLM surface lands should include decompaction of soils. This has been addressed for roads and wellfields, but not buildings and other facilities.

URZ Response:

Section 3.1 *Process Facilities Reclamation* of the Reclamation Plan in Volume V accounts for decompaction of soils for buildings and facilities by describing how building sites will be contoured to blend in with the natural terrain after all buildings have been removed.

d. How water (pits, runoff, accidental releases of ground and/or surface water, etc.) will be managed during wellfield restoration and plant decommissioning needs to be addressed.

URZ Response:

Water will be managed during restoration in the same manner as during production operations.

e. Post-closure management needs to be addressed, including types of monitoring that will occur (such as on-the-ground, or analyzing monitor well water) and length of time for each, how to mitigate or reclaim if any untoward event occurs, and how and when (and if) monitor wells will be removed. Also, please describe WDEQ requirements for groundwater has been restoration.

URZ Response:

In the WDEQ-LQD approved Permit to Mine 778, Volume V, Reclamation Plan, Section 1.1 *Water Quality* it describes that the goal of restoration is to achieve pre-mining baseline water quality; however if that is deemed unachievable using best practical technology then a secondary goal of returning the groundwater to the WDEQ-WQD class of use designation will be utilized. Further, Section 1.2 *Restoration Criteria* states that the success of restoration will be determined after the completion of stability monitoring period. Sections 1.4 *Restoration Monitoring,* 1.5 *Restoration Stability Monitoring Stage* and 1.6 *Well Abandonment* address post-closure management pertaining to ground water monitoring requirements, and well abandonment. As discussed in Section 1.5, once the stability monitoring stage is completed, Uranerz Energy Corporation request the WDEQ and NRC approve restoration.

iv. Riparian mitigation:

a. No specific mention of riparian mitigation is evident within the reclamation plan. Please identify in the reclamation plan if no riparian areas are present.

URZ Response:

There are no riparian areas within the Hank Unit project area to describe.

b. If riparian areas exist, the reclamation plan must describe how the operator proposes to: 1) avoid impacts to riparian areas, and, 2) if impacts cannot be avoided, plans to reclaim or restore the riparian area. Mitigation plans must address the replacement of soil and reestablishment of riparian conditions and vegetation.

URZ Response:

See Uranerz response to BLM comment (iv)(a) above.

v. Wildlife habitat rehabilitation:
No specific mention of wildlife habitat rehabilitation is evident within the reclamation plan. The reclamation plan needs to place special emphasis on wildlife habitat rehabilitation measures to rehabilitate or restore critical value, pre-mine wildlife habitat, such as winter range or calving areas.

URZ Response:

The reclamation plan was designed with the goal of returning the subsurface and surface of the Hank Unit Project area to conditions compatible with the pre-mining uses (page RP-1 of the Restoration Plan in Volume V). All lands disturbed by the Nichols Ranch ISR Project will also be restored to their pre-mining use of livestock grazing and wildlife habitat. It should be noted that are no winter range or elk calving (i.e., parturition) areas within the Hank Unit.

vi. Topsoil handling:
Topsoil will be re-spread versus stockpiled on BLM surface.

URZ Response:

Topsoil handling is described in Volume V Mine Plan, Section 3.12 and Reclamation Plan, Section 3.3. The plans describe how and when topsoil will be removed, salvaged, stockpiled, protected and re-applied. Different activities will require different periods of stockpiling. For example, features such as buildings or roads constructed for the life of the operations will have the topsoil removed and securely stockpiled. The long-term stockpile is then maintained until final reclamation when it will be reapplied. Likewise, topsoil removed for short-term features such as installing a wellfield or pipeline will be reapplied following installation completion.

vii. Revegetation:
a. Seed mix quoted in the reclamation plan is not acceptable for BLM surface, non-native species are usually not authorized, forbs and shrubs should be included. An acceptable seed mix can be supplied by BLM.

URZ Response:

Uranerz will use the reclamation seed mix presented in Table 3-1, of the Reclamation Plan in Volume V, for reseeding privately-owned lands within the Hank Unit. Uranerz submitted a seed mix, listed below, in correspondence dated October 11, 2006 pertaining to a Notice of Intent for Drilling. The BLM subsequently approved the seed mix in letter to Uranerz dated December 14, 2006. Uranerz will use this seed mix during reclamation on BLM surface area.

Species	Percent of Mix	Pounds PLS/acre
Western Wheatgrass	37	5.5
Thickspike Wheatgrass	20	3
Green Needlegrass	10	1.5
Slender Wheatgrass	20	3
Needle and Thread	10	1.5
Purple Prairie Clover	3	0.5
Total	100	15

b. Operator needs to address weed control. On BLM surface, an approved Pesticide Use Plan will be necessary for any chemical treatments.

URZ Response:

Weed control will be mitigated by keeping vehicles that come into the Nichols Ranch Project washed. If necessary, spraying of weeds may be used to aid in reducing the spread of noxious weed species. Uranerz acknowledges the requirement to obtain a Pesticide Use Plan prior to chemical applications on BLM surface.

viii. Isolation and control of toxic materials:

a. Reclamation plan must include plans for isolation and/or control of any acid-forming, toxic, or deleterious materials. This should include source control to prevent contaminant generation, migration control to prevent movement of contaminants, and capture and treatment of contaminants.

URZ Response:

Treatment and handling of liquid and solid effluents are discussed in the Mine Plan Section 3.13.2 *Liquids and Solids* of Volume V. This section describes disposal methods for the major liquid effluents and solid wastes at the Uranerz sites. Additionally, Section 3.13.4 *System Failures* provides for incidents such as wellfield releases, pipeline breaks, or tank failures. Restoration activities, such as groundwater restoration, related to these effluent streams are discussed in Section 1.0 of the Reclamation Plan in Volume V.

Additionally, storage of contaminated equipment, including wastes, will be in the fenced-plant boundary for the Nichols Ranch Unit and the Hank Unit. The amount of 11e(2) byproduct material stored at the Nichols Ranch Unit and Hank Unit will be kept to a minimum. The byproduct material from the plants will be placed into 55-gallon

drums with drum liners. The drums will be located in designated signed areas inside the plants. After a drum is full it will be moved to the plant's 11e(2) byproduct storage area, and the contents placed in a strong tight roll-off container. If material such a pipe is too large to fit in the drum, the large material will be placed in the specific plant's byproduct storage area. The storage areas will have concrete pads and appropriate signage. The strong tight containers will follow DOT regulations, and typically be covered roll-off containers with an estimated capacity of 20 cubic yards. After a roll-off container is filled, it will be transported to an approved 11e(2) byproduct storage facility.

b. Reclamation plan must be integrated with rock characterization and handling plans used during mine operations.

URZ Response:

ISR operations do not employ large earth moving activities as demonstrated in conventional open-pit or underground mining. ISR operations utilizes a series of wells to recover uranium underground and therefore no formations are exposed. The only material handled is topsoil and occasionally subsoil which is removed and replaced during production development such as well installation, minimal facility construction, access roads and utilities. Section 3.3 of the Reclamation Plan describes how topsoil is handled during ISR operations.

c. Please describe if any waste or materials generated during mineral extraction and processing is Resource Conservation and Recovery Act (RCRA) exempt or not. Reclamation plan must include plans for isolation and control of non-exempt materials.

URZ Response:

Uranerz is considered to be a Conditionally Exempt Small Quantity Generator under RCRA. Waste items such as light bulbs, batteries and waste oil is transported off-site using a locally contracted company.

ix. Removal or stabilization of buildings:

a. Please describe if any buildings, other facilities, roads, equipment, power lines, etc., built or erected during mine operations are planned to remain post-closure, and for how long and their planed uses.

URZ Response:

The above mentioned structures/features will be removed and disposed of as described in the Reclamation Plan in Volume V. There may be occasions where the landowner requests that various features such as roads, buildings or fences remain after final decommissioning.

b. Please describe if any third-party operated infrastructure built, upgraded, or expanded for mine operations will remain in its' improved state, and for how long and for what uses.

URZ Response:

Volume V, Reclamation Plan Sections 2.0 and 3.0 describe how facilities and structures will be dismantled and decommissioned.

x. Post-closure management:

a. Please describe any infrastructure or facilities that will remain after reclamation has been completed, and how and how long they will be maintained. This includes fencing, signs, water treatment systems, etc.

URZ Response:

Please see Uranerz response to BLM comment (ix)(a) above.

b. Post-closure activities need to be fully described, and the operator must be committed to performing the required work over the necessary time period.

URZ Response:

Post-closure activities are described in the Reclamation Plan of Volume V. The activities have been approved with WDEQ-LQD Permit 778 and NRC license SUA-1597. These agencies grant final approval of completed reclamation and decommissioning for which BLM will be a part in accordance with the Memorandum of Understanding (MOU).

