UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

Before Administrative Judge
Peter B. Bloch Presiding Officer

Administrative Judge
Thomas D. Murphy, Special Assistant

In the matter of	)	
	)	
HYDRO RESOURCES, INC.	)	Docket No. 40-8968-ML
2929 Coors Road	)	
Suite 101	)	ASLBP No. 95-706-01-ML
Albuquerque, NM 87120	)	

AFFIDAVIT OF RICHARD F. CLEMENT, JR.

1. My name is Richard F. Clement, Jr. I am of sound mind and body, and competent to make this affidavit. The factual statements herein are true and correct to the best of my knowledge, and the opinions expressed herein are based on my personal knowledge.

2. My professional qualifications are summarized here. Please refer to my resume which is attached to this Affidavit as Exhibit A for details of my education and experience. I received my M.S. in geology from the University of Vermont in 1967; my B.S. in geology from Boston College in 1965 and have been employed as a geologist and manager since 1967. In 1969 I began my career in uranium geology and uranium extraction and I am one of the pioneers of the in-situ uranium business. I have been directly involved in the exploration and development of in-situ uranium deposits in New Mexico in the vicinity of Crownpoint since 1972 when the first exploration began in

the area. I have intimate knowledge of the geology at the proposed development sites described in HRI's license through visual inspection of numerous drill holes including cores of the actual rock to be leached as well as down hole geophysical records derived from the drill programs. Only the geologists employed by me have more experience in reviewing the geotechnical data of the Crownpoint area.

3. I currently serve as President of Hydro Resources, Inc. (HRI, Inc.) and supervise several technical employees and consultants who have prepared the application and correspondence submitted to the Nuclear Regulatory Commission (NRC) for its grant of the subject source material license.

Expert Conclusions:

4. As President of the corporation I have personal knowledge of the operations and plans of HRI. Therefore, I am qualified to discuss the overall plans and objectives of the company to develop the licensed properties.

5. The purpose of this Affidavit is to explain the steps in identifying, developing, and producing at a typical uranium recovery property using in situ leach (ISL) methods and to explain how these steps are being implemented at the CUP.

6. Typically when a company enters an area of potential development it begins operations by drilling numerous exploration holes. These holes are the dominant source of information about the geology, hydrology and geophysical character of an area. This information allows a company to establish whether any ore body discovered is amenable to ISL production. Other key characteristics analyzed include permeable host sands where

injection and extraction wells will deliver oxygenated water to the uranium ore in a fairly uniform pattern to efficiently extract the majority of the uranium from the host sands and the presence of a water saturated sand under artesian pressures such that flow can be readily induced between pumping extraction wells and injection wells. Of course the most important characteristic is the presence of high grade ore with few contaminating elements so the uranium is readily and economically extractable.

7. If these positive characteristics are determined, additional measurements are completed including regional pump tests that establish the pressure continuity of the aquifer as well as the nature of confining layers to assist in controlling potential vertical migration that could be hypothesized in an unbalanced wellfield. All of this information is collected and reviewed by experienced engineers and geologists prior to making an application to the appropriate agencies for operating licenses.

8. The permitting process is then undertaken with the professional technical staff of the permitting agency. This process includes significant exchanges of information between the applicant and NRC experts wherein concepts of hydrologic control, operational geochemistry and drilling engineering are reviewed and discussed. This exchange continues until the regulators develop the appropriate level of comfort that the applicant's technical proposal warrants a permit or license with the proper environmental and health physics controls. In the case of the NRC this review yields either an environmental assessment or environmental impact statement (EIS) which is a comprehensive federal environmental safety and health review of the potential impacts of

the proposed project. After all licenses and permits are in place, including an EPA-approved aquifer exemption and underground injection control (UIC) permits, a company markets the product uranium to nuclear utilities on a long term contract basis which corresponds to the feasibility of producing the uranium at a certain cost. With sufficient margin for profit, the company can receive financing from a lending institution or raise capital from the equity markets. It is only after each of these phases is complete that uranium recovery can begin.

9. This is the process HRI has followed at its New Mexico properties. To date the company has received its NRC license, but additional permits are needed before marketing can begin. The additional permits required include a UIC permit from the USEPA. Although the company already has a UIC permit and an EPA approved aquifer exemption from the State of New Mexico, the UIC permit is the subject of litigation unrelated to health or environmental concerns.

10. It is clear from the license requirements that the NRC has approved a phased development of the properties. First the company is to begin operations at Section 8 T16N, R16W (Church Rock Section 8). HRI cannot begin to recover uranium at its other licensed properties until conditions precedent are met: Crownpoint (License Condition No. 10.27 requires the movement of town water wells); Unit One (License Condition No. 10.28 requires a groundwater restoration bonding demonstration before development can take place); or Church Rock Section 17 (where prior underground mining took place and special license conditions apply such as License Condition No.

10.20). None of these locations will begin operations until *after license conditions are satisfied.*

11. Moreover, the company cannot even begin operations in Section 8 until it resolves UIC issues relating to this section. (See License Condition No. 9.14).

12. As HRI moves forward with developing Section 8, the company will gain more information about the subsurface characteristics. More detailed information will enable HRI to finalize specific components of its planned operations. For example, technical data needs to be generated including additional drill holes for finalizing wellfield patterns. In fact, all wells including those drilled to be cased as part of the wellfield yield data that may change the wellfield configuration up to the time the casing is cemented in place. Decisions such as waste water handling (i.e., deep well disposal, brine concentration, evaporation, irrigation or some combination) are dependent on the relationship of market, technology and cost considerations which cannot be analyzed until such time as the operator has the necessary licenses, permit approvals and financing in place. This type of sequential development is precisely the way all in-situ operators proceed, and indeed all mining developments.

13. Thus, in light of the phased development of the project, the objections presented in Petitioners' affidavits fail to demonstrate the likelihood of any immediate, much less irreparable, harm.

14. In addition to completing numerous technical reviews, HRI has conducted a constant program of community involvement including the Native American centers of

Church Rock Chapter and Crownpoint Chapters of the Navajo Nation. The company has met with and received support from the McKinley County Commissioners Court, has received mining permits from the State of New Mexico and has met with and explained ISL to numerous Navajo officials in meetings, presentations and educational training programs. During all of these presentations, there has been a notable lack of interest by ENDAUM and SRIC toward finding technically supportable, positive solutions to their perceived concerns.

15. In their pleadings, ENDAUM and SRIC express concerns about HRI's ability and potential desire to begin operations on properties prior to completion of the NHPA § 106 process. However, as ENDAUM and SRIC must know, HRI's license prohibits the company from conducting any land disturbing activities that are not in compliance with section 106 of the NHPA. Accordingly, HRI will not commence any land disturbance except in compliance with the NHPA. As President of HRI, I wish to make it clear that it is the policy of the company to comply with all laws pertinent to its operation. In particular, HRI is committed to archaeological resource planning. For example, the archaeological and cultural resources review has been conducted in the most professional way. The Museum of New Mexico has been involved, and the participation of the Navajo Nation has been requested.

16. I would also like to take issue with Petitioners' attempt to attach some significance to HRI's first five years of development at the CUP properties. In particular, Petitioners' suggestion that the entire area to be developed within the first five-year period must be completely surveyed prior to HRI conducting any activities at the CUP makes no

sense. As explained above, the timeframes for the project may change as HRI discovers more information. However, there will be no land disturbance on any area unless that disturbance is in full compliance with License Condition 9.12 and the NHPA.

17. Petitioners also claim that HRI's license only prohibits the injection of lixiviant prior to completion of the NHPA process, but that the company can perform other activities. In response, I would like to state again that HRI has no intention of disturbing any land without being confident of NHPA compliance. Moreover, it would make no sense for the company to invest time and resources in proceeding with surface activities prior to the resolution of permitting issues. Specifically, the company would not invest capital in a project without being assured of a return on investment and such a return can be guaranteed only if HRI can inject lixiviant.

18. Petitioners also claim that HRI's Crownpoint processing facility will impact cultural resources. First, the processing equipment will be in existing buildings which are too new to qualify as historic properties, and the equipment will not be visible outside of these buildings. Moreover, because the area already is paved, fenced, etc., there is no need to disturb any land. These buildings, the paving, and other improvements were installed by Conoco, the prior owner, in the late 1970's or early 1980's, for the sole purpose of uranium mining. Finally, to be absolutely certain that there is full compliance with the NHPA, HRI has included these buildings in the first review area and will not proceed until the NHPA review is finalized.

19. As the HRI officer with day-to-day responsibility over the CUP, I am familiar with the NHPA process at this project, and with any cultural resources identified by HRI's

cultural resources expert, the Museum of New Mexico. Plainly stated, given HRI's mitigation plan of "total avoidance" *there will be no impact on any cultural resources on the CUP properties.*

20. ENDAUM and SRIC claim that neither HRI nor its parent corporation, URI, will be harmed by a stay of the NRC license prior to hearing. At the same time these parties suggest that through their efforts the licensing process could be delayed well beyond the granting of permits by other agencies with ISL oversight.

21. By contrast, granting a stay will cause significant harm to HRI. For example, the vast majority of HRI's holdings are covered by this NRC license. The value of these properties would be reduced significantly if a stay were to issue. This would make it very difficult for HRI to raise capital from outside investors. Moreover, I believe that a stay of the NRC license will make it more difficult to finalize the other approvals required for the properties, such as EPA UIC permits. Finally, a regulatory cloud on HRI's substantial reserve base would harm the company's corporate image.

22. Moreover, HRI applied for this NRC license over ten years ago. Since making that application, HRI has spent over $16 million at the company's New Mexico properties, including $8 million for licensing activities. A stay and its accompanying delay will only increase costs to HRI's detriment without providing any protection of public health and safety, the environment, or cultural resources. The matters raised by Petitioners are addressed in detail in (and will be protected by) the developmental and operational approach embodied in the NRC license for the project.

I declare on this 22nd day of April, 1998, at Albuquerque, New Mexico, under penalty of perjury that the foregoing is true and correct.

Sworn and subscribed before me, the undersigned, a Notary Public in and for the State of New Mexico, on this 22nd day of April, 1998, at Albuquerque New Mexico. My commission expires on 3-31-99.

Anne M Thompson
Notary

(SEAL)

OFFICIAL SEAL
ANNE M. THOMPSON
NOTARY PUBLIC-NEW MEXICO
NOTARY BOND FILED WITH
SECRETARY OF STATE
My Commission Expires 3-31-99

Resume of Richard F. Clement, Jr.

1996 - Present	President, Hydro Resources, Inc. (HRI, Inc.) Responsible for all corporate activities as a subsidiary of Uranium Resources, Inc., a publicly held company (NASDAQ) including negotiations, property acquisitions, exploration, development technology and public relations.
1994 - 1996	General Manager Exploration for Uranium Resources, Inc. and Energy Fuels Nuclear programs throughout the United States and Mongolia. Implemented Exploration evaluation of several Mongolian uranium provinces and expanded the United States *in-situ* development program to South Dakota and Wyoming as well as New Mexico and Texas.
1985 - 1994	Director, Uranium Resources, Inc. Oversight of all corporate business activities including: developing lines of credit from Elders Financial Group and Citibank totaling over $40 million, bringing the company public through a merger on the Vancouver Stock Exchange; expanding to the Toronto and NASDAQ exchanges.
1383 - 1994	Vice President Exploration - Senior Vice President, Uranium Resources, Inc. This capacity allowed oversight of all property acquisitions and geologic programs of the corporation including initiation of the development of the Kingsville Dome mine and the Rosita mine in south Texas. Both of these mines have produced over 4 million pounds of uranium through the *in-situ* mining method with positive environmental results.
1978 - 1983	Vice President, Mobil Corporation of its subsidiary Mobil Energy Minerals Australia. Responsible for implementation of Mobil Oil Corporation expanded minerals program throughout the Australian Continent. Management of a multidiscipline exploration effort resulting in the acquisition and discovery of large coal deposits and highly touted strategic mineral exploration blocks in the worlds most prolific uranium province.
1976 - 1978	Planning Associate, Mobil Oil Corporation, New York HQ. Designed Mobil's overseas mineral exploration program, revised planning assumptions for future mineral marketing and assisted the planning and development of Mobil's first commercial *in-situ* uranium operation in south Texas. This plant was one of the first in the United States and has continued in production from the late 1970's through the mid 1990's.

ATTACHMENT D

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFFTY AND LICENSING BOARD PANEL

Before Chief Administrative Judge
B. Paul Cotter, Jr., Presiding Officer

Administrative Judge
Thomas D. Murphy, Special Assistant

In the matter of	)	
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HYDRO RESOURCES, INC.	)	Docket No. 40-8968-ML
2929 Coors Road	)	
Suite 101	)	ASLBP No. 95-706-01-ML
Albuquerque, NM 87120	)	

AFFIDAVIT OF CRAIG S. BARTELS

1. My name is Craig S. Bartels. I am of sound mind and body and competent to make this affidavit. The actual statements herein are true and correct to the best of my knowledge, and the opinions expressed herein are based on my best professional judgment.

Professional Qualifications:

2. My education and experience are described in my vita, attached to this affidavit as Exhibit A. To summarize, I have a Bachelor of Science degree from Montana College of Mineral Science and Technology in Petroleum Engineering. I received my registration as a Professional Engineer through testing in the State of Illinois. I have worked in the in-situ leach (ISL) uranium recovery industry for almost twenty years and am familiar with all aspects of the ISL process, including well design and construction, well pattern design and development, well test analysis,

pump test design and analysis, computer modeling of flow processes, and wellfield and plant operations. I have supervised and trained others in the design and operation of ISL projects. I have evaluated numerous ISL properties and operations of other companies, and, as such, am familiar with their operations and procedures.

Documents Reviewed:

3. I have reviewed the affidavits prepared by Mr. Richard J. Abitz and Mr. Wallace attached to Petitioners' Stay Request.

