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JBMartin

JUN 16 1981

WMUR:JAP
Docket No. 40-8783

Uranerz U.S.A., Inc.
ATTN: Mr. Gary Summerville
120 West First Street
Casper, Wyoming 82601

Gentlemen:

We have completed a preliminary review of your application requesting a Source Material License for a Research and Development Scale In Situ Uranium Recovery Facility in Johnson County, Wyoming, and find it to be acceptable for further processing. Docket No. 40-8783 has been assigned to this case and should be referred to in all future correspondence.

Because we have accepted your application to Wyoming DEQ as a supplement to your application for an NRC Source Material License, you should be aware that those sections of the document, relating to areas of our authority and responsibility, will be made a condition of any Source Material License issued to Uranerz by the NRC. Any additions, deletions, or changes made to this document, prior to our making a final decision on your request for a license, will require updating of the copies held by the NRC. Should a Source Material License be issued, Uranerz would be tied to the applicable sections of the version of the permit application in our possession at that time. If any changes to the sections of the DEQ permit, specified in our license conditions, are proposed, they would have to be approved by the NRC in the form of a license amendment prior to implementation.

Before we can continue to process your application, we require additional information (see Attachment). Responses, when applicable, should be in a form which can be incorporated into existing documents and should be received no later than July 15, 1981.

Should you have any questions, please do not hesitate to contact us.

Original Signed by:
J. J. Linehan

John J. Linehan, Section Leader
Operating Facilities Section I
Uranium Recovery Licensing Branch
Division of Waste Management

Attachment:
As stated

cc: M. Hulbert, WDEQ

OFFICE>	WMUR	WMUR
SURNAME>	JAPohle	JJLinehan
DATE>	6/17/81	6/17/81

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ATTACHMENT

DOCKET NO. 40-8783
URANERZ SOURCE MATERIAL LICENSE APPLICATION
ADDITIONAL INFORMATION REQUIREMENTS

1. Submit the actual well completion data for well 7-M-20 as was done for other wells in Table D-6.4.

2. Submit results of the well integrity testing program.

3. Submit a map showing the location and extent of the uranium ore body in relation to the Ruth Island site and hydrologic test wells.

4. Does Figure D-10-1 represent the radiation assessment sample location map which the text refers to as "not included"?

5. The following questions refer to water quality.

   A. There are obvious errors in Table D-6.9, p.1, (ex: fluoride mean concentration of 154 mg/l). These should be corrected. In addition, the text states (p. D-6.17) "...comparing the baseline water quality of the proposed leach field as represented by samples from wells 8L and 4L...". If baseline water quality of the ore zone is to be based on data from wells 8L and 4L the data for wells 1-M-20, 4-M-20 and 5-M-20 should be segregated from Table D-6.9, p.1.

   B. It appears other errors exist in other parts of Table D-6.9, (ex: D-6.9, p.5, the standard deviation of total hardness is listed as 41 mg/l). These tables should be further proofread and corrections made and copies resubmitted for substitution.

   C. In Table D-6.9 (all parts) the split sample obtained on January 21, 1981, is treated as two independent samples. These are not two independent samples representative of the natural variation in water quality but are representative of the variation in lab analyses. The inclusion of both sets of data in the baseline determination will not be accepted.

   D. Both the NRC and DEQ agree that all data must be screened for outliers. As an example refer to TD-6.9, p.5. The WAMCO analysis for radium (January 21, 18), appears consistent with previous samples while PAL's analysis of the sample is rather high (even ignoring the fact this was a split sample). Excluding the high value (223.43) from baseline determination would not be an unreasonable judgement. Have all the data been analyzed for outliers?

E. What is your quality assurance program, including that of any outside lab used, regarding water quality sampling and analyses? We note that for all samples split on January 21, 1981, measurable amounts of zinc were reported by WAMCO and in no cases did PAL report detectable amounts. In some instances PAL reports concentrations (of other elements) below their own published detection limits.

F. On page D-6.19 you state "baseline groundwater quality will be defined just before start-up on the basis of average concentrations, their standard deviations and maximum and minimum values". Please explain the exact procedure you propose for this determination.

G. On page D-6.17 you state "elements that cannot be detected in four consecutive samples from the same well will be removed from the list of analyes required for that particular well unless a particular element should be mobilized in the leaching zone during the proposed test". Because we would require an analysis for the full suite of parameters only on a quarterly basis during leaching operations we would not permit elimination of such elements from the required list. Only the excursion parameters are required biweekly during leaching.