4) Monitoring Plan:

i. Include a table which identifies the locations and depths of all stock and domestic water wells within a 1 mile radius of the project area.

URZ Response:

Livestock and domestic well locations were cited based on requirements for the NRC which prescribes those well types located within 1 kilometer (0.6 mile) of the production be monitored. Volume III, Appendix D-6 Section D6.3 *Water Rights* of the WDEQ-LQD permit describes the livestock and domestic wells within ½ mile of the project sites that will be monitored which are included on in Addendum 6G, Tables D6G.1-1 and Table D6G.1-2.

ii. Include a description of routine monitoring for the stock and domestic water wells within a 1 mile radius of the project area.

URZ Response:

Uranerz is required to sample stock and domestic wells pursuant to License Condition 11.7 of NRC License SUA-1597. The condition states that, "After the commencement of uranium recovery operations, the licensee will sample all domestic and livestock wells that are located within 1 kilometer of the production area monitoring ring wells (MR-wells) of the Nichols Ranch and Hank Units. Samples shall be collected annually and submitted as part of annual reporting to the NRC until ground water restoration is approved at the production area".

5) Interim Management Plan:

Many interim management plan items are included in the Mine POO, while others are not, particularly those related to temporary closures. It may be beneficial to put these into a single section entitled "Interim Management Plan," as recommended by 43 CFR 3809.401. An Interim Management Plan outlines procedures that will be followed during times of temporary non-operation, both planned and unplanned. An interim management plan should include the following:

i. Measures to stabilize excavations, workings, and well integrity.
ii. Measures to isolate or control toxic or deleterious materials.
iii. Provisions for the storage or removal of equipment, supplies, and structures.
iv. Measures to maintain the project area in a safe and clean condition.
v. Plans for monitoring site conditions.
vi. Notification of BLM during periods of non-operation.

URZ Response:

The approved NRC license SUA-1597 License Condition 10.6 states, "Permanent cessation of lixiviant injection in a production area would signify the licensee's intent to shift from the principal activity of uranium production to the initiation of ground water restoration and decommissioning for any particular production area. If the licensee determines that these activities are expected to exceed 24 months for any particular production area, then the licensee shall submit an alternate schedule request that meets the requirements of 10 CFR 40.42". Should circumstances require an alternate schedule the BLM will be notified also.

In addition to the components identified above which are necessary for a complete Mine POO, additional operational and baseline environmental information would facilitate BLM's National Environmental Policy Act (NEPA) analysis. Please note that in addition to the information listed below, there may be other information needed as the NEPA analysis process is completed.

Wildlife:

1) Statements in Section 3.15.2.10 (TEPCSSS) that there are no eagle nests or communal roosts occurring within the Nichols Ranch ISR Project wildlife survey area are incorrect. There is a communal roost site and multiple golden eagle nests near the Hank Unit. The BLM identified these resources to NRC for their SEIS. The presence of the roost site and nests may affect project design; for example, the BLM denied a CBNG well proposed in the NENE, Section 12, T43N, R76W, because of the well's proximity to the roost site.

URZ Response:

To minimize potential impacts to bald eagle nests and communal roost occurring at the Hank Unit, Uranerz will implement the following mitigation measures.

A. A seasonal minimum disturbance-free buffer zone of 1 mile will be established for all bald eagle winter roost sites (November 1 – April 1). Identified bald eagle winter roosts are show on the attached Figure 1. These buffer zones and timing may be adjusted based on site-specific information through coordination with, and written approval from, the USFWS.

B. Within 0.5 mile of bald eagle winter roost sites additional measures such as remote monitoring and restricting maintenance visitation to between 9:00am and 3:00pm are

necessary to prevent disturbance (November 1 – April 1). Identified bald eagle winter roosts are shown on the attached Figure 1.

2) The eagle example underscores the need for a re-evaluation of wildlife resources and potential impacts. Most information presented was from surveys conducted in 2007 or earlier.

URZ Response:

Uranerz has obtained the most current information concerning communal bald eagle roost sites and golden eagle nests and will incorporate appropriate information into the Plan of Operations for the Hank Unit.

3) Mitigation measures identified are qualitative and non-binding. There is no assurance that mitigation will take place, or what those actions will achieve. This is of concern for sage-grouse, other sagebrush obligates, raptors, swift fox, and burrowing owls.

URZ Response:

Mitigation measures identified in the POO have been approved by the WDEQ-LQD Permit to Mine 778 and NRC License SUA-1597 which are binding. Specific mitigation measures are addressed in the remaining wildlife comments discussed below and no additional information is necessary to address this comment.

4) The Mine POO states that only 60-80 acres will be disturbed at a time. The identified amount of wildlife habitat acreage lost is only the direct physical loss. A more accurate description would be to assess the effective habitat that will be removed, in other words the area wildlife is likely to avoid due to project infrastructure and activities.

URZ Response:

Indirect impacts will be addressed in the pending EA and no additional information will be incorporated into the Plan of Operations in response to this comment.

5) Section 3.15.2.7 (Raptors) states "Potential conflicts between active nest sites and project-related activities will be mitigated by annual raptor monitoring and mitigation plans such as avoiding areas, when possible, where raptor nest sites are located, and limiting the construction of overhead power…" Please clarify what are the "mitigation plans" and when they would be possible. What distance from an active nest is considered avoiding the area?

URZ Response:

To minimize potential impacts to nesting raptors, Uranerz will implement the following mitigation measures.

i. No surface disturbing activity will occur within 0.5 mile of any identified raptor nests from February 1 through July 31, annually, prior to a raptor nest occupancy survey for the current breeding season. Identified raptor nest locations within and near the Hank Unit project area are shown on the attached Figure 2.

ii. Surveys to document raptor nest occupancy will be conducted by a biologist following BLM protocol, between April 15 and June 30. All survey results will be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities. Surveys outside this window may not depict nesting activity. If a survey identifies active raptor nests, a 0.5 mile timing buffer will be implemented. The timing buffer restricts surface disturbing activities within 0.5 mile of occupied raptor nests from February 1 to July 31.

6) Section 3.15.2.2 (Upland game birds) states that "To minimize impacts … project activities and vehicular traffic would be minimized in areas within 0.25 mi of an active lek … and project activities (i.e., drilling and construction) would be reduced in areas adjacent to and active lek…" Please clarify "would be minimized" and "would be reduced".

URZ Response:

To minimize potential impacts to upland game birds in the Hank Unit, specifically greater sage-grouse, Uranerz will implement the following mitigation measures.

A. Surface disturbing activities or surface occupancy is prohibited or restricted on or within one quarter (0.25) mile radius of the perimeter of occupied or undetermined greater sage-grouse leks (see Figure 3 attached).

B. Disruptive activity is restricted on or within one quarter (0.25) mile radius of the perimeter of occupied or undetermined greater sage-grouse leks from 6 pm to 8 am from March 15-May 15.

C. A sage-grouse lek survey will be conducted annually for all known leks within 2 miles of the Hank Unit project boundary by a biologist following the most current WGFD protocols. All survey results will be submitted in writing to a Buffalo BLM biologist and approved prior to surface disturbing activities on BLM managed lands within the Hank Unit.

7) The proposal commits to not construct overhead power lines, permanent high-profiled structures such as storage tanks, and other perch sites within 0.25 mi of active sage-grouse leks (MP-76). The BFO RMP requires 0.50 mile avoidance. Please indicate where new over-head power lines will be constructed to support the proposed action.

URZ Response:

Presented below is a more detailed description of the construction /installation for pipelines, power lines, and fiber optic lines.

During the wellfield development phase of the project, pipeline, power line, and fiber optic communications lines will be installed within the designated wellfield. The pipeline, utility, and communication corridor would be a maximum of 20-foot wide and will generally run adjacent to the header house access road. However, use of the full utility corridor would be rare and limited to the construction phase of the project.

Trunk lines to and from the wellfield will be up to 14 inches in diameter HDPE and feeder lines to and from each well head will be 1 to 2-inch HDPE or PVC pipe. Pipelines will be buried a

minimum of 2 ft using a conventional open trench method and will be backfilled after system testing has been completed. All electrical utilities and fiber optics to each individual injection and recovery well, the header house, and satellite processing facility will also be buried with the wellfield piping. To minimize disturbance, buried electrical and fiber optic lines will installed using a cable plow method. Interim reclamation will be completed on the pipeline, power line, and fiber optic lines were the lines have buried.

To minimize potential environmental impacts, Uranerz will implement the following mitigation measures:

A. Where practical, Uranerz will not construct any overhead power lines, permanent high-profile structures such as storage tanks, or other perch sites within 0.5 mile of any active greater sage-grouse lek near the Hank Unit project area.
B. Where practical, all power lines and fiber optic lines within 2.0 mi of the base of the Pumpkin Buttes TCP would be buried in accordance with the Memorandum of Agreement for this project to minimize potential visual impacts to prehistoric sites that are eligible for the National Register of Historic Places (NRHP).