Conclusions:

4. It is important to note that neither Mr. Abitz nor Mr. Wallace claim problems with Church Rock Section 8 but instead assert that there will be immediate and irreparable damage caused by proposed operations at Crownpoint, to a lesser extent by operations at Unit 1, and to a still lesser extent at Church Rock Section 17. (e.g., Abitz at ¶ 11 claims contamination from Unit 1; Abitz at ¶ 17 claims that HRI cannot adequately detect horizontal excursions at Unit 1 or Crownpoint; Wallace at ¶ 12 claims that HRI has incorrectly modeled groundwater travel time at Unit 1 and Crownpoint; and Wallace at ¶ 28 claims that HRI's Crownpoint wellfield will contaminate municipal water wells.)

5. As the affidavit of Richard Clement demonstrates, any activities at any of HRI's sites must necessarily be preceded by satisfaction of a variety of license or permitting requirements. This means that development or construction at these sites can not take place for, at a minimum, several years. Therefore, there can be no immediate and irreparable harm as claimed by

Petitioners. An analysis of several specific allegations in these affidavits will establish Petitioners' failure to demonstrate any significant potential for immediate and irreparable harm.

6. For example, Mr. Wallace's claim that "leakage" will occur from the proposed Westwater Canyon ore zone into the overlying Dakota sandstone, and his conclusion that "immediate and irreparable harm" will result is misleading, premature and inappropriate. An ISL project proceeds in phases, in a simple, orderly fashion. First, only very general data is gathered to characterize the flow properties and confining clays on a *regional* scale for the aquifer. This data is presented to regulatory authorities to obtain appropriate permits and licenses. After initial permits and licenses are received, a much more detailed analysis of aquifer characteristics, confining zones, and water quality is performed for each separate and distinct production area (recovery unit). This detailed analysis ensures that any variability in characteristics of the aquifer and confining clays, from recovery unit to recovery unit within the larger regional area, will be accounted for during actual uranium recovery operations and the concurrent monitoring process. Again, after all initial pemits/licenses are obtained, the actual operating parameters for a single, *proposed* recovery unit are developed by installing and testing the monitor wells for the production area or recovery unit. This includes the monitor wells surrounding the uranium recovery zone, those over and under the uranium recovery zone, as well as baseline water quality wells within the uranium recovery area itself. Baseline water quality samples are taken from each of the wells (including all monitor wells) and a pump test is conducted. (License Condition No. 10.21).

7. Once these tests are conducted, actual uranium recovery is not permitted until the data is analyzed; vertical confinement of the uranium recovery zone is demonstrated (i.e., no vertical "leakage" of mine solutions); pressure communication with monitor wells surrounding the uranium recovery area is demonstrated, the upper control limits (UCL) for water quality in all monitor wells are determined; and finally, necessary regulatory authorization is given to begin operation. This is done at *each* unit within the larger region of the initial permit/license.

8. For over twenty years, this phased development and testing for purposes of ISL uranium recovery has been the standard at all ISL projects in Texas and Wyoming of which I am aware. This is also true for every ISL project that URI/HRI has been associated with since entering the industry over 20 years ago in 1977. In addition, the NRC has accepted this approach as the method of proposed operation in New Mexico (see response Q2/81 and also, the Consolidated Operating Plan (COP), Rev. 2.0 (pages 82 - 84), - both of which were noted as reviewed by Messrs. Abitz and Wallace).

As noted in § 8.5 of the COP, HRI's Hydrogeologic Testing Plan:

> HRI considers that the primary goal of pump testing in new mine areas for ISL is to determine the degree of communication between the mine zone and (1) the overlying zones, and (2), the production zone monitor wells. This will reflect the effects of hydraulic pathways, such as unplugged holes and non-sealing faults, to the overlying zones, as well as ascertain the ability of production zone monitor wells to respond to changing flow conditions within the mining area. The degree of communication at the production zone monitor wells surrounding the mine zone will also directly indicate the magnitude of horizontal formation anisotropy.

9. An additional problem with Mr. Wallace's Affidavit is that his analysis completely overlooks the historic differences in water levels between the Westwater Canyon uranium

recovery zone and the overlying Dakota sandstone when he claims "'immediate and irreparable harm" due to lixiviant migration between the sands. For example, in HRI's response to the NRC's Q1/81 (which Mr. Wallace noted as reviewed), HRI submitted plots of differences in water levels between the two zones in the Crownpoint area and at Unit I (attached hereto as Figures 1 and 2, respectively). Data for the Crownpoint area (Figure 1) shows about a 90 to 100 feet difference in water levels, while data for Unit 1 (Figure 2) shows about a 180 - 200 feet difference. In both cases, the overlying Dakota sand is at a *higher water pressure* than the Westwater sand. In either case, if "leakage" was as dramatic as described by Mr. Wallace, and water was strongly leaking from one zone to the other, the Dakota wells would show a general decrease in water levels, while the Westwater wells would show a related increase in water levels, corresponding in time. Thus, the data do not support Mr. Wallace's conclusion.

10. A number of allegations in their affidavits suggest that Messrs. Abitz and Wallace have only a limited knowledge of the ISL uranium recovery process and the safeguards routinely utilized therein. This technology has been developed and applied over the last 20 - 25 years in Texas, Wyoming, and Nebraska. Their limited knowledge seems to have caused them to develop conclusions without adequately reviewing or understanding documents relating to HRI's proposed ISL project. For instance, Mr. Abitz states in his affidavit (at ¶ 25) that:

> Moreover, neither HRI nor the NRC staff propose to use other, non-chemical indicators, such as groundwater elevation control levels, which the Groundwater Monitoring STP (at 19) also considers reliable early warning mechanisms for excursions.

Mr. Wallace reviewed Mr. Abitz' affidavit, and did not disagree with this important claim (Abitz at ¶ 4). However, *this claim is completely incorrect.* The ISL industry does indeed measure and monitor water levels. In fact this is done for *every* monitor well during each *bi-weekly* sampling for water quality. HRI considers this a very basic, standard operating procedure at any ISL project and has documented its intention of continuing this in New Mexico through multiple communications with the NRC. Considering just a few sources that Messrs. Abitz and Wallace purport to have reviewed:

> An extensive water monitoring program is required for *in situ* mining. Specifically designated wells are monitored for water level, and sampled for certain water quality parameters on a regular basis to ensure that the injected lixiviant stays within the defined production zone. ("Consolidated Operating Plan (COP), Rev. 2.0, page 11).

This intention was again stated on pages 63 (Section 6.3) and 79 (Section 8.4.1.1) of the COP, Rev 2.0. In addition, it was described in HRI's response to the NRC Q2/81:

> Water levels will be taken on all monitor wells prior to each routine, bi-weekly water sampling and reviewed for unusual water level changes denoting a hydraulic connection with the mining zone.

11. In nearly twenty years of association with the ISL industry, I know of no ISL project that is not required to measure water levels in the monitor wells in conjunction with the routine water quality sampling. There are a number of other instances of such claims by Abitz and Wallace that make plain to me their failure to understand ISL uranium recovery practices in general, and HRI's New Mexico project in particular.

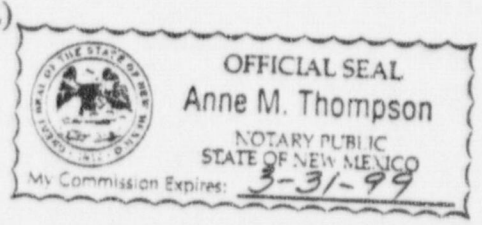
I declare on this 23rd day of January, 1998, at Albuquerque, New Mexico, under penalty of perjury that the foregoing is true and correct.

Craig S. Bartels

Sworn and subscribed before me, the undersigned, a Notary Public in and for the State of New Mexico, on this 23rd day of January, 1998, at Albuquerque, New Mexico. My commission expires on March 31, 1999.

Notary

(SEAL)



CRAIG S. BARTELS
HRI, Inc.
2929 Coors Road, NW
Albuquerque, NM 87120

Education:
B.S. Petroleum Engineering, Montana College of Mineral Science and Technology (1972)
REGISTERED PROFESSIONAL ENGINEER - Illinois (By EXAMINATION, 1978)

Continuing Education –
Partial Completion of Masters in Finance, Texas A & M University - Kingsville
Physical and Contaminant Hydrogeology, Texas A & M University - Kingsville
USGS Course: Principles & Applications of Modeling Chemical Reactions in Ground Water

Work and Technical Experience:

HRI, Inc., Albuquerque, New Mexico
VICE-PRESIDENT – TECHNOLOGY – 1996 TO PRESENT
Responsible for all technical and operational aspects of Company's New Mexico ISL projects, including design, operation and restoration/reclamation, as well as, regulatory compliance, and employee safety and training.

Crow Butte Resources, Inc., Crawford, Nebraska
WELLFIELD MANAGER – 1995 TO 1996
Responsible for all aspects of wellfield design, operation, and restoration. Directly responsible for all regulatory compliance, and employee training and safety associated with wellfield operations.

URI, Inc., 1981 to 1994
SPECIAL PROJECTS
Key investigator in numerous evaluations of ISL properties considered for acquisition. Troubleshooter for specific wellfield problems. Conducted informal one week seminar on wellfield design and operations for another ISL company. Designed, supervised and analyzed pumping tests for mine unit and regional ISL permits, focusing on flow characteristics and "leakage" potential of the aquifer.

Developed reservoir computer simulation system used in design and operation of wellfields, combining advective transport (pathlines), unsteady state pressure calculations, ore configuration, and interactive computer graphics to allow efficient design and operation of ISL wellfields. The system allows layered sands and incorporates actual, measured well flowrates.

MANAGER OF WELLFIELD OPERATIONS, 1994

Responsible for all design and wellfield operations, including all geology and reservoir engineering staff.

PLANT MANAGER, Kingsville Dome Project, 1989 to 1994

Responsible for all operations associated with 5,200 gpm ISL plant and uranium product dryer, including technical aspects, regulatory compliance and employee relations.

CHIEF RESERVOIR ENGINEER, 1981 to 1989

Responsible for ISL wellfield design, operation and forecasting. Designed, conducted, and analyzed pumping tests (routinely accepted by state and federal regulatory agencies). Developed multi-layer computer model for advective transport and pressure simulations in multi-layer reservoir.

Union Carbide Corporation, Metals Division, Palangana ISL Project, 1978 to 1981

SUPERINTENDENT OF OPERATIONS, 1980 to 1981

Responsible for all site activities including production, processing, restoration, employee relations, safety, budget development and review. Coordinator of Division efforts in developing and implementing new restoration technology.

Received management award in special recognition of outstanding contribution.

TECHNICAL SUPERINTENDENT, 1979 to 1980

Coordinated all technical operations for the plant and wellfield. Developed production reservoir computer simulation. Responsible for all individual well test and pumping test design, conduct and analysis.

RESERVOIR ENGINEER, 1978 to 1979

Developed enhanced ISL production techniques, as well as, techniques associated with well drilling, mud program design, well casing design, zone isolation and logging methods, well pattern development and flow control, geologic interpretation of roll fronts, and reservoir computer simulation. Analyzed individual well test and pumping test data.

Natural Gas Pipeline Company of America (NGPL), 1972 to 1978

RESERVOIR ENGINEER, Chicago, IL, 1974 to 1978

Responsibilities included wellfield deliverability estimates, field and well testing and analysis, water movement calculations, log interpretation, inventory verification, field monitoring, new well locations, general field development for six gas cycling projects. Development of computer code for field simulations utilizing gas cycling and water influx/efflux. Gas storage pumping test analysis (per Witherspoon, Javendel, Neuman, and Freeze).

DRILLING ENGINEER, Columbus Junction, LA, 1972 to 1974

Experience in drilling, blowout control, lost circulation, fishing operations, casing string design and installation, cementing, logging and remedial well work. Direct supervision of field personnel in varied assignments. Field supervision of pumping test for Gas Storage.