H. What are you proposing as the upper control limit for vanadium considering the fact it is listed as "not detected" in all baseline samples?

I. How will use of an NH_4HCO_3 eluant instead of $NaCl/Na_2CO_3$ affect the choice of Cl as an excursion parameter?

J. Referring to p. M-27, what do you propose as a course of action if the two analyses (split sample) obtained as excursion confirmation samples differ markedly?

K. It is not clear what water quality parameters you propose to measure during an excursion.

L. Referring to pages M-28, M-29 regarding corrective action, it is not clear what the proposed sampling schedule is after the first 2 weeks of an excursion.

M. Referring to paragraphs No. 3 and 4 on p. M-29, what is meant by a "substantial decrease" in concentration?

6. Referring to your statement on page M-26, "The leak detection system will be checked daily for leakage solution during initial

filling of a pond. The time intervals will later be extended to two weeks", we require leak detection systems to be checked on a daily basis.

7. The following questions refer to hydrologic test No. 9.

   A. What "borehole damage" exists in wells 5L and 6L as noted on the graphs? No mention of this exists in the text. Were or are repair measures necessary?

   B. The M-20 wells have different completion intervals than pumped well 4L. Were the data corrected for the effects or partial penetration? If not, provide justification. The subject is not addressed in the text.

   C. There are inconsistencies in the text regarding the log-log plot for well 4L.

      * p. D-6.10: The heterogeneous nature of the transmissivity can also be considered responsible for the abnormal shape of the drawdown curve of the pumped well 4L in hydro test No. 9.

      * p. D-6.10: The most plausible explanation for the curves shape is a change in transmissivity at a certain distance from the pumped well.

      * p. D-6.10: As there are not such deformities (re:obs. well curves) the conclusions can be made that there are no hydraulic boundaries within the area between the monitor wells.

      * p. D-6.14: 4L: The early flattening out of the drawdown curve is due to a slightly falling fow rate at the time (200-930- min). The flowrate was then readjusted.

      * During our site visit Mr. Froelich stated that the declining flow rate was a deliberate measure taken to keep the water level above the level of the pump.

      The following apply to part C, above.

      c1: The text needs clarification on the above items.

      c2: Why wasn't the test initially run at a lower Q to eliminate drawdown problems at the pump well?

      c3: Was the drawdown data corrected for a variable Q? If not, this should be done.

D. Why wasn't recovery data used in the analysis of test No. 9? This data should be analyzed.

E. On page D-6.10 and again on D-6.15 it states there were no pressure changes in the upper and lower aquifers. Data provided indicated a .5 psi reduction in the lower aquifer and a .2 psi reduction in the upper aquifer. In addition, the drawdown curve for well 4-M-20 shows a break from the theis curve of a nature often indicative of leakage. Provide a detailed wxplanation of this observation.

F. Why wasn't recovery data obtained for the upper and lower aquifers?

G. Why weren't water levels (or pressures) taken prior to starting of the pump test and taken into account during analysis?

H. Why weren't barometric data obtained prior to and during the test and taken into account during analysis?

I. Based on all parts of question 7, justify the validity of hydrologic test No. 9.

8. Referring to figure M-7A, Fluid Flow Path, why are negative values assigned to injection wells and positive values to production wells relating to relative water level differences.

9. Submit additional information regarding the nature of the fluid flow model.

10. Regarding your statement on page R-2 (part III, reclamation), "the purified water from these processes (R.O.) may be reinjected into the 20-sand or could be discharged to the dry fork of the Powder River", any such proposed discharges would have to be supported by an analysis of alternatives, including the alternative of discharge to a lined evaporation pond, covering the environmental and economic impacts associated with each alternative. Prior approval by the NRC through the issuance of a special license amendment would be required. Our experience with similar matters indicates an NPDES permit would also be required.

11. The NRC routinely requires all solid process residues to be disposed of in a licensed tailings impoundment. Any alternative proposals shall require an analysis of alternative methods as indicated by appropriate criteria of Appendix A of 10 CFR 40.

12. Any proposal to dispose of contaminated material (clothing, spent filters, etc.) on-site would require approval of the NRC through issuance of a special license.