8) The Mine POO (MP-77) states "Prairie dog towns would not be avoided during mining activities; however, steps will be taken to minimize disturbance in their habitat." Please identify these steps.

URZ Response:

To clarify, Uranerz will not conduct any ground-disturbing activities within the prairie dog towns at the Hank Unit as illustrated on Exhibit D9-3 in Appendix D9 contained in Volume IV.

9) In Section 3.15.2.8 (Migratory Birds), please address the potential for nest loss during construction, or mitigation measures (i.e., not constructing in the breeding season) that will be used to avoid destroying nests. Some of those species that could lose nests, such as Brewer's sparrow and sage thrasher, are BLM-sensitive species.

URZ Response:

To minimize potential impacts to nesting migratory birds, Uranerz will minimize the amount of disturbance associated with the Hank Unit project.

10) In section 3.15.2.10 (TEPCSSS), please address Ute-ladies' tresses potential in the project area and anticipated impacts.

URZ Response:

As part of the NRC and WDEQ/LQD permitting process for this project, a survey for Ute-ladies tresses was completed by a qualified biologist and no Ute-ladies' tresses were found in the Hank Unit project area (refer to Appendix D8, Volume IV).

11) Several wildlife inventories have occurred within the project area in support of the CBNG development. Contact BLM wildlife biologist Bill Ostheimer for additional information regarding these inventories (telephone 307-684-1117 or email bostheimer@blm.gov).

URZ Response:

Uranerz has been in contact with Mr. Ostheimer and have obtained copies of recent wildlife surveys and this information has been incorporated in the Plan of Operations where appropriate.

Cultural:

1) Although the Mine POO is technically complete with regards to cultural resources, a visual contrast rating has not been performed which would facilitate the NEPA analysis and designing sufficient mitigation.

URZ Response:

A visual contrast rating will be performed for the traditional cultural properties (48CA268, 48CA6148, 48CA6748, 48CA6751, and 48CA6753) identified in the boundary of the Hank Unit. The visual contrast rating will be prepared for use in the EA but it will not be incorporated in the Plan of Operations.

2) More details on proposed mitigation and the Traditional Cultural Properties (TCPs) would also be beneficial for the NEPA analysis.

URZ Response:

As part of the Section 106 process for the NRC licensing processes, the NRC conducted Native American consultation with nine Native American tribes including the Cheyenne River Sioux Tribe, Crow Tribe, Eastern Shoshone Tribe, Fort Peck Assiniboine/Sioux Tribe, Northern Arapaho Tribe, Northern Cheyenne Tribe, Three Affiliated Tribes (the Mandan, Hidatsa, and Arikara Nation), Blackfeet Tribe, and Oglala Sioux Tribe. The Three Affiliated Tribes (the Mandan, Hidatsa, and Arikara Nation) and the Blackfeet Tribe chose not to participate. As a result of this consultation process a Memorandum of Agreement (MOA) was developed with input from the NRC, the Tribes, Uranerz, the Wyoming State Historic Preservation Officer (WY SHPO), the BLM and the Advisory Council on Historic Preservation. The MOA included specific mitigation measures to minimize potential adverse impacts to sensitive cultural resources located within the Hank Unit, including the Pumpkin Buttes Traditional Cultural Property (48CA268) and other sites (48CA6148, 48CA6748, 48CA6751, and 48CA6753). The BLM and the Tribes all participated in the consultation process and were provided an opportunity to substantively contribute to development of the MOA but neither the BLM nor any of the Tribes elected to sign the MOA. The MOA was signed by the NRC, the Wyoming State Historic Preservation Officer (WY SHPO), the Advisory Council on Historic Preservation, and Uranerz in July 2011.

In accordance with provisions of the MOA and as a NRC license condition, Uranerz will comply with the following cultural resources and Native American mitigation measures:

1. Uranerz would not conduct any ground-disturbing work in areas that have not been previously inventoried and cleared for cultural resources.

2. To protect a previously identified traditional cultural property, Uranerz would also not conduct any ground-disturbing activities above the 5,500 foot elevation around the North Middle Butte of

3. Uranerz would provide for one qualified tribal monitor representing all Tribes to be present during construction activities at the Hank Unit. Construction activities include: ground clearing and excavation activities for the Hank Unit SPF, initial trunkline installation, and header house placement. Notification of the commencement of construction activities at the Hank Unit would be communicated to the Tribes at least one month prior to the start of construction.

4. The Tribes would decide how they would like to select the representative of all Tribes who would serve as the Tribal Monitor. The position can be rotated through each of the Tribes, but would not be shorter than a two week period for each Tribal Monitor.

5. The Tribal Monitor would be compensated at the prevailing rate of a comparable job for the State of Wyoming during periods of active construction only. In the event of a suspension of construction activities, Uranerz would be relieved of its obligations to compensate the Tribal Monitor until construction resumes.

6. The qualified Tribal Monitor would be considered a Contractor to Uranerz and must comply with the Uranerz Contractor/Guest Environmental, Safety and Health Guidelines and Site Requirements, OSHA, NRC, and any other State regulations. The Tribal Monitor must also agree to any NRC/State requirements imposed via license or permit. The Tribal Monitor would be expected to comply with the reasonable requests and instructions of Uranerz' Construction Manager. The Tribal Monitor would be permitted to observe construction, assist in cases of unanticipated discoveries, and to ask questions relating to construction activities and receive responses thereto, but he or she shall not participate in the construction activities and shall not impede or hinder construction activities in any way. In the event of any non-compliance by the Tribal Monitor with this paragraph the Tribal Monitor would be required to leave the construction site and Uranerz would be relieved of any further obligation to permit or compensate the attendance of that particular Tribal Monitor thereafter.

7. Uranerz would protect all identified historic properties within the proposed permit area from ground-disturbing activities. To protect those eligible sites located within or near the projected wellfield (specifically, sites 48CA6148, 48CA6748, 48CA6751, 48CA6753, 48CA6754, and 48CA6927), the applicant would delineate and fence these sites in consultation with the Tribal Monitor and a professional meeting the Secretary of Interior's Standards for Archaeology and History, thereby providing an appropriate buffer to ensure the ground disturbing activities do not adversely affect the historic properties.

8. If Uranerz determines that it must conduct ground-disturbing activities within the boundaries of a historic property listed above, Uranerz would notify NRC, WY SHPO, WDEQ/LQD. Uranerz would provide NRC information on the ground-disturbing activity, the adverse effect to the historic property, and a proposed mitigation/treatment plan. The NRC would consult with parties to the MOA before making a determination of the proposed ground-disturbing activities adverse effect and submit it to the WY SHPO for concurrence. If an adverse effect is found, NRC would consult with the signatory parties to the MOA and review the proposed mitigation/treatment plan. Once an appropriate mitigation/treatment plan has been agreed upon, the mitigation/treatment plan would be implemented.

9. Uranerz would instruct all employees, contractors, subcontractors, and any additional parties involved in the project not to search for, retrieve, deface, or impact archaeological materials (e.g., arrowhead hunting), and that it is a violation of the federal Archaeological Resources Protection Act (16 U.S.C 470aa-mm) to do so on federal.

10. If previously unknown cultural resources are discovered at the site, Uranerz would immediately stop the ground-disturbing activities in the area of the discovery and would immediately notify the NRC and the WY SHPO. Uranerz would have any discovered cultural materials evaluated for NRHP eligibility by a professional meeting the Secretary of Interior's Standard for Archaeology and History. Documentation of the discovery and evaluation would be promptly provided to the NRC. The NRC would then consult with the WY SHPO on the determination of eligibility and adverse effect. If NRC determines that the there is an adverse effect to a historic property, NRC would follow the procedure to resolve the adverse effect as described above. Work may continue in other areas of the site; however, work in the area of discovery may not resume until such time as any additional actions are completed or deemed unnecessary.

11. Depending on the location of the discovery, cultural resource(s) would remain under the ownership of the private landowner or the U.S. Government. Applicable federal, state or local laws would apply to the discovered cultural resources.

12. If human remains are encountered on private land, work would immediately stop in the vicinity of the discovery, the area would be secured, and Uranerz would immediately contact local law enforcement and the county coroner per W.S. 7-4-104. If the remains are not associated with a crime, then Uranerz would contact the NRC, WY SHPO, and the landowner to further consult on the treatment of the remains. Uranerz would assure compliance with applicable federal, state and local regulations relating to burial discoveries through inadvertent, construction-related disturbance of graves.