CROWNPOINT - HISORIC WATER LEVELS

DAKOTA VS. WESTWATER

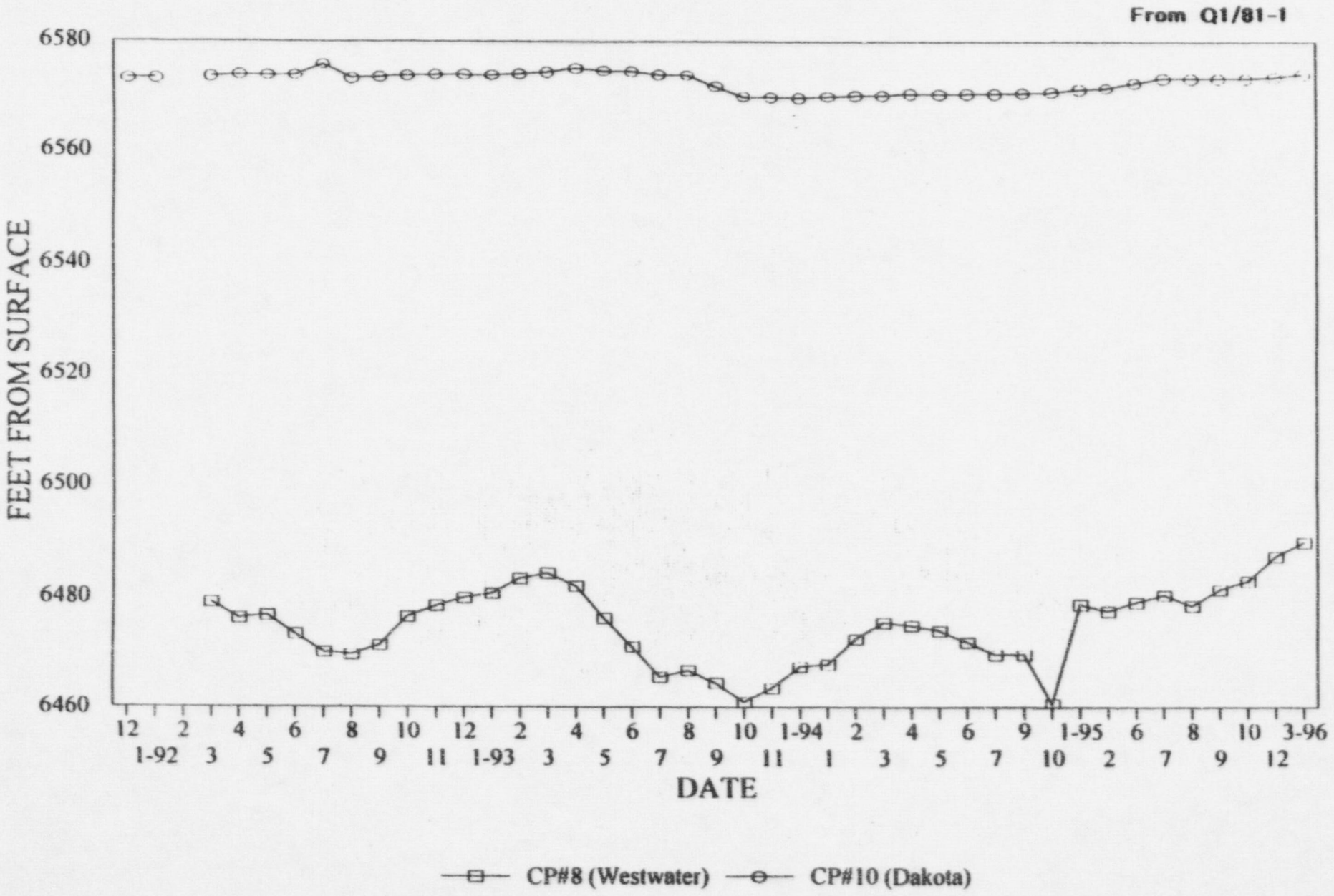


FIGURE 1

Attachment 81-3

Mobil Southtrend Wellfield

Dakota / Westwater Level Comparison

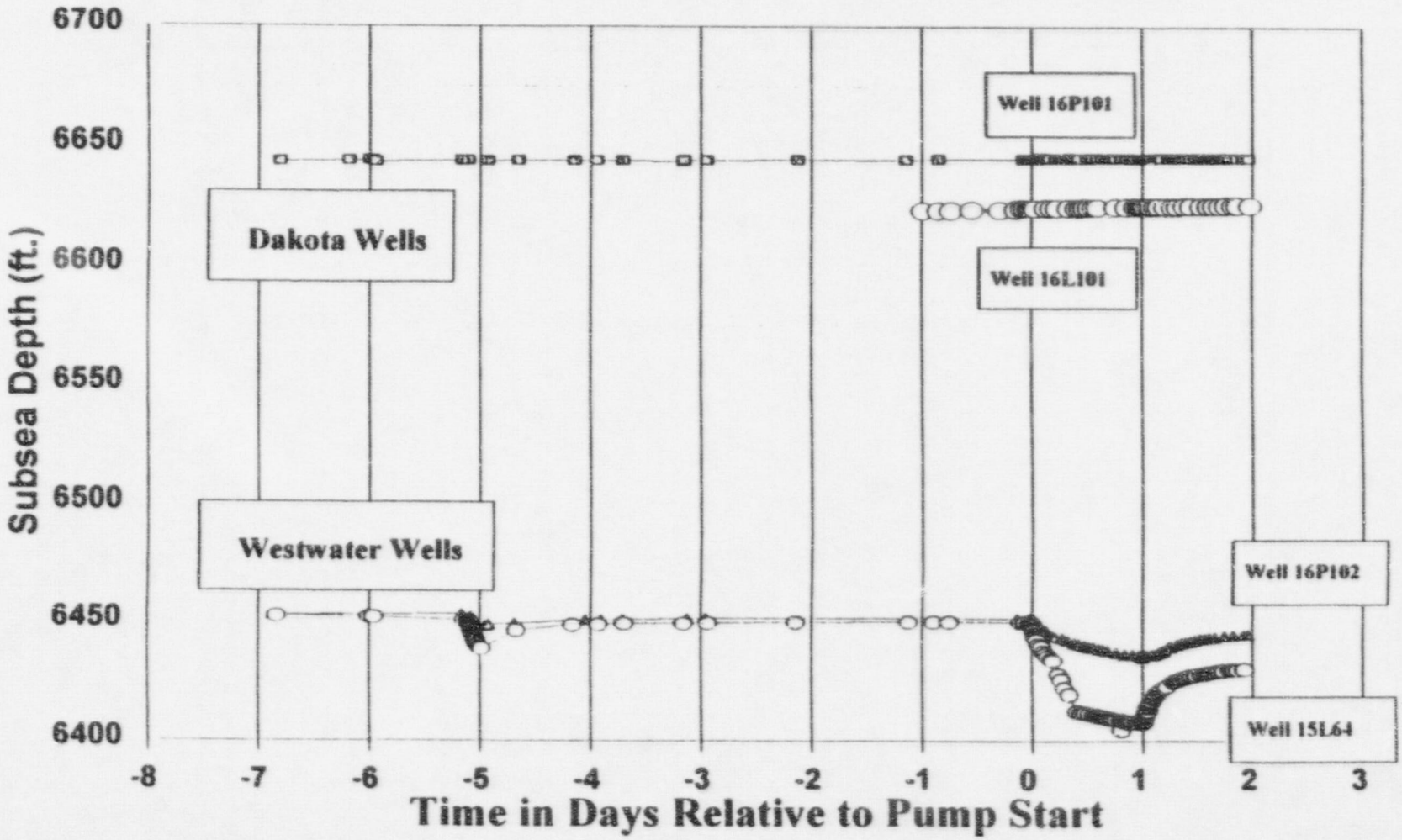


FIGURE 2

ATTACHMENT E

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

ATOMIC SAFETY AND LICENSING BOARD PANEL

Before Chief Administrative Judge
B. Paul Cotter, Jr., Presiding Officer

Administrative Judge
Thomas D. Murphy, Special Assistant

In the matter of	)	
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HYDRO RESOURCES, INC.	)	Docket No. 40-8968-ML
2929 Coors Road	)	
Suite 101	)	ASLBP No. 95-706-01-ML
Albuquerque, NM 87120	)	

AFFIDAVIT OF MARK S. PELIZZA

I, Mark S. Pelizza being duly sworn, declare as follows:

1. My name is Mark S. Pelizza. I am of sound mind and body and competent to make this affidavit. The factual statements herein are true and correct to the best of my knowledge, and the opinions expressed herein are based on my best professional judgment.

Professional Qualifications

2. I am Vice President of Health, Safety and Environmental Affairs with Uranium Resources, Inc., parent company to HRI, Inc. and URI, Inc. My resume is attached to this Affidavit as Exhibit A. I have served in this position for two years. Prior to being named Vice President, I served Uranium Resources, Inc. as Environmental Manager with similar corporate environmental responsibilities. I have been employed with Uranium Resources, Inc. for nearly 18 years. I have been employed as a health, safety and environmental professional with the in situ uranium industry for 20 years. I have been active with professional trade organizations in

developing the current in situ uranium industry rules, regulations and policies, cooperating with federal and state regulatory agencies in doing so.

3. During my employment with Uranium Resources, Inc., I have personally supervised all radiological and non-radiological occupational health, safety and environmental programs for operations conducted by URI in Texas. This includes radiological and non-radiological occupational and environmental baseline data collection, operational programs, restoration/reclamation programs and regulatory liaison. I have been Uranium Resources, Inc., primary managerial support representative for all environmental litigation. As such I have first hand knowledge of the issues that were addressed in the affidavit of Dr. Resnikoff which is attached to Petitioners Stay Request.

4. I have personally supervised all radiological and non-radiological health, safety and environmental permitting activities associated with HRI since the company and the Crownpoint Uranium Project was conceived. In this capacity all environmental studies, reports, papers, permit and license applications and regulatory requirements have either been completed by me or under my supervision. I have been HRI's representative at numerous public presentations regarding the project over the past decade. I have been HRI's regulatory liaison throughout the project. Given this background I have a first hand knowledge of the Crownpoint Uranium Project (CUP) developmental history, and the environmental regulatory framework under which HRI will be required to operate.

Expert Opinion

5. This declaration will serve to present my expert understanding of health, safety and environmental effects of In Situ Leach (ISL) uranium development at HRI's New Mexico properties. Also I will discuss my experience licensing the CUP. In doing so I will take the opportunity to evaluate some of the allegations and conclusions in the affidavit of Dr. Marvin Resnikoff.

6. Many of the facts upon which Dr. Resnikoff bases his opinion are inaccurate with respect to the ISL industry in general, the CUP in particular, and URI's operating history. As a result he

reaches misleading or incorrect conclusions. Further with respect to potential environmental regulatory concerns associated with the CUP or ISL technology in general, the Petitioners' expert fails to consider the mitigating effects of standard ISL operational control measures and specific provisions that have been included in the proposed CUP license and Operations Plan to limit any potential impacts associated with such concerns. As a result, his affidavit is misleading.

7. Based on my experience with a lengthy career in the ISL industry at operations essentially identical to the CUP, I find that Dr. Resnikoff's affidavit contains unsupported opinions that have no basis in real world operations. This includes both radiological concerns and groundwater concerns. To the best of my knowledge, there have never been any significant radiological impacts on public health or the environment at *any* ISL project

Radiological Effects

8. Dr. Resnikoff's claims relate to alleged radiological impacts that may have no bearing on *this* project. Throughout his affidavit, Dr. Resnikoff demonstrates a complete misunderstanding of HRI's license, and of the typical ISL uranium recovery operation described in the affidavit of Richard Clement. This is because, as described in Mr. Clement's affidavit, the CUP will be developed in a phased approach. This licensing approach requires HRI to satisfy specific requirements before moving from one phase to the next and demonstrates NRC's recognition that final decisions regarding certain aspects of the project cannot and should not be made at this time.

9. Dr. Resnikoff's failure to understand the process can be demonstrated by his allegations of "immediate and irreparable" harm from land applying wastewater at the CUP. Resnikoff at ¶ 5 and at ¶ 24. Resnikoff reaches these conclusions based on a series of erroneous assumptions.

10. For example, Dr. Resnikoff assumes that HRI will use *only* land application techniques. This assumption is premature and most likely incorrect. Depending on the technique (or combination of techniques) used, wastewater may be disposed of by land application, by deep well injection, by evaporation, or some combination. However, *no final decision has yet been made on a single or any combination of wastewater disposal options.* When HRI makes this

decision, it will be based on factors such as water rights availability, uranium market conditions and technical and cost considerations.

11. Dr. Resnikoff's erroneous assumption that HRI will use 100% groundwater sweep technology to restore the aquifer in the ore zone leads him to the incorrect conclusion that HRI will apply contaminated water to the land surface in quantities greatly in excess of the company's and NRC's estimates.

12. Dr. Resnikoff's calculation of the pore volumes that will be required at the CUP are similarly based on erroneous assumptions and standards. For example, Dr. Resnikoff claims that tests indicate that 28 pore volumes will be required to achieve restoration to baseline. Even if this were correct, baseline is not necessarily the appropriate standard. Rather, EPA's drinking water standards may be the appropriate restoration standard. Based on restoration to these drinking water standards, NRC and HRI calculated that 9 pore volumes would be a very cons vative number that is protective of public health and the environment. I know of no ex le in the ISL industry where 28 pore volumes was needed. Moreover, because groundwater sweep usually is most effective early in the restoration phase, ISL operators frequently begin with groundwater sweep for two or three pore volumes and then switch to reverse osmosis technology. Because this will most likely occur at HRI's New Mexico properties, Dr. Resnikoff's land application of 28 pore volumes is an entirely unrealistic scenario.

13. Other Resnikoff assumptions are incorrect. For example, he greatly underestimates the surface area that would be available for wastewater disposal at the CUP, thereby greatly increasing his estimated soil concentration. Even if HRI decides to use 100% land application, 640 acres would be available for restoration, not the 52 acres suggested by Dr. Resnikoff. Resnikoff at ¶18. Applying wastewater over 640 acres would result in much lower soil concentrations than Resnikoff calculates.

14. Based on these erroneous assumptions, Resnikoff still calculates an annual dose of 29 millirem per year (mrem/y), which is well within NRC's regulatory requirement of 100 mrem/y. Resnikoff at ¶ 20. Moreover, Resnikoff fails to acknowledge that any calculations regarding radiation effects and limits are, by their nature, imprecise. As the General Accounting Office has

noted, radiation limits reflect a series of theories and assumptions, making them "inherently imprecise."[1] Calculations of radiation doses from a specific facility are based on these same imprecise theories and assumptions.

HRI's Reliance on the Experience of Uranium Resources, Inc.

15. Dr. Resnikoff criticizes HRI's reliance on the experience of URI and Uranium Resources, Inc. Both URI and HRI are subsidiaries of Uranium Resources, Inc. I believe this experience has been, and will continue to be, very useful to HRI. URI is a recognized leader in the ISL industry and has staffed HRI with several highly experienced individuals with over 60 years of combined ISL experience. (See Exhibit B). This has helped HRI develop a proposal that will use state-of-the-art technology to safely and cost-effectively develop a valuable natural resource with the absolute minimum of potential environmental impacts.

16. In his affidavit, Dr. Resnikoff makes several false or misleading allegations about Uranium Resources, Inc. For example, he claims that the Texas Water Commission required URI to cease reverse osmosis wastewater disposal in that state. Resnikoff at ¶ 10. This allegation is untrue. At URI's Kingsville Dome Project, rather than asking the company to cease reverse osmosis, the Texas Water Commission has stated that for that site reverse osmosis and deep well disposal is the preferred technology. (See Exhibit C to this affidavit, TNRCC Permit UR02827, VII.K.)

17. Additionally, Dr. Resnikoff claims that URI's efforts to restore to baseline have failed. Resnikoff at ¶ 15. This statement is misleading. URI has restored all of its in situ recovery facilities in Texas to levels acceptable to the Texas Water Commission (TWC). (*See, e.g.* Letters from TWC approving restoration attached as Exhibit D.) There is no absolute requirement to restore to baseline since it frequently makes no sense, in terms of public health and environmental protection, to restore to baseline for all contaminants. For example, the radionuclide concentrations (i.e., radium, uranium, radon) naturally occurring in the ore zone typically exceed levels considered protective of public health by orders of magnitude, and

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[1] *See*, GAO "Nuclear Health and Safety: Consensus on Acceptable Radiation Risk to the Public is Lacking" GAO/RCED-94-190, Sept. 1994, p. 30.

perhaps even tens of orders of magnitude. Accordingly, this water cannot be used as a source of drinking water either before or after uranium recovery operations and restoration have taken place. Indeed, before installing wells at an ISL facility, the operator must receive an underground injection control (UIC) permit and aquifer exemption. The regulatory standard for granting an aquifer exemption is that the underground water cannot now and will not in the future serve as a source of drinking water because of the presence of commercially producible minerals. Therefore, for aquifers that meet this standard, it may not make sense to return every constituent to baseline.