13. If Native American human remains and associated funerary objects as defined in the Native American Graves Protection and Repatriation Act (NAGPRA) (25 U.S.C. 3001), are encountered on federally administrated land, Uranerz would immediately stop all work in the area and notify NRC, BLM, and WY SHPO. BLM will be responsible for compliance with the provisions of NAGPRA on Federal land.

14. Surface Reclamation. All disturbed lands associated with the project, including access roads, pipelines, well locations, power lines, management facilities, etc. would be expediently reclaimed and reseeded in accordance with the project-specific reclamation plan provided in the NRC license application. The visual contrast of reclaimed lands would be minimized.

15. Access Roads. Wherever possible, existing roads would be utilized. In order to minimize visual contrast, roads would be placed outside areas containing dense patches of sagebrush and follow natural contours wherever practicable. The gravel surface of new roads would be a color that does not create a visual contrast to the surrounding topography.

16. Pipelines. All pipelines would be corridored next to or within roads, wherever possible. Pipeline corridors would use existing disturbance areas and would be placed outside areas containing dense patches of sagebrush where practicable.

17. Well Locations. Wherever practicable, areas of existing disturbance would be used. To minimize visual contrast, well locations would not be placed in areas of dense sagebrush or other vegetation unless absolutely necessary. Brush hogging or other vegetation removal on drilling locations within areas of dense sagebrush or other vegetation would be feathered to reduce visual contrast and limited to 30 feet in diameter from each well. All above ground infrastructure related to well production would be painted in a color that best blends in with the surrounding topography. These colors are typically Covert Green (PANTONE for Architecture Color Guide 18-0617 TPX) or Carlsbad Canyon (Munsell Soil Color 2.5Y 6/2). It may be determined that different colors are required on a site specific determination based on visual assessment. The gravel surfaces surrounding the well locations, if any, would be a color that does not create a visual contrast to the surrounding topography.

18. Power Lines. Wherever practical, power lines servicing wells would be buried and buried power lines would be placed inside or within five feet of the trench utilized for pipelines when possible. Construction of over head power lines within two miles from the base elevation of the Pumpkin Buttes would be designed to reduce visual contrast. Any power line should use areas of existing disturbance whenever possible.

19. Other Facilities. All permanent above-ground structures (e.g., production equipment, tanks, etc.) not subject to safety requirements would be painted to blend with the natural color of the landscape. The color would simulate the standard environmental colors established by the BLM for visual resource management. These colors are typically Covert Green (PANTONE for Architecture Color Guide 18-0617 TPX) or Carlsbad Canyon (Munsell Soil Color 2.5Y 6/2). It may be determined that different colors are required on a site specific determination based on visual assessment. The gravel surfaces surrounding all permanent above-ground structures would be a color that does not create a visual contrast to the surrounding topography.

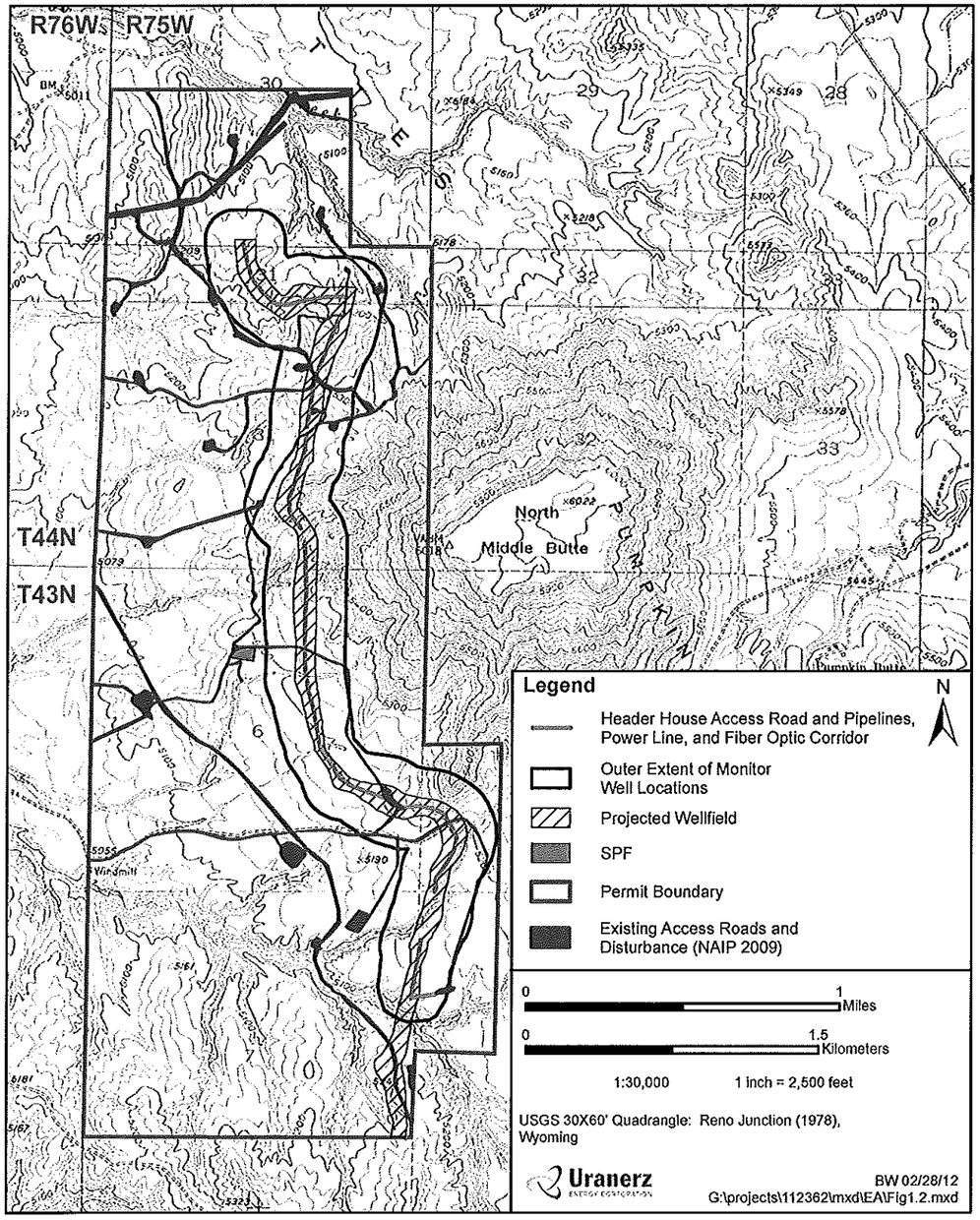

Figure 2 General Location of Header House Access Road and Adjacent Pipeline, Utility, and Communication Corridor

Projected Production, Restoration, and Reclamation Schedule

Nichols Ranch & Hank

Nichols Ranch PA #1	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Production		2.5 years									
Groundwater Restoration					3.0 years						
Wellfield & Site Reclamation							1.0 year				
Nichols Ranch PA #2											
Production				1.25 years							
Groundwater Restoration							1.0 year				
Wellfield & Site Reclamation								2.0 years			
Hank PA #1											
Production			2.5 years								
Groundwater Restoration						5.0 years					
Wellfield & Site Reclamation									1.0 year		
Hank PA #2											
Production					2.0 years						
Groundwater Restoration									1.0 year		
Wellfield & Site Reclamation										1.5 years	

Note: Nichols Ranch Unit is divided into two production areas: Nichols Ranch Production Area #1 and Nichols Ranch Production Area #2. Hank Unit is divided into 2 production areas: Hank Production Area #1 and Hank Production Area #2. This is a projected estimate for Production, Restoration and Reclamation. The actual schedule will depend on construction efficiency, actual production results and actual restoration of the groundwater.

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Nichols Ranch ISR Project
Figure 2
Production, Restoration & Reclamation Schedule
For Permit to Mine #778 For Annual Report
December 29, 2010 to December 28, 2011

By: SMF	Date: 12-14-2011
Datum: N/A	Revision Date:
Scale: N/A	Contour Interval:

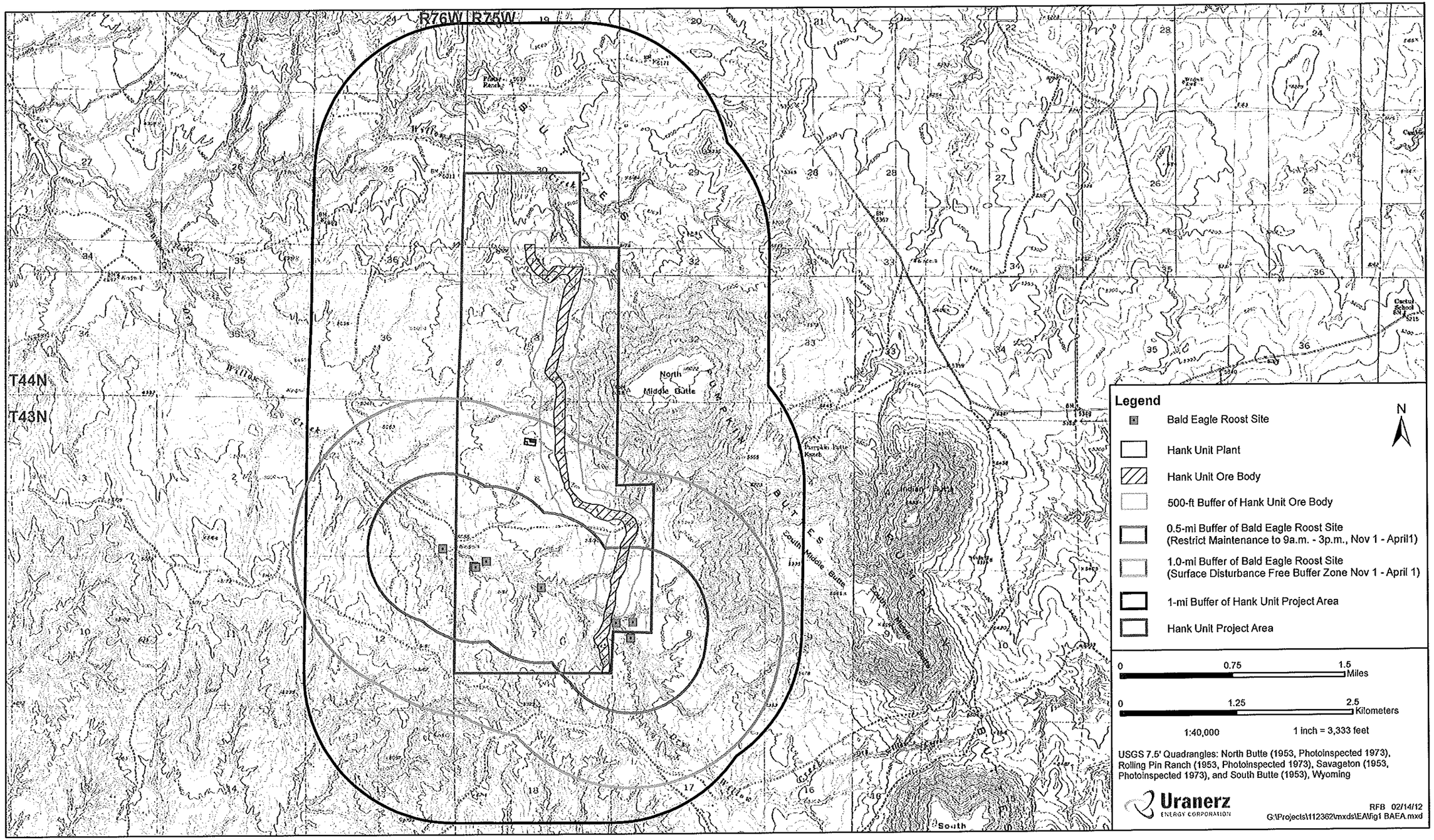


Figure 1 Bald Eagle Roost Sites.