18. This issue highlights a basic point that Petitioners affiants fail to address in that the underground water in the ore zone *already contains* high levels of radionuclide contamination . . . after all, this is a uranium recovery operation. Based on my experience reviewing data for the CUP, my experience with URI's operating ISL facilities, and my general understanding of groundwater concentrations at ISL facilities, the radionuclide concentrations in the uranium ore bodies at the CUP *far exceed* and federal or state groundwater standards *prior to any uranium recovery operations*.

19. Dr. Resnikoff also claims that HRI's parent, URI, has disposed of wastewater at Bruni, Texas so that soil concentrations are above regulatory limits. Resnikoff at ¶ 13. This allegation is untrue. Soil concentrations at Bruni are within regulatory limits.

20. Resnikoff implies that URI abandoned its ISL operation in Bruni, Texas. Resnikoff at ¶ 11. This is not so. Rather, URI restored the site to the satisfaction of state regulators, and awaits NRC concurrence. Similarly, URI's Longonia and Benevides recovery facilities were operated and restored successfully.

Mobilization of Preexisting Contamination

21. Resnikoff claims that HRI's activities at Church Rock Section 17 will cause the mobilization of preexisting contamination. Resnikoff at ¶ 27. This claim has no basis in fact. As Dr. Resnikoff notes, Section 17 is the only location where there is existing soil contamination from the earlier uranium recovery operations of a company unrelated to HRI. However, Resnikoff *erroneously* claims that there will be road construction, satellite processing plant construction etc. at that location. This is incorrect: any construction or land disturbing activities will occur on Section 8, *where there is no pre-existing contamination*. The only activities that will occur on Section 17 will be drilling wells and some trenching, neither of which will cause any more significant disturbance to the land than traditional ranching and farming activities.

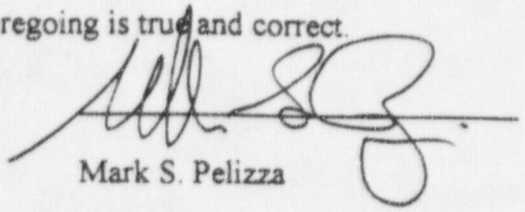
22. Moreover, this allegation supports my view that Dr. Resnikoff is not familiar with the CUP properties. If he had visited the site, he would know that the possibility of contamination blowing onto neighboring properties from Section 17 is completely unrealistic.

Conclusion

23. The proposed ISL uranium recovery facilities in Church Rock and Crownpoint are essentially the same as URI's currently operating facilities in Texas. However, URI's Kingsville Dome and Rosita ISL facilities currently operate safely and successfully in Texas in areas with greater population density than at the Church Rock and Unit 1 properties. At none of these uranium recovery facilities has URI encountered any of Dr. Resnikoff's hypothetical problems. Moreover, as noted in the affidavits of Mr. Bartles and Mr. Clement, consistent with the phased approach embodied in HRI's NRC license and industry-wide standard operating procedures (SOPs), nothing can go forward at Church Rock, much less Crownpoint or Unit 1, without satisfying such requirements and SOPs.

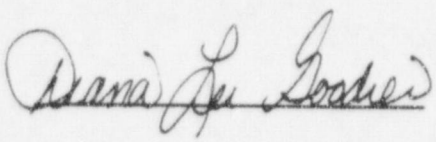
#546517

I declare on this 23rd day of January, 1998 at Dallas, Texas, under penalty of perjury, that the foregoing is true and correct.



Mark S. Pelizza

Sworn and subscribed before me, the undersigned, a Notary Public in and for the State of Texas, on this 23rd day of January, 1998, at Dallas, Texas. My commission expires on April 8, 1999.



Notary

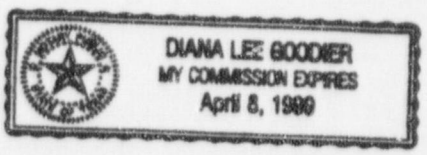


EXHIBIT A

MARK S. PELIZZA

Background

B.S. Geology, Fort Lewis College, 1974
M.S. Geologic Engineering, Colorado School of Mines, 1978

Experience

URI, INC., DALLAS, TEXAS
Environmental Manager
August 1980 through December 1995
Vice President – Health, Safety and Environmental Affairs
January 1996 through present

Oversee all URI's Texas, Wyoming, and New Mexico environmental responsibilities, including design, preparation and implementation of all environmental, ground water and radiological monitoring programs for uranium mining. Coordinate consultants, prepare applications for permits and licenses, negotiate license conditions and serve as corporate liaison with all regulatory agencies. Represent the Company in public forums pertaining to environmental issues and in-situ mining. Company representative in environmental activities, such as rule-making process, hearings, litigation, etc., and to organizations including American Mining Congress, Texas Mining and Reclamation Association, New Mexico Mining Association, Texas In-Situ Uranium Mining Environmental Association (TISUMEA), Underground Injection Practices Council and Uranium producers of America.

UNION CARBIDE CORP., BENAVIDES, TEXAS
Environmental Planning Engineer
February 1979 through August 1980

Obtained environmental licenses and permits, negotiated license and permit commitments and preparation of environmental reports. Designed and implemented all environmental monitoring programs, including ground water and radiological.

VTN OF COLORADO, INC., DENVER COLORADO
Engineering Geologist
July 1978 through February 1979

Developed environmental reports and engineering geological studies for proposed construction. Supervised drilling programs, water well design and development, well log interpretation and map preparation (geologic, isopach, structure contour, etc.). Conducted geologic investigations of oil shale mining projects, both in-situ and subsurface-types. Performed engineering geologic foundation studies within highly unstable regions.

ENVIRONMENTAL CONSULTANTS, IND., DENVER, COLORADO
Staff Scientist

Specialized in the areas of engineering geology, environmental geology and computer applications, composite mapping analysis using computer-aided techniques, applied to oil shale development in northwestern Colorado and a highway site selection in New York. Used computer techniques to graphically display and manipulate drilling statistics which were used to determine the reserves of natural gas in the United States. Engineering geology experience included a foundation of study for an urban transit way mall in Denver and analysis of geologic information for a highway site selection study.

EXHIBIT B

Resume of Frank Lee Lichnovsky

Hydro Resources, Inc. (HRI, Inc.) Albuquerque, New Mexico
Chief Geologist, 1996 - Present
Responsible for geologic studies of New Mexico projects utilizing subsurface data to define the stratigraphic and structure of individual projects. Prepare maps of ore, calculate ore reserves, and define the quality of the confining layers and ore sands. Evaluate data from other sources for possible acquisition. Prepare exhibits to accompany regulatory applications.

Uranium Resources, Inc. (URI, Inc.) Dallas, Texas.
Senior Geologist, 1987 - 1966
Responsible for geologic studies of New Mexico and Texas projects, utilizing subsurface data to define the stratigraphic and structure of individual projects. Prepare maps of ore, calculate ore reserves, and define the quality of the confining layers and ore sands. Evaluate data from other sources for possible acquisition. Supervise drilling, casing and completion of the pump test and production wells.

Geological Consultant (1983 - 1987) for numerous companies. Projects included installation of pumps test, claim assessment, calculating reserves, geologic review of reserves to define mineable ore, installation of additional production wells at an operating in-situ mine site.

Conoco, Inc.
Project Geologist, 1982 - 1983
Geologic studies of ore deposits, feasibility studies of ore deposits, delineation drilling, design and layout of the wellfields, installation of production wells and reserve calculation.

Freeport Sulphur Co.
Exploration Geologist, 1981 - 1982
Review stratigraphy and structure of the western flank of the Permian Basin of West Texas for the purpose of locating sediments and structures favorable for sulphur development. Field mapping of large unmapped areas as well as company properties, location of drill holes, describe drill cuttings and core. Prepare of cross sections depicting the geology and structure of the projects.

Wyoming Mineral Corp.
Project Geologist, 1976 - 1981
Exploration drilling, feasibility studies of discovered ore, delineation drilling, layout and design of wellfields, installation of production and monitor wells. Installation of electrical and piping. Supervision of grade control, flow control and well maintenance crews. Additionally, production

forecasts and mine planning at all three in-situ mines. (Bruni and Three Rivers in Texas and Irigarary mine in Wyoming.)

Utah International, Inc.
Uranium Exploration Geologist, 1973 - 1976
Locate and evaluate potential uranium areas and formations, conduct both aerial and surface surveys, recommend property acquisition, set up drilling programs, supervise drilling, evaluate information gained from drilling, and the calculation of reserves.

Nuclear Dynamics, Inc.
Uranium Exploration Geologist, 1972 - 1973
Regional drilling to define redox fronts, delineation drilling to define ore reserves. Interpretation and correlation of drill hole electric logs, describe drilling cuttings, preparation of regional maps to determine favorable areas to explore.

Duval Corporation
Mineral Exploration Geologist, 1968 - 1972
Mineral exploration in West Texas and Australia starting with research of specific minerals and modes of occurrence as well as areas that were likely to be favorable for ore deposits. Geological mapping and geochemical surveys. Supervision of drilling and logging of drill hole samples and core.

Texaco, Inc.
Geological Assistant, 1966 - 1968
Assist production geologists in West Texas. Made geologic maps of new fields, updated maps by adding new wells to field maps and adjusting the contours. Kept production records for the fields. Constructed cross section of fields and adjoining areas.

Education:

Sul Ross State University, B. S. Geology 1967
Post Graduate courses in Problem Solving, Decision Making and Managing Techniques
Principles of Management

Memberships:

Society of American Institute of Mining, Metallurgical and Petroleum Engineers, Inc.
Society of Economic Geologists
New Mexico Geological Society
Registered Professional Geologist (Wyoming)

EXHIBIT C

TEXAS WATER COMMISSION
Stephen F. Austin State Office Building
Austin, Texas

PERMIT NO. UR02827

KINGSVILLE DOME MINING PROJECT
This permit supersedes and replaces TWC Permit No. UR02827 issued December 30, 1986

PERMIT to conduct underground injection under provisions of Chapters 26 & 27, Texas Water Code

I. Name of Permittee:

A. Name URI, Inc.

B. Address 12377 Merit Drive, Suite 750, LB14
Dallas, Texas 75251

II. Type of Permit: Regular _____ Amended X

III. Nature of Business: In Situ Uranium Mining

IV. General Description and Location of Injection Activity

The permit area for this site is 2135 acres. There are ten currently designated mine areas. The production zone is in the Goliad Formation at the depth interval of 420 to 810 feet below mean sea level. Uranium will be produced from three sand units in the upper Goliad, each unit approximately 50 feet thick. Continuous excess water withdrawal will provide control of leachate movement. Monitor wells will provide horizontal and vertical surveillance of ground-water quality to ensure confinement of leachate in the subsurface mining zone.

CONTINUED on Pages 2 through 13.

The permittee is authorized to conduct injection activity in accordance with limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules and orders of the Commission, and the laws of the State of Texas. This permit is valid until amended or revoked by the Commission.

APPROVED, ISSUED, AND EFFECTIVE this 11th day of January, 1990

ATTEST: Brenda W. Foster

For the Commission

The mining procedure consists of injection of an alkaline leaching solution along with an oxidant into the uranium bearing formation through a pattern of injection wells. The uranium is solubilized by the leaching solution and the solution is pumped from a pattern of recovery wells to the processing plant where uranium is extracted by ion exchange. This solution is then reconstituted with leaching agents and recycled to the field for reinjection.

URI, Inc. shall use a non-ammonia leaching solution at all Production Areas. Before there is any modification in the composition of the leaching fluids beyond the description in the application, the operator shall provide descriptive information and obtain an amendment pursuant to the Rules of the Commission.

The mining operation is located approximately 8 miles southeast of Kingsville adjacent to FM 1118 in Kleburg County, Texas. The permit area is contained within Blocks 41, 42, 48, 49, 50, 51, 53, 54, and 55.

No surface discharge is authorized by this permit.

V. Character of Wastes

Waste streams resulting from the mining activity include:

A. Production Bleed Stream - This stream will result from a withdrawal of fluids from the well field for leachate control.

B. Plant Waste Stream - This stream results from waste fluids generated from the normal operations of plant facilities.

C. Laboratory Stream - This waste stream is generated by routine chemical laboratory procedures and processes.

D. Restoration Stream - This stream will result from ground water pumped from the well field during the restoration of the mine areas.

E. Radioactive Solids - Any radioactive solid and semi-solid wastes will be transported and disposed of pursuant to the Texas Department of Health requirements.

F. Non-Radioactive Solids - Non-radioactive solid and semi-solid wastes will be disposed of at an authorized waste disposal site in accordance with the Texas Water Commission rules.

VI. Standard Provisions

A. Commission Rules

This permit is subject to all rules of the Commission under the authority of Section 5.103, Texas Water Code. The following rules are incorporated herein by reference:

31 TAC Section	Title
331.1 - 331.13	General Provisions
331.31 - 331.36	Jurisdiction Over In Situ Uranium Mining
331.41 - 331.48	General Standards and Methods
331.81 - 331.86	Standards For Class III Wells
331.101 - 331.107	Standards For Class III Wells Production Area Development
331.122	Considerations Prior To Permit Issuance (Class III Wells)

B. Production Area Authorization

1. General - Mining in a Production Area within the Permit Area requires a Production Area Authorization from the Texas Water Commission. The Production Area Authorization includes the updated Mine Plan, a Restoration Table, Baseline Water Quality Table, Control Parameter Upper Limits, Monitor Well locations for the subject Mine Area, and special provisions (if applicable). These, as well as the application and any subsequent technical reports, are a part of and incorporated herein as terms and provisions of this permit.

   The authorization for mining in a Production Area may be issued only after an original Application for Production Area Authorization and three (3) complete copies are submitted to the Executive Director. The Executive Director shall transmit the application with his recommendation to the Texas Water Commission which shall consider the application and recommendation at its regular agenda meeting after at least ten (10) days notice to all affected parties. The notice and Commission consideration of the application shall be limited to the issues pertinent to the requested Production Area Authorization as set out in this permit.

2. Information Required - The permittee will develop and submit the information required in the "Application for Production Area Authorization" - Form TWC-0304.

C. Sample Taking, Preservation, Analysis and Quality Control

1. Sampling - To obtain a valid sample, the sample well shall be pumped

during completion until water is free of mud and foreign material and until conductivity and pH are reasonably constant in a natural range. As samples are taken during Baseline, routine, and restoration sampling, the sampled well shall be pumped for a sufficient time to assure that water sampled is formation water. Excess water pumped from production wells or monitor wells containing leaching solutions shall not be discharged to the surface waters of the State.

2. Preservation and Analysis - Sample preservation, analysis and analytical quality control will be as defined in the current issues of Methods for Chemical Analysis of Water and Wastes (EPA - Technology Transfer). Total Dissolved Solids shall be determined by evaporation (180°C).

3. The permittee shall notify the Central Office in Austin of intent to collect samples for Baseline and final closing at least one week prior to sample collection to allow the Commission staff an opportunity to split samples for confirming analysis.

D. Wellhead Pressure

Pressure gauges shall be on all injection wells or on the injection manifold with the maximum allowable injection pressure clearly marked on each gauge. The wellhead pressure at any injection well shall be maintained so as to minimize the possibility of leakage from the Production Zone into the Non-Production Zones. In no instance will the injection pressure exceed .40 psi per foot of well depth.

E. Radioactive Materials License

Prior to mining in a Production Area the permittee shall have a valid license(s) from the Texas Department of Health covering the handling and processing of radioactive materials.

VII. Special Provisions

A. Control Parameters and Upper Limits

Conductivity, uranium and chloride shall be used as control parameters. Upper limit values will be calculated for the Production and Non-Production Zones as follows:

1. Add a value of 5 mg/l to the maximum uranium value determined on the Baseline sampling of the Mine Area Wells and the Production Area Wells of the Production Area being authorized.

2. Add 25% to the maximum conductivity value determined in the Baseline sampling of the Mine Area Wells and the Production Area Wells of the Production Area being authorized.

3. Add 25% to the maximum chloride value determined in the Baseline sampling of the Mine Area Wells and the Production Area Wells of the Production Area being authorized.

B. Plugging and Abandonment

Prior to abandoning Class III uranium wells, the wells shall be plugged with cement in a manner which will not allow the movement of fluids out of the injection zone either into or between freshwater aquifers.

The permittee shall notify the Executive Director before commencing plugging and abandonment. Plugging and abandonment shall be accomplished in accordance with the plans and specifications submitted in the application. Within 30 days after completion of plugging, the permittee shall file with the Executive Director a plugging report on forms provided by the Commission. Any revised, updated or additional plugging and abandonment plans shall be subject to Executive Director approval.

C. Financial Assurance

The permittee shall secure and maintain in full force and effect at all times a performance bond or other form of financial security, in accordance with 31 TAC 305.153 to provide for plugging and abandonment of the permitted Class III uranium wells. The bond or other form of financial security shall be in the amount of $230,365.00 and shall be reviewed annually. The amount of financial security may, at the discretion of the Texas Water Commission in a separate and independent proceeding, be altered at a future date to provide for adequate plugging subject to prevailing general economic conditions. This permit does not authorize underground injection of fluid unless the permittee has in effect the performance bond or other form of financial security described above.

D. Wastewater Ponds

1. All wastewater ponds except those described in VII.D.3. below shall be lined with a minimum 30 mil thick chlorinated polyethylene liner or equivalent approved lining, and constructed with an underdrain leak detection system in accordance with the plans and specifications contained in the Permit Application. The leak detection system shall be monitored weekly. A minimum of two feet of freeboard shall be maintained in all ponds during normal operations. A minimum of one foot of freeboard may be maintained during emergency periods such as high rainfall, for a period not to

exceed fourteen days. An easily readable freeboard gauge shall be installed and maintained for each pond. The Central Office in Austin shall be notified immediately when the freeboard decreases to less than two feet.

2. If any leaks are detected in the pond liner, the Central Office in Austin shall be notified immediately. The pond fluids will be evacuated as soon as practicable to another location approved by the Director of the Water Rights and Uses Division and the leak repaired. A determination of the extent of any subsurface contamination shall be made and a report submitted to the Executive Director within 14 days after the leak is detected. The report shall also contain the company's plan for corrective action.

3. All ponds used for wastewater storage prior to injection down a waste disposal well shall be subject to the terms and conditions of the disposal well permit.

E. Mechanical Integrity

Proof of mechanical integrity for all injection wells shall be demonstrated by well completion (cementing) records and a pressure test as described in the application. Prior to beginning injection the permittee must receive certification from the Executive Director that well construction is in accordance with the plans and specifications contained in the permit application and technical report.

F. Production/Processing Facilities

The primary and supporting production/processing facilities along with supplies and materials used by or resulting from these facilities are to be installed, operated, maintained and handled in accordance with the plans, specifications, and descriptions submitted as part of the permit application in order to prevent dispersion of any materials, directly or indirectly, to surface or ground waters.

No surface discharge is authorized by this permit from any production or processing facilities.

G. Designated Non-Production Zone Wells in Additional Overlying Aquifers

1. Non-Production Zone Monitor Wells completed in additional overlying aquifers (above the first overlying aquifer) shall be sampled and Baseline water quality determined upon completion. Baseline water quality analyses (on Form TWC-0678) shall be submitted to the Central Office in Austin. Every three months, these Monitor Wells shall be sampled and analyzed for the Control Parameters specified in Section VII.A. The results of these quarterly sample analyses

shall be submitted to the Central Office in Austin on March 1st, June 1st, September 1st, and December 1st of each year.

2. If the results of a routine sample analysis in one or more of these overlying Monitor Wells shows that the value of any Control Parameter is equal to or above the Upper Limit established for that permit/mine area the operator shall complete a Verifying Analysis of samples taken for each apparently affected well within two days. The permittee shall determine if and to what extent leaching solutions are present in the overlying aquifers and effect clean-up in accordance with 31 TAC Section 331.106. Under such circumstances corrective action reports shall be submitted monthly to the Director of the Water Rights and Uses Division, in Austin.

H. Monitoring Frequency During Restoration

Once the permittee officially notifies the Central Office in Austin that full-scale restoration has commenced and injection of leachate has ceased in a particular Production Area as per 31 TAC Section 331.105(2), approval may be given by the Executive Director for a reduction in the frequency of monitoring. The restoration monitoring frequency shall be at least quarterly. The reduced frequency of monitoring may continue as long as full-scale restoration continues or until the value of any Control Parameter is equal to or above the Upper Limit Value for the Production Area. If full-scale restoration efforts by the permittee are suspended or interrupted for any reason, the permittee shall notify the Central Office in Austin and routine monitoring as per 31 TAC Section 331.105(1) shall be resumed. The permittee shall submit any proposed monitoring frequency changes to the Executive Director at least 30 days prior to the proposed implementation date of the new sampling schedule.

I. Reduced Sampled Analyses During the Restoration Stability Period

Restoration stability sample analyses, as required by 31 TAC Section 331.107, may be reduced in frequency for particular parameters if the permittee can demonstrate to the Executive Director that the particular parameter concentrations have not been elevated above Baseline during the mining process. These parameters (as designated by the Executive Director) shall be analyzed during the initial restoration verification sampling and the final restoration verification sampling and the final restoration sampling only. All other Restoration Parameters shall be analyzed and reported for each of the required monthly interval samplings.

J. Restoration Demonstration - The permittee shall complete one or more restoration demonstrations before October 12, 1989. The demonstration shall include the following:

1. An isolated restoration demonstration pattern, completed in a Production Area, constructed to the same basic configuration as the proposed production well field pattern, and operated under the same conditions as the proposed mining procedures.

2. Leaching of the pattern will be run for at least 3 months under commercial activity conditions using leaching agent concentrations equal or greater than is expected to be required for production.

3. After leaching phase, a complete chemical description of the produced fluid will be obtained and a demonstration of a restoration will be initiated.

4. Brine concentrate will be discharged to a disposal well or contained in on-site tankage until it can be disposed of at an authorized site.

5. Sample analysis of fluids will be completed at least every week during the restoration demonstration to allow observation of the concentration of various restoration parameters. The permittee shall compile reports based on the weekly sampling. These progress reports shall be submitted to the Director, Water Rights and Uses Division of the Texas Water Commission biannually.

6. Restoration will continue until the ground water is restored to levels consistent with baseline.

7. With each progress report, the operator will calculate and submit the volume of ground water affected. Factors to be considered include: areal extent, formation thickness, and porosity. Upon the consideration of the restoration demonstration, submit the data, analysis, and conclusions in a final report.

8. Authorization for expansion of mining into additional Production Areas will be contingent upon the results of the restoration demonstration within the 18 month period.

K. During the full-scale restoration at this site, the permittee shall use reverse osmosis (R.O.) treatment of ground water from the mine zone aquifer in accordance with the plans outlined in the technical report submitted as part of the application.

L. Waste water produced from the reject side of the R. O. unit, less that amount of water constituting the bleed streams, shall be replaced by an equal amount of makeup water purchased for that purpose. Prior to the purchased water being injected into the mine zone, it will be commingled with the R.O. product and mine zone water.

M. Waste streams and reject restoration fluids will be disposed of down a Commission approved Class I waste disposal well. All terms and conditions of the waste disposal well permit will be complied with.

N. Monitor wells shall be installed in the first aquifer underlying the production zone. These wells shall be sampled and analyzed and the results shall be reported according to the same schedule established for the monitor wells in the first overlying aquifer. The first underlying aquifer shall be determined as follows:

1. A hydrologic test shall be conducted in each production area to dertermine if the "A" sand is in communication with the "B" or "C" sands.

   (a) If the "A" sand is not in communication with the "B" or "C" sands it shall be considered to be the first underlying aquifer and shall be monitored in accordance with 31 TAC Section 331.103(b).

   (b) If the "A" sand is in communication with the "B" or "C" sands it shall be monitored in accordance with 31 TAC Section 331.103(a). In this case the "AA" sand shall be considered to be the first underlying aquifer and shall be monitored in accordance with 31 TAC Section 331.103(b).

O. The permittee shall use the same averaging process for restoration samples as is used to establish baseline water quality values so that constituent levels are directly comparable.

P. Any modification to a Restoration Table in a Production Area Authorization which would exceed the high values contained in the Restoration Range Table, which is set out in Table 2 of this permit, shall require published notice and opportunity for a public hearing in accordance with 31 TAC Section 305.102.

VIII. Specific Definitions

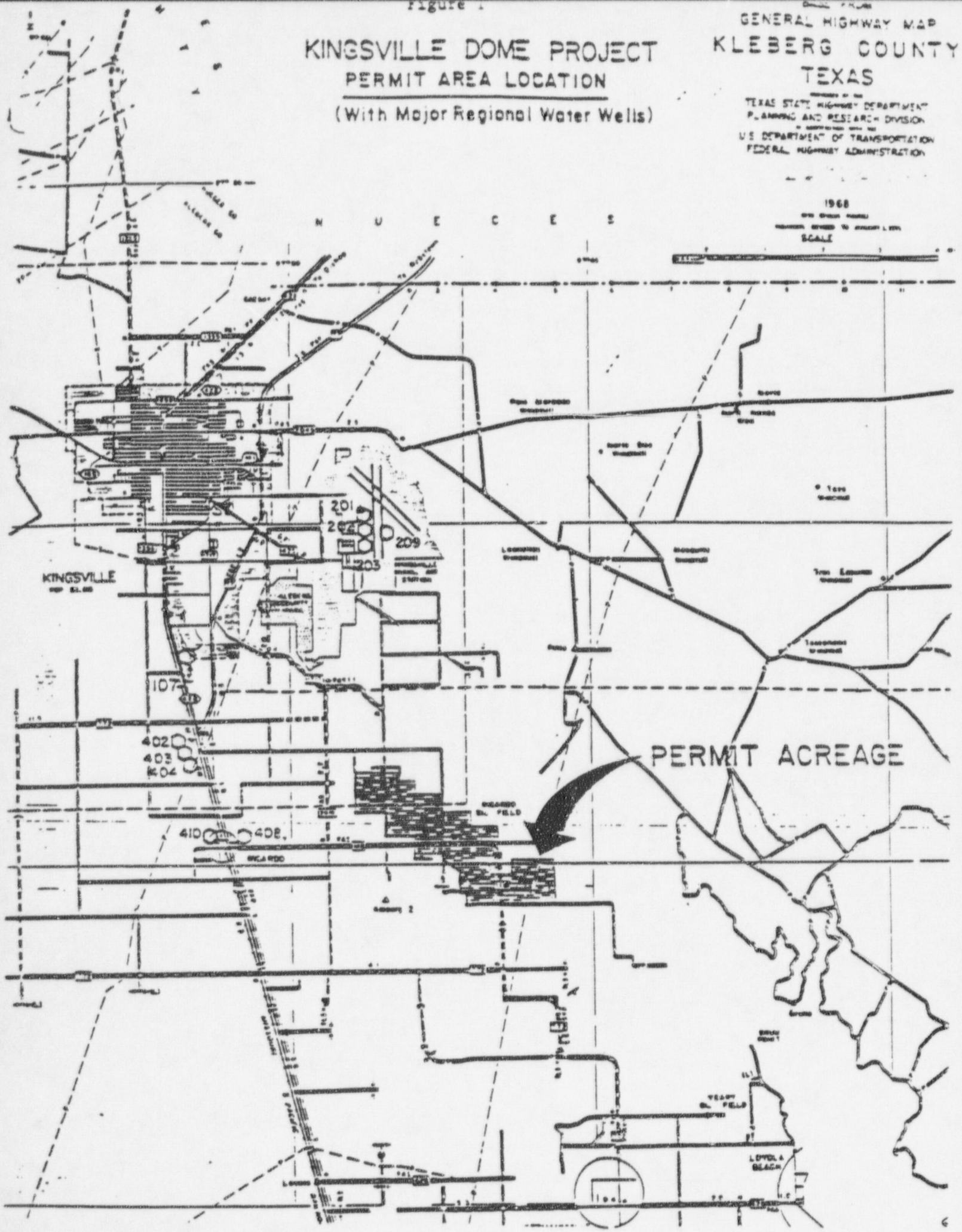
A. Permit Area - The Permit Area is defined as shown in Figures 1 and 2.