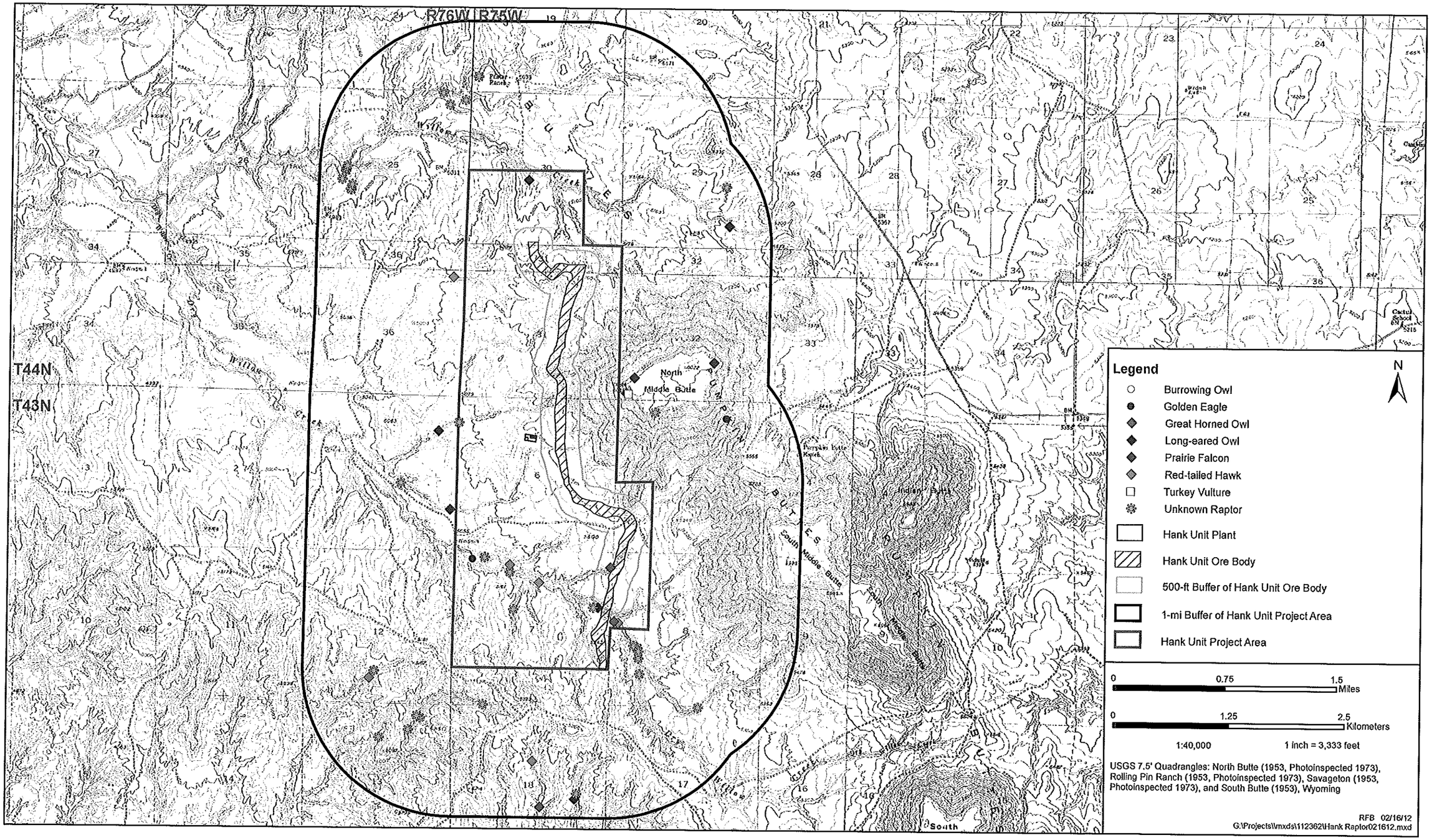


Figure 2 Raptor Nest Locations

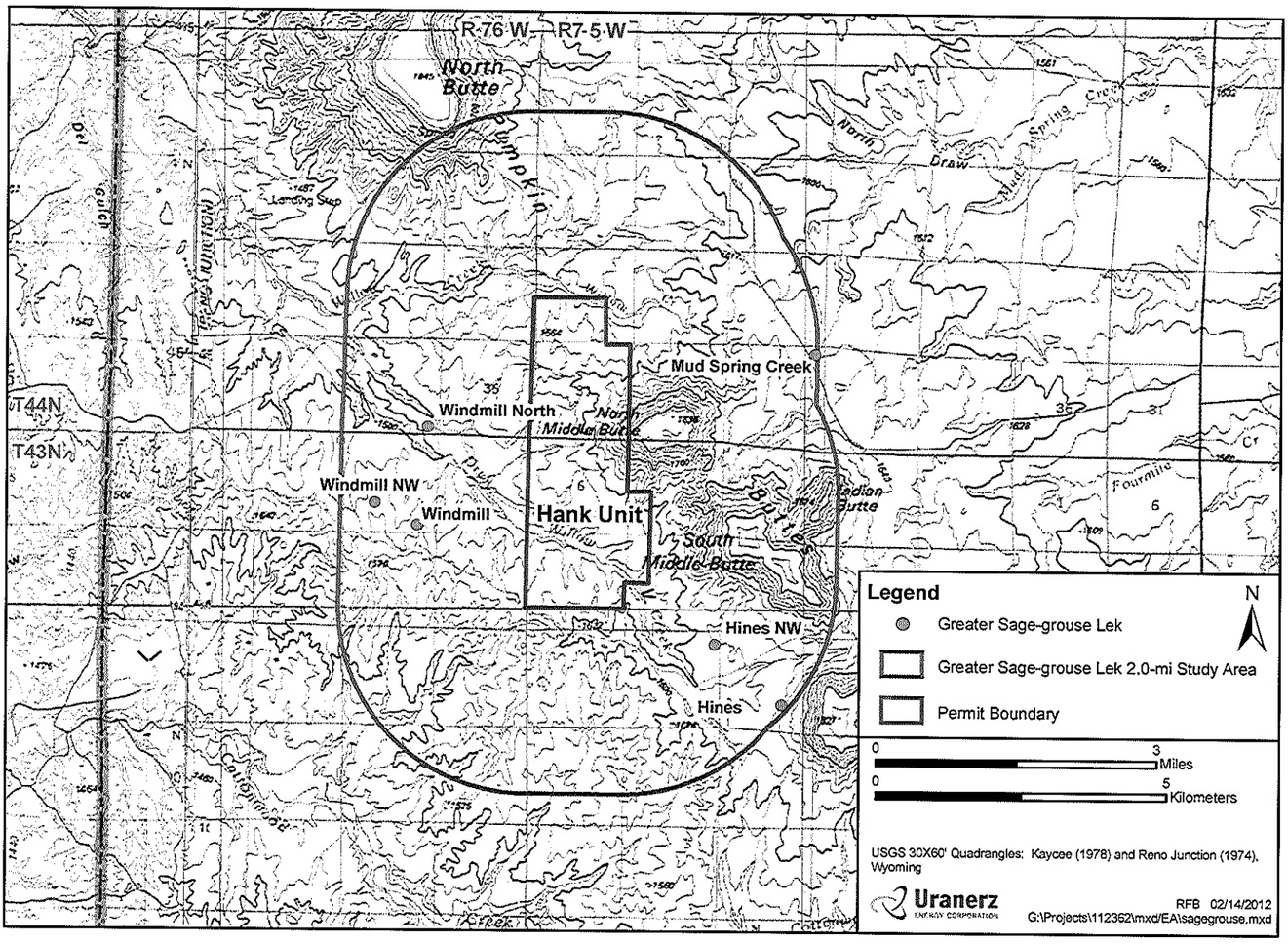


Figure 3 Greater Sage-grouse leks

INDEX SHEET FOR PLAN OF OPERATIONS REVISION INSERTION

Date 3/16/2012

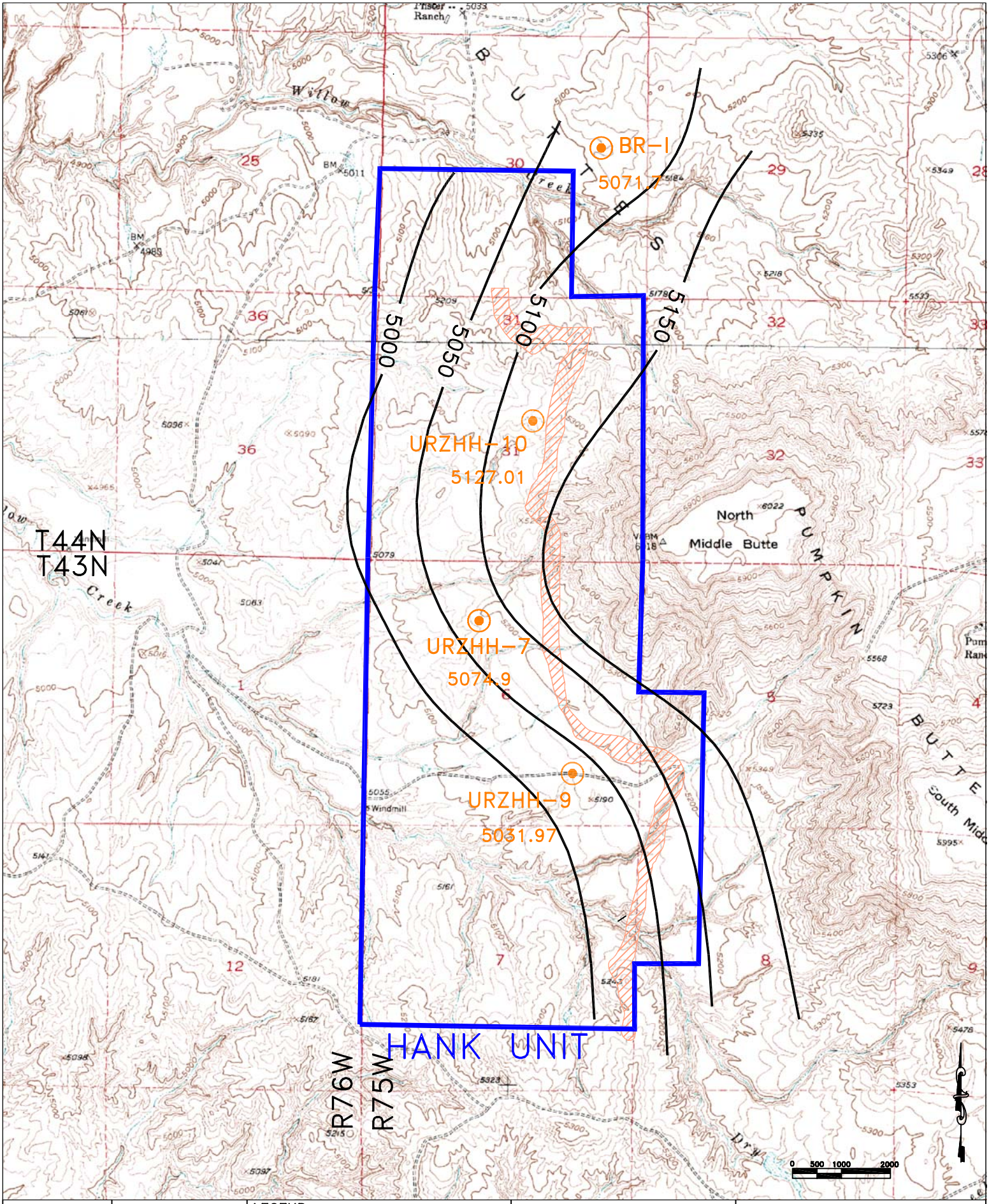
MINE COMPANY NAME: Uranerz Energy Corporation MINE NAME: Nichols Ranch ISR Project PERMIT NO.: 778

Statement: I, Mike Thomas, an authorized representative of Uranerz Energy Corporation declare that only the items listed on this and all consecutively numbered Index Sheets are intended as revisions to the current permit document. In the event that other changes inadvertently occurred due to this revision, those unintentional alterations will not be considered approved. Please initial and date.

MPT 3-19-2012

NOTES:
1) Include all revision or change elements and a brief description of or reason for each revision element.
2) List all revision or change elements in sequence by volume number; number index sheets sequentially as needed.

VOLUME NUMBER	PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED	PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED	DESCRIPTION OF CHANGE
Volume III, Appendix D-6	Figures D6-7b, D6-7c, D6-8	Figures D6-7b, D6-7c, D6-8	The legend on these three figures has been updated to align with the map. Please remove the original three figures and replace with the new ones provided here.
Volume III, Appendix D-6	Exhibit D6-2	Exhibit D6-2	Please remove the original exhibit from Volume V and replace it with this updated exhibit into the plastic sleeve.
Volume II	Exhibit D5-b	Exhibit D5-b	Please remove the original exhibit from Volume II and replace with the new update exhibit into the plastic sleeve.
Volume V	Exhibit E-2	Exhibit E-2	Please remove the original exhibit from Volume V and replace it with this updated exhibit into the plastic sleeve.
Volume V	Pages MP-30 and MP-30A	Pages MP-30 and MP-30A	Please remove and replace these pages. Page MP-30 contains a change revise the description for the use of existing roads during transport to third party entities.