B. Mine Plan - The Mine Plan is defined by Figure 2 Table 1. An updated Mine Plan will be issued as part of each future Production Area Authorization or Permit amendment.

C. Application - The document entitled "Kingsville Dome Project, Expansion No. 1, Supplementary Technical Report," filed by URI, Inc. as received on May 13, 1988 and subsequent amendments thereof.

Figure 1

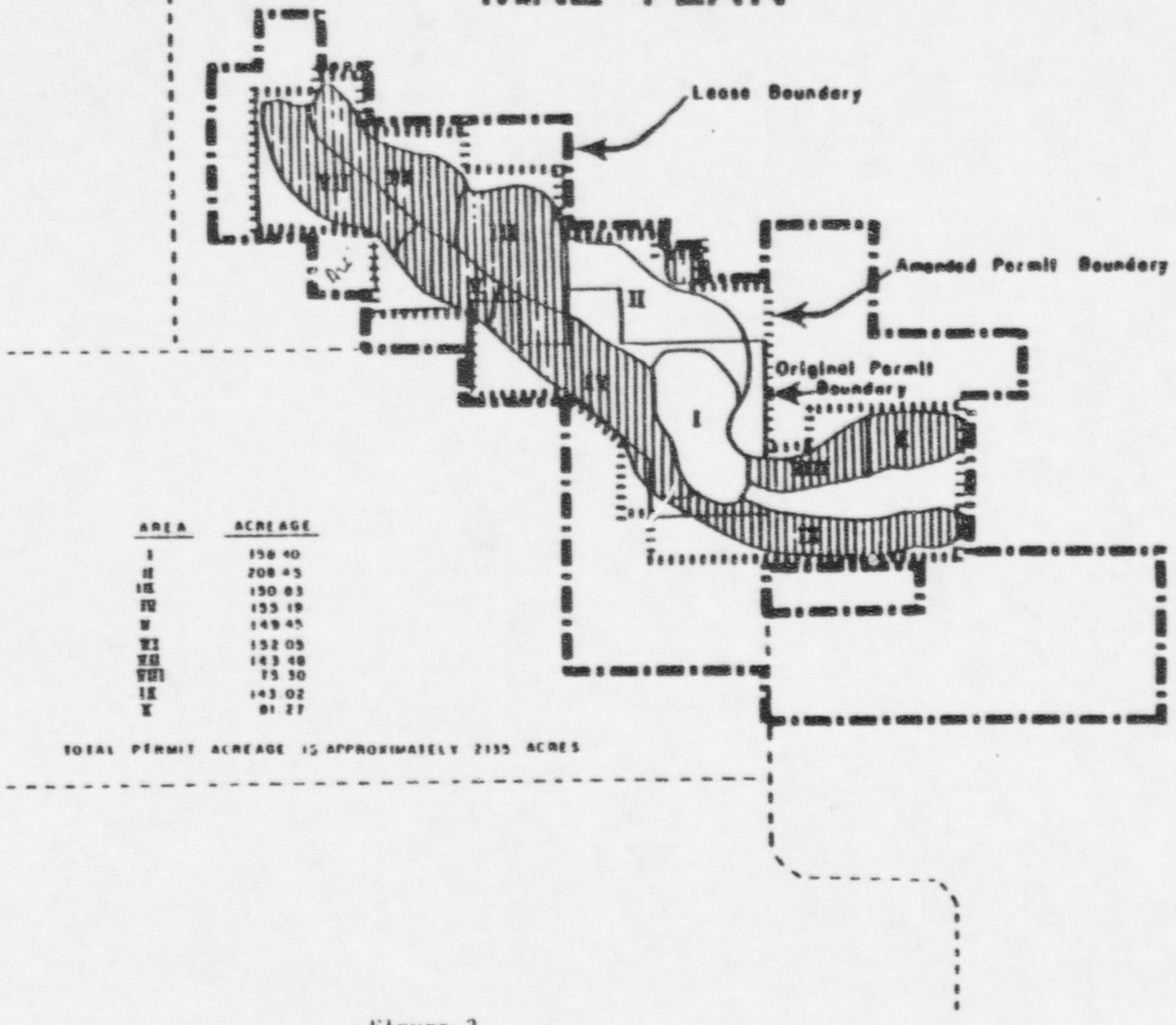
KINGSVILLE DOME PROJECT
PERMIT AREA LOCATION
(With Major Regional Water Wells)



URANIUM RESOURCES, INC.

KINGSVILLE DOME

MINE PLAN



AREA	ACREAGE
I	158 40
II	208 45
III	150 83
IV	155 19
V	149 45
VI	152 05
VII	143 48
VIII	75 30
IX	143 02
X	81 27

TOTAL PERMIT ACREAGE IS APPROXIMATELY 2135 ACRES

Figure 2

Table 1

Mine Plan

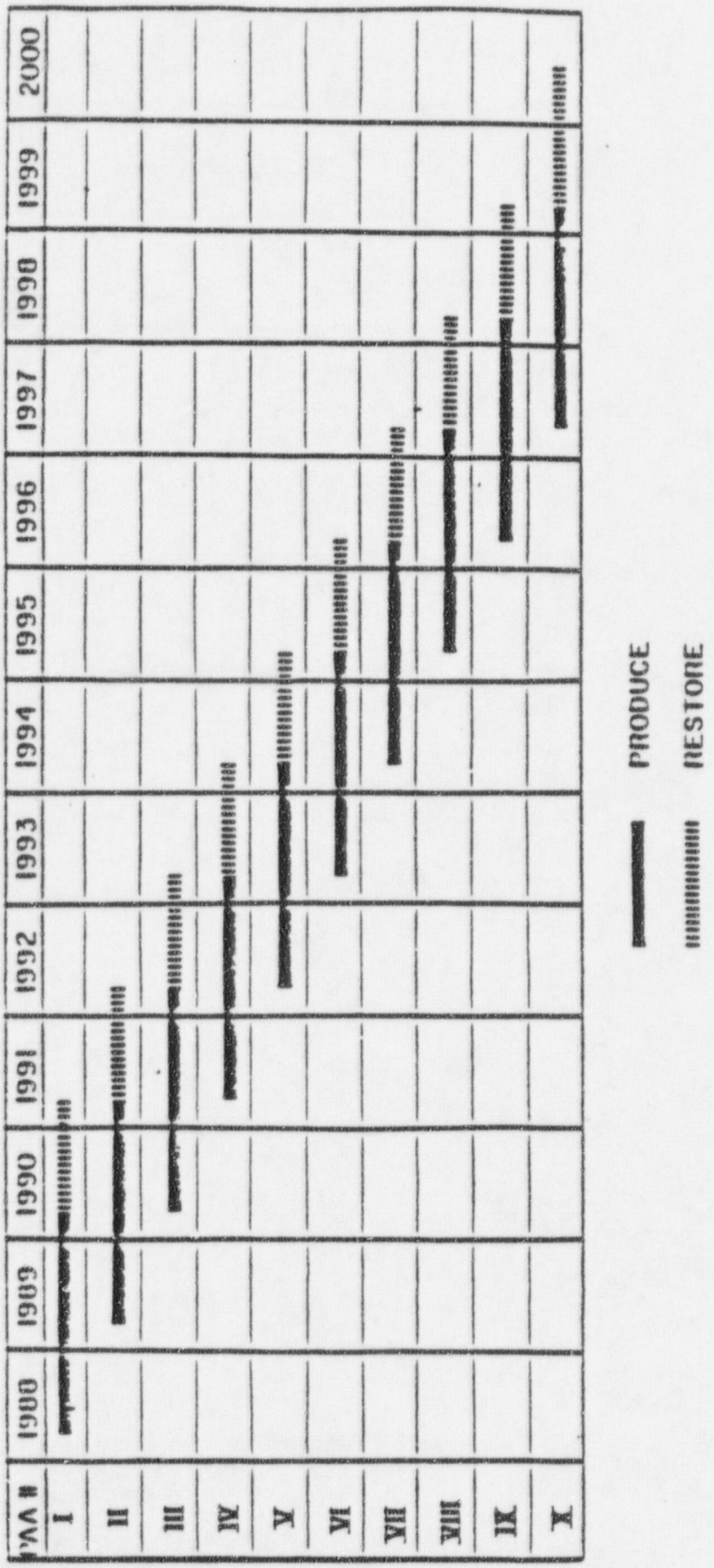


Table 2

RESTORATION RANGE TABLE

	LOW	HIGH
Ca	5.15	74
Mg	2.8	10
Na	288	352
K	4.72	12.1
CO_3	0	71
HCO_3	142	505
SO_4	13	310
Cl	196	352
Fl	.49	1.10
N	.01	5.8
SiO_2	9.1	22
pH*2	7.37	9.5
TDS	880	1230
EC**	1470	2100
Alk***	205	444
As	<.001	.023
Cd	<.0001	.0034
Fe	<.01	.26
Pb	<.001	.014
Mn	<.001	.08
Hg	<.0001	.01
Se	<.001	.072
NH_3	.01	13
U	.002	1.89
Mo	<.01	.84
Ra 226****	.01	202

Parameter values are expressed in mg/l except where noted

* standard units
** umhos
*** standard units
**** pCi/l

EXHIBIT D

TEXAS WATER COMMISSION

February 11, 1988

Mr. Mark S. Pelizza
Environmental Manager
Uranium Resources, Inc.
12377 Merit Drive
Suite 750, LB14
Dallas, Texas 75251

Re: Restoration Determination of Production Area No. 1 of the Longoria Mine Site, Permit No. UR02222-011

Dear Mr. Pelizza:

The Texas Water Commission has received the restoration data for Production Area No. 1 of the Longoria Mine Site. A review of the data indicates that Production Area No. 1 has been restored in accordance with the specifications contained in permit number UR02222-011 as required by 31 TAC Section 331.107. Your are hereby authorized to cease any restoration activities, including monitoring, at Production Area No. 1.

Within 120 days of receipt of this letter closure of the wellfield shall be accomplished in accordance with the approved plugging and abandonment plans for this Production Area. Any modifications to the plugging and abandonment procedure must be approved in writing by the Commission.

Please notify the Commission prior to commencing plugging activities to provide the opportunity for TWC personnel to be present. If you have any questions please contact Dale P. Kohler of the In Situ Uranium Mining Unit at (512) 463-8278.

Sincerely,

Harry O. Pruett

Harry D. Pruett
Director, Water Rights & Uses Division

DK:jt
cc: TWC Dist 11 Office - Weslaco
Mr. David Lacker - Texas Department of Health
Bureau of Radiation Control

TEXAS WATER COMMISSION

February 11, 1988

Mr. Mark S. Pelizza
Environmental Manager
Uranium Resources, Inc.
12377 Merit Drive
Suite 750, LB14
Dallas, Texas 75251

Re: Restoration Determination of Production Area No. 2 of the Longoria Mine Site, Permit No. UR02222-021

Dear Mr. Pelizza:

The Texas Water Commission has received the restoration data for Production Area No. 2 of the Longoria Mine Site. A review of the data indicates that Production Area No. 2 has been restored in accordance with the specifications contained in permit number UR02222-021 as required by 31 TAC Section 331.107. Your are hereby authorized to cease any restoration activities, including monitoring, at Production Area No. 2.

Within 120 days of receipt of this letter closure of the wellfield shall be accomplished in accordance with the approved plugging and abandonment plans for this Production Area. Any modifications to the plugging and abandonment procedure must be approved in writing by the Commission.

Please notify the Commission prior to commencing plugging activities to provide the opportunity for TWC personnel to be present. If you have any questions please contact Dale P. Kohler of the In Situ Uranium Mining Unit at (512) 463-8278.

Sincerely,

Harry D. Pruett
Director, Water Rights & Uses Division

DK:jt
cc: TWC Dist 11 Office - Weslaco
Mr. David Lacker - Texas Department of Health
Bureau of Radiation Control

ATTACHMENT F

Religion. Page 15 Gallup. Grants in championship game. Page 5

Balloonist: Third attempt won't be last

See Page 3

Weekend
January 18, 1998
Number 008 Volume 111

THE TRUTH WELL TOLD
Independent

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Uranium mine still faces hurdles, hoops

By Malcolm Brenner
Staff Writer

GALLUP — Hydro Resources, Inc. got its mining license from Nuclear Regulatory Commission on Tuesday, but that doesn't mean the Dallas-based company's troubles are over.

"It's not like tomorrow they're going to start producing uranium," said Chris Shuey, with the Southwest Research and Information Center in Albuquerque. "Obviously, they can't. They've got to jump through a number of hoops."

HRI wants to leach-mine uranium under the Navajo Nation's Crownpoint and Church Rock chapters and build a processing plant for it in Crownpoint. The SWRIC and seven other groups and individuals opposed to the mining have petitioned B. Paul Cotter Jr., the NRC's administrative law judge, for an evidentiary hearing.

The hearing would air complaints about problems with the license and possible harmful effects of the mining, but Cotter's decision is months off. In the meantime, the NRC may have erred, Shuey said, by not requiring HRI to fulfill the license requirements before granting the license.

"Now our contention is that you can't get a license until you jump through those hoops," he said. "You cannot get a license and then be on your best behavior to jump through the hoops."

Some of the hoops facing HRI include jurisdictional issues, federal environmental permits, lawsuits, technical obstacles, a multi-million dollar surety bond and the intransigence of local residents opposed to the mining.

And that list is probably incomplete.

Spokespersons with the NRC did clarify some of the issues raised in its Jan. 6 press release announcing the license. A reference to obtaining permits from the State of Utah was just a misprint, said Joe Holonich, chief of the NRC's Uranium Recovery Branch.

HRI wants to mine three sites: near Church Rock, in an area called Unit 1, and just outside Crownpoint, the seat of the Navajo Nation's Eastern Agency. The company will be required to do so in that order.

If HRI cannot demonstrate that Church Rock's water has been successfully restored to either state or federal drinking water standards — which ever is higher — it will not be permitted to begin mining at the Unit 1 site or in Crownpoint, said Bob Carlson, the NRC's project manager for the mining operation.