By: RTS	Date: 10/10/07
Contour Interval:	Revision Date: 8/09
DWG:	
C:\PROJECTS\2010-14\SANDS-EDITED	

LEGEND: WELLFIELD

MONITOR WELL H SAND WELL

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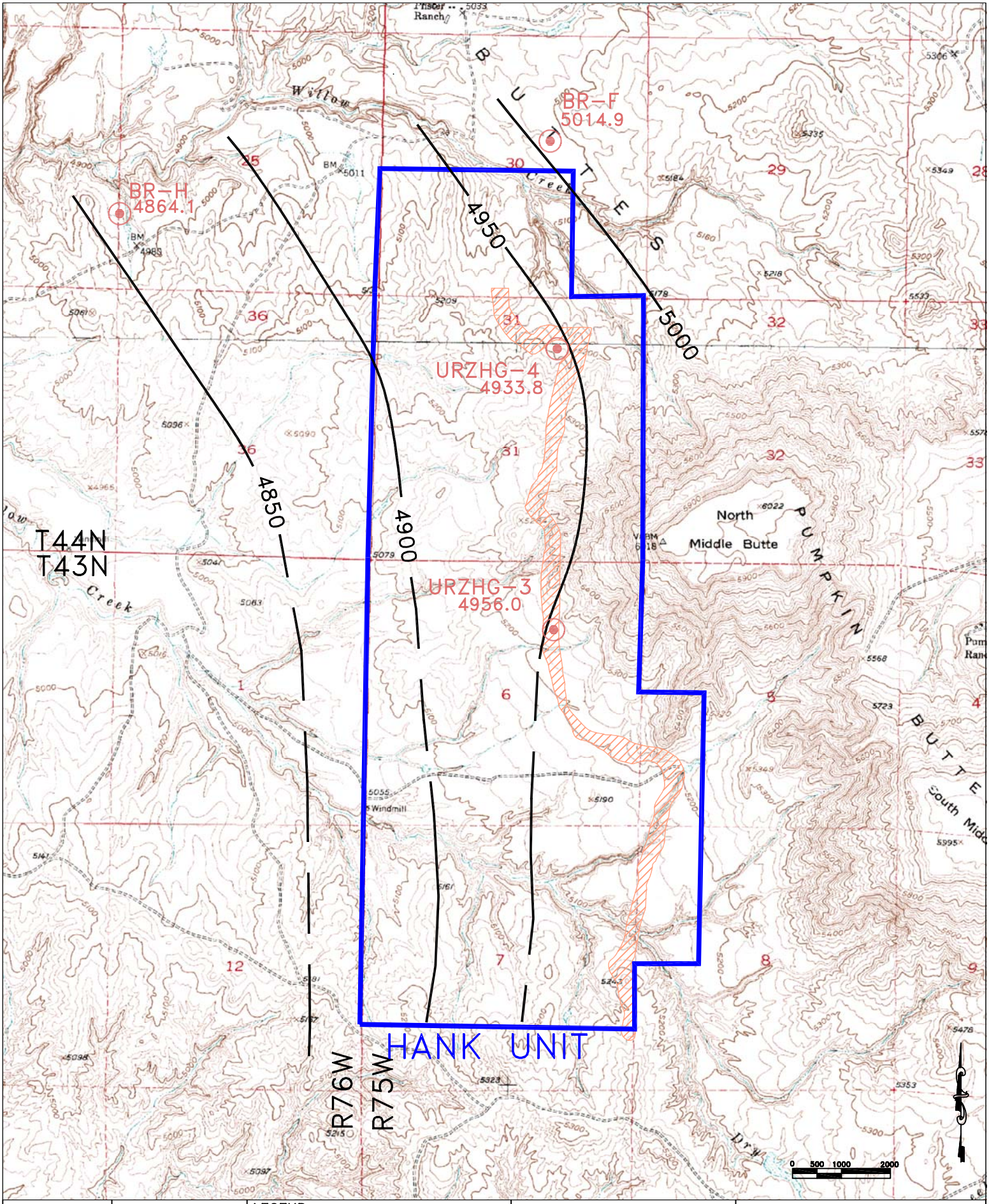
Casper, Wyoming
USA 82605-0850

FIGURE D6-8. WATER-LEVEL ELEVATIONS FOR THE H SAND AQUIFER, 2009, FT-MSL



By: RTS	Date:10/10/07
Contour Interval:	Revision Date: 8/09
DWG: C:\PROJECTS\2010-14\SANDS-EDITED	

LEGEND: WELLFIELD

MONITOR WELL G SAND WELL

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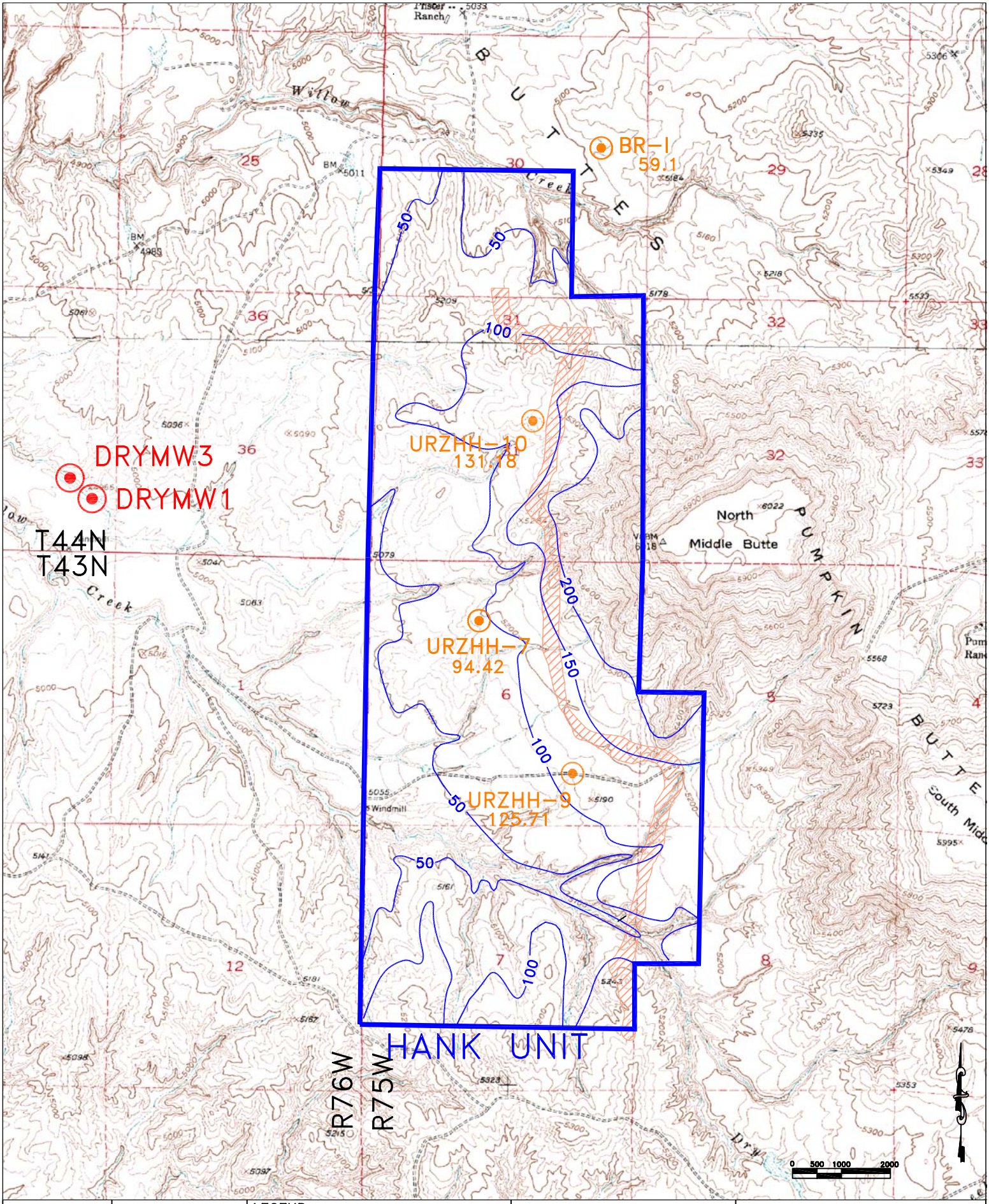
FIGURE D6-7c. WATER-LEVEL ELEVATIONS FOR THE G SAND AQUIFER, 2007, FT-MSL



By: RTS	Date: 10/10/07
Contour Interval:	Revision Date: 8/09
DWG: C:\PROJECTS\2010-14\SANDS-EDITED	