To further protect Crownpoint's water, the NRC has asked HRI to move drinking water wells operated by the Bureau of Indian Affairs and the Navajo Tribal Utilities Authority. The wells are the only source of potable water for more than 10,000 residents of the Crownpoint area.

"Their proximity to the town makes this site unique," Holonich said.

HRI has already agreed to do that — but the NTUA has gone on record as saying it doesn't agree to the plan.

Originally, HRI contended it could control the pressure in its wells so precisely that there was no chance of lixiviant, the water-based mining solution, infiltrating the town's water supply.

But, "As a regulatory agency, we like to take a conservative posture," Holonich said. "If NTUA says 'We're never going to move those wells,' then HRI has got to make the decision either to abandon that unit, or it could come in and ask that that condition be removed from the

See Uranium mine, page 2

Uranium mine

license," which would trigger another hearing.

The requirement to move the wells shows the government has doubts about HRI's ability to prevent drinking water contamination, Shuey said.

Mark Pelizza, HRI's environmental manager in Dallas, wasn't worried. He was confident that HRI would be able to demonstrate its concern and control to the NTUA.

"If we can't come to an agreement, that development will never occur," Pelizza said.

On the legal side, HRI is fighting on two fronts.

The 10th Circuit Court of Appeals in Denver, Colo., is hearing a jurisdiction suit. The State of New Mexico Bureau of Mines and Minerals and HRI are suing the U.S. Environmental Protection Agency over its July 1997 decision that the Crownpoint mining site is in Indian Country and thus falls under federal EPA restrictions.

HRI isn't contesting jurisdiction over Church Rock and Unit 1.

In 1986, Shuey said, HRI changed the boundaries of the Crownpoint site by selling some land to escape the jurisdiction issue.

Pelizza denied that, but he admits the issue is complicated.

"In the checkerboard area, things are fuzzy," he said. "We have every type of land ownership that I think exists." He proposed that the nation, state and the EPA share jurisdiction, although he didn't say how that could be done.

In district court, the Navajo Justice Department is challenging HRI's request to the New Mexcio State engineer to transfer water rights from the state to the company. The Nation contends that the Navajo Water Code supercedes the state engineer's authority, and that there isn't enough water for HRI's uses.

Pelizza said the lawsuits aren't related to the license and wouldn't slow down operations. But the NRC said differently.

"What we require is that they have to have all the permits from the necessary regulatory agencies," Holonich said. "They're going to have to show us that they've settled the issue on the jurisdictional dispute."

"In our point of view, they're a pretty tough regulator," Pelizza said of the NRC.

Shuey disagreed. Mining issues aside, he was still concerned that the processing plant would be releasing radioactive materials into the Crownpoint community for 20 years -- the life of the mining project.

"The license is a real slap in the face," Shuey said. "It's the NRC ignoring the substantial issues that are in dispute in this case."

ATTACHMENT G

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

January 05, 1998

Mr. Richard F. Clement, Jr., President
Hydro Resources, Inc.
2929 Coors Blvd., NW
Suite 101
Albuquerque, NM 87120

SUBJECT: ISSUANCE OF SOURCE MATERIAL LICENSE SUA-1508, FOR THE IN SITU LEACH URANIUM MINING PROJECT AT CROWNPOINT, NEW MEXICO

Dear Mr. Clement:

The U.S. Nuclear Regulatory Commission staff has completed its review of Hydro Resources, Inc.'s (HRI's) license application, dated April 25, 1988 (as supplemented by the licensee submittals listed in Attachment A of the enclosed source material license SUA-1508), and the Crownpoint Uranium Project Consolidated Operations Plan (COP), Rev. 2.0, dated August 15, 1997. Based on its review of these documents as discussed below, the NRC staff hereby issues HRI a source material license SUA-1508 for its in situ leach uranium mining project at Crownpoint, NM, effective January 5, 1998.

The NRC staff determined, in accordance with 10 CFR 51.20 and 10 CFR 51.25, that preparation of an environmental impact statement (EIS) was necessary to document its review. The NRC staff issued a final EIS (FEIS) for the Crownpoint Project in February 1997 documenting its environmental review. Based on its review, the NRC staff concluded that HRI's proposed Crownpoint Project was environmentally acceptable, and that potential impacts of the proposed project could be mitigated. These mitigative measures are enumerated as conditions in the enclosed source material license.

In addition, the NRC staff conducted its safety review of the Crownpoint Project, and documented its analyses in the Safety Evaluation Report, dated December 4, 1997. Based on its review, the NRC staff concluded that issuance of a source material license, with certain conditions specified in the enclosed license, would not be inimical to the common defense and security or to the public's health and safety, and otherwise meets the applicable requirements of 10 CFR Parts 19, 20, 40, and 71, and the Atomic Energy Act of 1954, as amended.

The SER and the FEIS provide the bases for the NRC's decision to issue a 10 CFR Part 40 source material license to HRI. As such, HRI's source material license SUA-1508 is enclosed, and is valid for five years from its effective date. HRI will be required to submit a license renewal application six months prior to the expiration date of January 5, 2003.

If you have any questions concerning this subject, please contact Mr. Robert Carlson of my staff at (301) 415-8165.

Sincerely,

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

Enclosure: As stated

Docket No. 40-8968
License No. SUA-1508

MATERIALS LICENSE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

1. Licensee Hydro Resources, Inc. 2929 Coors Blvd, NW Suite 101 Albuquerque, NM 87120	3. License Number: SUA-1508
2.	4. Expiration Date: January 5, 2003
	5. Docket or Reference No.: 40-8968

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
Uranium	Any	Unlimited

SECTION 9: ADMINISTRATIVE CONDITIONS

9.1 The authorized place of use shall be the licensee's Crownpoint Uranium Project which includes the Crownpoint, Unit 1, and Church Rock uranium recovery and processing facilities in McKinley County, New Mexico.

9.2 All written notices and reports required under this NRC license (with the exception of effluent monitoring reports required under License Condition (LC) 12.3 and 10 CFR Part 40.65, which shall also be submitted to Region IV) shall be addressed to the Chief, Uranium Recovery Branch, Division of Waste Management, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Mail Stop T-7J9, Washington, DC 20555. Incidents and events that require telephone notification shall be made to the NRC Operations Center at (301) 816-5100.

9.3 The licensee shall conduct operations in accordance with all commitments, representations, and statements made in its license application submitted by cover letter dated April 25, 1988 (as supplemented by the licensee submittals listed in Attachment A), and in the Crownpoint Uranium Project Consolidated Operations Plan (COP), Rev. 2.0, dated August 15, 1997 - except where superseded by license conditions contained in this license. Whenever the licensee uses the words "will" or "shall" in the aforementioned licensee documents, it denotes an enforceable license requirement.

9.4 A) The licensee may, without prior NRC review or approval: (i) make changes in the Crownpoint Project's facilities or processes as described in the COP (Rev. 2.0); (ii) make changes in its standard operating procedures; and (iii) conduct tests or experiments, if the licensee ensures that the following conditions are met:

(1) the change, test, or experiment does not conflict with any requirement specifically stated in this license, or impair the licensee's ability to meet all applicable NRC regulations;

(2) there is no degradation in the safety or environmental commitments made in the Crownpoint Uranium Project Consolidated Operations Plan (COP), Revision 2.0, or in the approved reclamation plan for the Crownpoint Project; and

(3) the change, test, or experiment is consistent with NRC's findings in NUREG-1508, the Final Environmental Impact Statement (FEIS, dated February 1997) and the Safety Evaluation Report (SER, dated December 1997) for the Crownpoint Project.

If any of these conditions are not met for the change, test, or experiment under consideration, the licensee is required to submit a license amendment application for NRC review and approval. The licensee's determinations as to whether the above conditions are met will be made by a Safety and Environmental Review Panel (SERP). All such determinations shall be documented, and the records kept until license termination. All such determinations shall be reported annually to the NRC, pursuant to LC 12.8. The retained records shall include written safety and environmental evaluations, made by the SERP, that provide the basis for determining whether or not the conditions are met.

B) The SERP shall consist of a minimum of three individuals employed by the licensee, and one of these shall be designated the SERP chairman. One member of the SERP shall have expertise in management and shall be responsible for managerial and financial approval changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and, one member shall be the Environmental Manager, with the responsibility of ensuring that changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP as appropriate, to address technical aspects such as health physics, groundwater hydrology, surface-water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants.

9.5 As a prerequisite to operating under this license, the licensee shall submit an NRC-approved surety arrangement to cover the estimated costs of decommissioning, reclamation, and groundwater restoration. Generally, these surety amounts shall be determined by the NRC based on cost estimates for a third party completing the work in case the licensee defaults. Surety for groundwater restoration of the initial well fields shall be based on 9 pore-volumes. Surety shall be maintained at this level until the number of pore volumes required to restore the groundwater quality of a production-scale well field has been established by the restoration demonstration described in LC 10.28. If at any time it is found that well field restoration requires greater pore-volumes or higher restoration costs, the value of the surety will be adjusted upwards. Upon NRC approval, the licensee shall maintain the NRC-approved financial surety arrangement consistent with 10 CFR Part 40, Appendix A, Criterion 9.

Annual updates to the surety amount, required by 10 CFR Part 40, Appendix A, Criterion 9, shall be provided to the NRC at least 3 months prior to the anniversary date of the license issuance. If the NRC has not approved a proposed revision 30 days prior to the expiration date of the existing surety arrangement, the licensee shall extend the existing arrangement, prior to expiration, for 1 year. Along with each proposed revision or annual update of the surety the licensee shall submit supporting documentation showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation (i.e., using the approved Urban Consumer Price Index), maintenance of a minimum 15 percent contingency, changes in engineering plans, activities performed, and any other conditions affecting estimated costs for site closure.

The licensee shall provide an NRC-approved updated surety before undertaking any planned expansion or operational change which has not been included in the annual surety update. This surety update shall be provided to the NRC at least 90 days prior to the commencement of the planned expansion or operational change.

The licensee shall also provide the NRC with copies of surety-related correspondence submitted to the State of New Mexico, a copy of the State's surety review, and the final approved surety arrangement. The licensee must also ensure that the surety, where authorized to be held by the State, identifies the NRC-related portion of the surety and covers the above-ground decommissioning and decontamination, the cost of off-site disposal, soil and water sample analyses, and groundwater restoration activities associated with the site. The basis for the cost estimate is the NRC-approved site closure plan or the NRC-approved revisions to the plan.

9.6 The licensee shall dispose of 11e.(2) byproduct material from the Crownpoint Project at a waste disposal site licensed by the NRC or an Agreement State to receive 11e.(2) byproduct material. At each project site, the licensee shall maintain an area within the restricted area boundary for storing contaminated materials prior to their disposal. The licensee's approved waste disposal agreement must be maintained on-site. Should this agreement expire or be terminated, the licensee shall notify the NRC pursuant to LC 12.6. A new agreement shall be ratified within 90 days of expiration or termination of the previous agreement, or the licensee will be prohibited from further lixiviant injection.

9.7 The licensee shall implement and maintain a training program for all site employees as described in Regulatory Guide 8.31, and as detailed in the COP of the approved license application. All training materials shall incorporate the information from current versions of 10 CFR Part 19 and 10 CFR Part 20. Additionally, classroom training shall include the subjects described in Section 2.5 of Regulatory Guide 8.31. All personnel shall attend annual refresher training, and the licensee shall conduct regular safety meetings on at least a bi-monthly basis, as described in Section 2.5 of Regulatory Guide 8.31.

The Radiation Safety Officer (RSO), or his designee, shall have the education, training and experience as specified in Regulatory Guide 8.31. A Radiation Safety Technician (RST) shall have the qualifications specified in Regulatory Guide 8.31. Any person newly hired as an RST shall have all work reviewed and approved by the RSO as part of a comprehensive training program until appropriate course training is completed, and at least for 6 months from the date of appointment.

9.8 Written standard operating procedures (SOPs) shall be established and followed for: (1) all operational activities involving radioactive materials that are handled, processed, stored, or transported by employees; (2) all non-operational activities involving radioactive materials including in-plant radiation protection and environmental monitoring; and (3) emergency procedures for potential accident/unusual occurrences including significant equipment or facility damage, pipe breaks and spills, loss or theft of yellowcake or sealed sources, and significant fires. The SOPs shall include appropriate radiation safety practices to be followed in accordance with 10 CFR Part 20. SOPs for operational activities shall enumerate pertinent radiation safety practices to be followed. A copy of the current written procedures shall be kept in the area(s) of the production facility where they are utilized. All SOPs for activities described in the COP shall be reviewed and approved as presently described in the COP.

9.9 Release of equipment, materials, or packages from the restricted area shall be in accordance with NRC staff position, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct or Source Materials,"

dated May 1987, or suitable alternative procedures approved by the NRC prior to any such release.

9.10 Any corporate organization changes affecting the assignments or reporting responsibilities of the radiation safety staff as described in the COP of the approved license application shall conform to Regulatory Guide 8.31.

9.11 The licensee is hereby exempted from the requirements of 10 CFR Section 20.1902(e) for areas within the process facility, provided that all entrances to the facility are conspicuously posted in accordance with Section 20.1902(e), and with the words, "ANY AREA WITHIN THIS FACILITY MAY CONTAIN RADIOACTIVE MATERIAL."

9.12 Before engaging in any construction activity not previously assessed by the NRC, the licensee shall conduct a cultural resource inventory. All disturbances associated with the proposed development will be completed in compliance with the National Historic Preservation Act of 1966, as amended, and its implementing regulations (36 CFR Part 800), and the Archaeological Resources Protection Act of 1979, as amended, and its implementing regulations (43 CFR Part 7).

In order to ensure that no unapproved disturbance of cultural resources occurs, any work resulting in the discovery of previously unknown cultural artifacts shall cease. The artifacts shall be inventoried and evaluated in accordance with 36 CFR Part 800, and no disturbance shall occur until the licensee has received written authorization to proceed from the State and Navajo Nation Historic Preservation Offices.