LEGEND:
- WELLFIELD
- 100 H SAND – DTW
- MONITOR WELL H SAND WELL
- ALLUVIAL WELL

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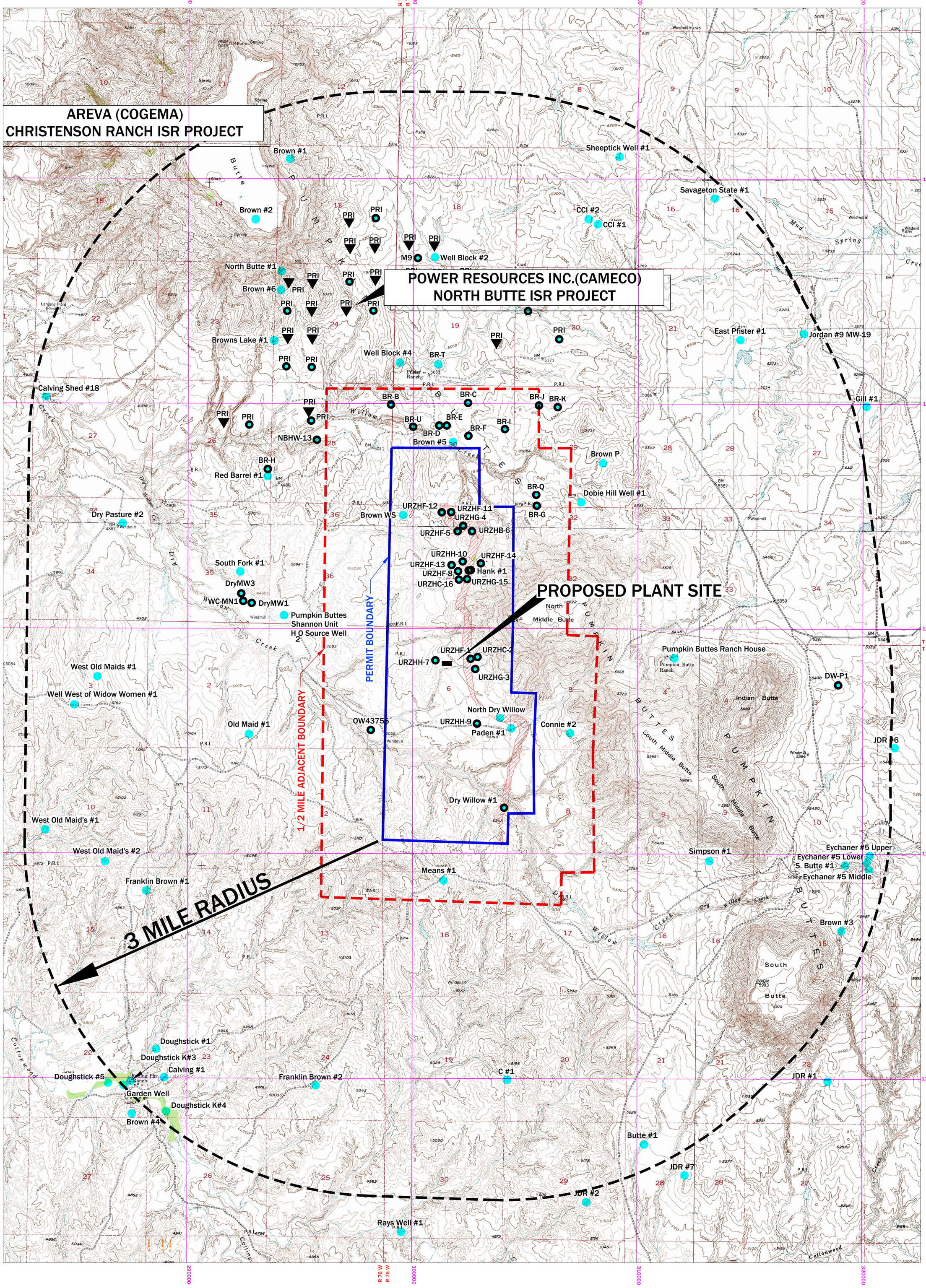
FIGURE D6-7b. DEPTH TO WATER IN THE H SAND AQUIFER AT THE HANK UNIT, 2009,IN FT



LEGEND

- MONITOR OR TEST WELL CLUSTER
- STOCK OR DOMESTIC WELL
- MONITOR OR TEST WELL
- PROJECTED WELL FIELD
- PERMIT BOUNDARY
- 1/2 MILE PERMIT BOUNDARY OFFSET
- 3 MILE RADIUS OF PERMIT BOUNDARY

SCALE: 1"=2000'
1:24,000

0 2000' 4000'

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NICHOLS RANCH ISR PROJECT
EXHIBIT D6-2
HANK UNIT
WATER WELLS
(3 MILE RADIUS)

By: S.M.F.	Date: OCT. 2, 2007
Datum: 4901 UTM 13 WYO E	Revision Date: 8-12-2009
Scale: 1:24,000	Contour Interval: 20 feet

Dwg: EXHIBIT D6-2

45N-78W
45N-77W
45N-76W
45N-75W
45N-74W
44N-78W
44N-77W
44N-76W
44N-75W
44N-74W
HANK UNIT
NICHOLS RANCH UNIT
43N-78W
43N-77W
43N-76W
43N-75W
43N-74W
SYNCLINAL AXIS
JOHNSON COUNTY
CAMPBELL COUNTY
FAULT
FAULT
FAULT
FAULT
FAULT
42N-78W
42N-77W
42N-76W
42N-75W
42N-74W

This data was obtained from the Wyoming State Geological Survey 1998. This report is preliminary and has not been reviewed for conformity with Wyoming State Geological Survey editorial standards.

SUB SURFACE GEOLOGY LEGEND

- QUATERNARY ALLUVIUM FORMATION
- TERTIARY WHITE RIVER FORMATION
- TERTIARY WASATCH FORMATION
- TERTIARY FORT UNION, LEGO SHALE MEMBER
- TERTIARY FORT UNION, TOLLOCK MEMBER
- CRETACEOUS LAND FORMATION
- SYNCLINIAL AXIS
- PERMIT BOUNDARY

SCALE: 1"=4000'

0 2000 4000 6000 8000 10,000 feet

0 1.0 2.0 miles

CAUTION:

This map is a graphical depiction of property locations only and is not to be used for surveying or other similar purposes. The user is cautioned that land line positions have varying degrees of accuracy.

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POWDER RIVER BASIN PROJECTS

EXHIBIT D5-b

SUBSURFACE GEOLOGY MAP

By: S.M.F.	Date: 04-30-2008
Datum: NAD27 UTM13	Revision Date: 3-7-2012
Scale: 1"=4000'	Dwg: EXHIBIT D5-b

Primary access roads will be used for routine access to the main processing facility at the Nichols Ranch Unit; the satellite facility at the Hank Unit and the transfer road between the Nichols Ranch main processing facility and the Hank Unit satellite facility. Existing road will be used when transporting resin to third party facilities for processing. The major portions of the roads are existing roads, and in some cases have recently been improved because of coal bed methane activity in the same areas. Uranerz will need to add less than 1,000 ft from the T-Chair Livestock Ranch road into the Nichols Ranch central processing plant and less than 750 ft of primary access road from the T-Chair Livestock Ranch road into the Hank Unit facility. The proposed road additions are shown on maps listed above. These additions or any upgrades to existing roads will comply with the documented landowner's desires and with applicable portions of Land Quality Rules and Regulations.

Road construction will consist of removing the top layer of good topsoil and temporarily windrowing to each side. Then the barrow ditch is cut with subsoil from the ditch going onto the roadbed to elevate it. The topsoil is then placed in the drainage ditch on each side of the road and reseeded. For road reclamation the good topsoil in the ditch will be winrowed to the outside of the backslope, then the gravel from the roadbed will be removed, the roadbed will be ripped, the subsoil will be placed back in the ditch, the road surface and ditch area will be ripped again, and the good topsoil will be placed on top of the subsoil, and reseeded. A letter from the landowner with road specifications is shown in Addendum MP-A.

The secondary access roads will be used at the Nichols Ranch Unit and at the Hank Unit to provide access to the wellfields and header houses. The secondary access roads will be constructed with limited cut and fill construction and may be surfaced with small sized aggregate or other appropriate material. The temporary wellfield access roads are for access to drilling sites, wellfield development, or ancillary areas assisting in wellfield development. Uranerz will use when possible existing two track trails or designate two track trails where the land surface is not typically modified to accommodate the road. The wellfield access roads will be used at both the Nichols Ranch Unit and at the Hank Unit. The roads will be used to access recovery, injection and monitor wells within the wellfield pattern area. The roads will be used for limited

travel and consist of designated two track trails where the land surface is not modified to accommodate the road.

The wellfield roads will be designed and constructed in such a manner so as to minimize the amount of land disturbances and keep reclamation costs as low as practicable. Additionally, the road design is intended to provide access year around to the wellfields in both dry and wet seasons. Uranerz will utilize a combination of water bars, ditch cutouts and riprap to prevent excessive erosion on those portions of the road with a steep grade.

If drainage control structures are required, as road construction progresses, culverts will be installed at prominent drainage ways. Uranerz will commit to commit to submitting culvert designs to the LQD and surface owner for approval prior to installation of any culvert. The culvert designs will follow LQD Guideline 8 criteria.

As previously discussed, the details of the locations of the monitor wells will be developed in the wellfield data packages. Because of the gradient and slope of North Middle Butte, the spacing and location of the monitor wells for the Hank Unit will be adjusted considering topography and geohydrology. If monitor wells need to be located on the slopes of North Middle Butte there are some options for accessing the wells. One option would be to build an all weather access road. A second option would be to have an ATV with a mounted portable generator to sample any monitor wells that are located on steep terrain. No matter the locations of the wells, Uranerz commits to timely performing required sampling of all monitor wells.