9.13 Prior to injection of lixiviant, the licensee shall have all applicable Memoranda of Agreements (MOAs) between the licensee and local authorities, the fire department, medical facilities, and other emergency services, ratified and in effect. At a minimum, the MOAs shall identify individual party responsibilities, coordination requirements, and reporting procedures for all emergency incident responses.

9.14 Prior to injection of lixiviant, the licensee shall obtain all necessary permits and licenses from the appropriate regulatory authorities.

SECTION 10: OPERATIONS, CONTROLS, LIMITS, AND RESTRICTIONS

10.1 The licensee shall use a lixiviant composed of native ground water, carbon dioxide gas or sodium bicarbonate, and dissolved oxygen or air, as specified in the COP of the approved license application.

10.2 The processing plant flow rate at each site (Church Rock, Unit 1, or Crownpoint) shall not exceed 4000 gal/min (15,140 L/min), exclusive of restoration flow. Total yellowcake production from all three sites shall not exceed 3 million lbs (1.36 million kg) annually.

10.3 Injection well operating pressures shall be maintained at less than formation fracture pressures, and shall not exceed the well's mechanical integrity test pressure.

10.4 Only steel or fiber glass well casing shall be used at the Unit 1 and Crownpoint sites for all wells completed into the Dakota Sandstone, Westwater Canyon, and Cow Springs aquifers.

10.5 A leak detection monitoring system shall be installed for all retention ponds. The licensee shall measure and document pond freeboard and fluid levels in the leak detection system daily, including weekends and holidays. If fluid levels greater than 6 in (15.2 cm) are detected

in the leak detection sumps, the fluid in the sumps shall be sampled and analyzed for specific conductance and chloride. Elevated levels of these parameters shall confirm a retention pond liner leak, at which time the licensee shall take the following corrective actions: (a) analyze standpipe water quality samples for leak parameters once every 7 days during the leak period, and once every 7 days for at least 14 days following repairs; and (b) locate and repair the area of liner damage. After a confirmed leak, the licensee shall also file a report pursuant to LC 12.2. At all times, sufficient reserve capacity shall be maintained in the retention pond system to enable transferring the contents of one pond to the other ponds. In the event of a leak and subsequent transfer of liquid, the freeboard requirements may be suspended during the repair period.

10.6 At the Crownpoint site, from initial lixiviant injection through the completion of groundwater restoration activities, the licensee shall at all times maintain sufficient emergency generator capacity to provide a 50 gal/min (189 L/min) bleed from the Westwater Canyon aquifer. The licensee shall document all required uses of the emergency generator, pursuant to LC 11.1.

10.7 Liquid oxygen tanks shall be located within the well fields. Other chemical storage tanks shall be located on the concrete pad near a waste retention pond. All yellowcake shall be stored inside the designated restricted area.

10.8 For all required types of surveys, the licensee shall, at a minimum, use the survey locations, frequencies, and lower limits of detection established in Table 2 of Regulatory Guide 8.30. Additionally, all radiation survey instruments shall be operationally checked in conformance with Regulatory Guide 8.30.

10.9 The licensee shall ensure that the manufacturer-recommended vacuum pressure is maintained in the drying chamber during all periods of yellowcake drying operations. This shall be accomplished by continuously monitoring differential pressure and installing instrumentation which will signal an audible alarm if the air pressure differential falls below the manufacturer's recommended levels. The alarm's operability shall be checked and documented daily. Additionally, yellowcake drying operations shall be immediately suspended if any emission control equipment for the yellowcake drying or packaging areas is not operating within specifications for design performance.

10.10 All liquid effluents from process buildings and other process waste streams, with the exception of sanitary wastes, shall be disposed of in accordance with the requirements of 10 CFR Part 20, Subpart K.

10.11 Within restricted areas, eating shall be allowed only in designated eating areas.

10.12 An excursion shall have occurred if, in any monitor well: (a) any two upper control limit parameters exceed their respective upper control limits; or (b) a single upper control limit parameter exceeds its upper control limit by 20 percent. A verification sample shall be taken within 24 hours after results of the first analyses are received. If the second sample shows that either of the excursion criteria in (a) or (b) are present, an excursion shall be confirmed. If the second sample does not show that the excursion criteria in (a) or (b) are present, a third sample shall be taken within 48 hours after the second set of sampling data was acquired. If the third sample shows that either of the excursion criteria in (a) or (b) are present, an excursion shall be confirmed. If the third sample does not show that the excursion criteria in (a) or (b) are present, the first sample shall be considered to be an error.

10.13 If an excursion is not corrected within 60 days of confirmation, the licensee shall either: (a) terminate injection of lixiviant within the well field until aquifer cleanup is complete; or (b)

increase the surety in an amount to cover the full third-party cost of correcting and cleaning up the excursion. The surety increase for horizontal and vertical excursions shall be calculated using the method described on page 4-22, Section 4.3.1 of the FEIS. The surety increase shall remain in force until the NRC has verified that the excursion has been corrected and cleaned up. The written 60-day excursion report, filed pursuant to LC 12.1, shall identify which course of action [(a) or (b) listed above] the licensee is taking.

10.14 At the Unit 1 or Crownpoint sites, if a vertical excursion is confirmed in the Dakota Sandstone aquifer, the licensee shall complete and sample monitor wells to determine if the vertical excursion has impacted any other overlying aquifers that could sustain yields greater than 150 gal/day (568 L/day). The specific aquifers to be monitored shall be identified in the licensee's 60-day excursion report, filed pursuant to LC 12.1.

10.15 At the Crownpoint site, from initial lixiviant injection through the completion of groundwater restoration activities, the licensee shall maintain a continuous bleed (pumping) until the groundwater quality in the well fields has been determined by the NRC to be fully restored to the required limits established pursuant to LC 10.21.

10.16 During groundwater restoration activities at production-scale well fields within either the Unit 1 or Crownpoint sites, the licensee shall reimburse the operators of the Crownpoint water supply wells for any increased pumping and well work-over costs associated with a drop in water levels due to groundwater restoration activities. This reimbursement requirement does not apply to restoration demonstrations of small-scale well fields.

10.17 Prior to injection of lixiviant in a well field, monitor wells shall be completed in the Westwater Canyon aquifer and shall encircle the well field at a distance of 400 ft (122 m) from the edge of the production or injection wells and 400 ft (122 m) between each monitor well. The angle formed by lines drawn from any production well to the two nearest monitor wells shall not exceed 75 degrees. At the Church Rock site, Westwater Canyon aquifer monitor wells shall be located by treating production mine workings as if they were injection or production wells. Sampling frequencies for all monitor wells completed in the Westwater Canyon aquifer shall be as stated in LC 11.3.

10.18 Prior to injection of lixiviant in a well field at the Unit 1 or Crownpoint sites, monitor wells shall be completed in the Dakota Sandstone aquifer. Such wells shall be placed at a minimum density of one well per 4 acres (1.62 ha) of well field. Sampling frequencies for these wells shall be as stated in LC 11.3.

10.19 Prior to injection of lixiviant at the Unit 1 site, the licensee shall complete a minimum of three monitor wells in the overlying Dakota Sandstone aquifer between the well fields and the town of Crownpoint water supply wells, in addition to the wells required by LC 10.18. Groundwater restoration goals and upper control limits for these wells will be established pursuant to LCs 10.21 and 10.22, except that upper control limits shall be established for these wells on a well-by-well basis. Sampling frequencies for these wells shall be as stated in LC 11.3.

10.20 Prior to injection of lixiviant in a well field at the Church Rock site, monitor wells shall be completed in: (a) the Brushy Basin "B" sand aquifer; and (b) the Dakota Sandstone aquifer. Monitor wells completed in the Brushy Basin "B" sand aquifer shall be placed at a minimum density of one well per 4 acres (1.62 ha) of well field. Monitor wells completed in the Dakota sandstone aquifer shall be placed at a minimum density of one well per 8 acres (3.24 ha) of well field. Any openings of the existing mine workings into the Brushy Basin "B" sand, or Dakota Sandstone aquifers, shall be monitored by Brushy Basin "B" sand or Dakota Sandstone monitor wells placed within 40 ft (12 m) of the openings. These wells shall be

placed down-gradient from the openings. Sampling frequencies for all monitor wells completed in the Brushy Basin and Dakota Sandstone aquifers shall be as stated in LC 11.3.

10.21 Lixiviant shall not be injected into a well field before groundwater quality data is collected and analyzed to establish groundwater restoration goals for each monitored aquifer of the well field, as follows:

A) The licensee shall establish groundwater restoration goals by analyzing three independently-collected groundwater samples of formation water from: (1) each monitor well in the well field; and (2) a minimum of one production/injection well per acre of well field. Samples shall be collected a minimum of 14 days apart from each other. Groundwater restoration goals shall be established on a parameter-by- parameter basis, with the primary restoration goal to return all parameters to average pre-lixiviant injection conditions. If groundwater quality parameters cannot be returned to average pre-lixiviant injection levels, the secondary goal shall be to return groundwater quality to the maximum concentration limits as specified in the U.S. Environmental Protection Agency (EPA) secondary and primary drinking water regulations. The secondary restoration goal for barium and fluoride shall be set to the State of New Mexico primary drinking water standard. The secondary restoration goal for uranium shall be 0.44 mg/L (300 pCi/L).

B) In establishing restoration goals, the following parameters shall be measured: alkalinity, ammonium, arsenic, barium, bicarbonate, boron, cadmium, calcium, carbonate, chloride, chromium, copper, fluoride, electrical conductivity, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, nitrate, pH, potassium, combined radium-226 and radium-228, selenium, sodium, silver, sulfate, total dissolved solids, uranium, vanadium, zinc, gross Beta, and gross Alpha (excluding radon, uranium, and radium). The restoration goal for each of these parameters shall be established by calculating the baseline mean of the data collected. Prior to calculating a groundwater restoration goal for a parameter, outliers shall be eliminated using methods consistent with those specified in EPA's 1989, "Statistical Analysis of Ground-Water Monitoring Data at RCRA [Resource Conservation and Recovery Act] Facilities, Interim Guidance." Parameter concentrations determined to be high or low outliers will not be used in establishing groundwater restoration goals.

10.22 Lixiviant shall not be injected into a well field before groundwater quality data is collected and analyzed to establish upper control limits for each monitored aquifer of the well field, as follows:

A) The licensee shall analyze three independently-collected groundwater samples of formation water from each monitor well in the well field. Samples shall be collected a minimum of 14 days apart from each other.

B) The upper control limit parameters shall be chloride, bicarbonate, and electrical conductivity [corrected to a temperature of 25°C (77°F)]. The concentrations of these upper control limit parameters shall be established for each well field by calculating the baseline mean of the upper control limit parameter concentration, and adding 5 standard deviations. Prior to calculating upper control limits, outliers shall be eliminated using methods consistent with those specified in EPA's 1989, "Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Interim Guidance". Values determined to be high and low outliers will not be used in the calculation of upper control limits.

10.23 Prior to injection of lixiviant in a well field, groundwater pump tests shall be performed to determine if overlying aquitards are adequate confining layers, and to confirm that horizontal monitor wells for that well field are completed in the Westwater Canyon aquifer.

10.24 The licensee shall perform mechanical well integrity tests on each injection and production well: (a) before the well is first used for *in situ* leach uranium extraction; (b) after each time the well has been serviced with equipment or otherwise subjected to procedures that could damage well casing; and (c) at least once every 5 years the well is in use. After a well has been completed and opened into the aquifer, a packer shall be set above the well screen and each well casing shall be filled with water. The well shall be pressurized with either air or water to 125 psi (862 kPa) at the land surface, or 25 percent above the expected operating pressure, whichever is greater. A well shall have passed the test if a pressure drop of no more than 10 percent occurred over 30 minutes.

10.25 If it is determined that a vertical connection exists in a well field between the Westwater Canyon aquifer and the Cow Springs aquifer, monitor wells will be completed in the Cow Springs aquifer within that well field at a maximum density of one well per 4 acres (1.62 ha) of well field. Groundwater restoration goals and upper control limits will be established for these wells, pursuant to LCs 10.21 and 10.22. Sampling frequencies for all monitor wells completed in the Cow Springs aquifer shall be as stated in LC 11.3.

10.26 Prior to injecting lixiviant at a site, or processing licensed material at the Crownpoint site, HRI shall provide and receive NRC acceptance - for that site - information, calculations, and analyses to document the adequacy of the design of waste retention ponds and their associated embankments (if applicable), liners, and hydrologic site characteristics. HRI shall demonstrate that the criteria described in the following documents have been met: 10 CFR Part 40, Appendix A, Criterion 5A regarding surface impoundment design; Regulatory Guide 3.11, "Design, Construction, and Inspection of Embankment Retention Systems for Uranium Mills"; WM-8201, "Hydrologic Design Criteria for Tailings Retention Systems,"; and Final Staff Technical Position, "Design of Erosion Protection Covers for Stabilization of Uranium Mill Tailings Sites." As applicable, based on the designs selected, HRI shall provide information in the following areas:

A) maps and detailed drawings outlining drainage areas of principal water courses and drainage features at the site;

B) drainage basin characteristics, including soil types and characteristics, vegetative cover, local topography, flood plains, geomorphic characteristics, and surficial and bedrock geology;

C) maps and detailed drawings showing the location of site features, particularly the location of the retention ponds and diversion channels;

D) analyses and calculations for peak flood flows, including the PMF, and documenting the methods and assumptions used to compute the floods;

E) analyses and calculations for water surface profiles and velocities associated with the ability of the retention ponds or diversion channels to resist or limit erosion and flooding;

F) analyses and computations of riprap or erosion protection needed to protect the retention ponds;

G) specific details on the design, construction, maintenance, and operation of the waste retention ponds and embankments (where applicable);

H) specific details on the design, construction, maintenance, and operation of the liners and leak detection system.

I) any other analyses and computations which demonstrate that applicable design criteria have been met.

10.27 Prior to the injection of lixiviant at the Crownpoint site, the licensee shall:

A) Replace the town of Crownpoint's water supply wells NTUA-1, NTUA-2, BIA-3, BIA-5, and BIA-6, construct the necessary water pipeline, and provide funds so the existing water supply systems of the Navajo Tribal Utility Authority (NTUA) and the Bureau of Indian Affairs (BIA) can be connected to the new wells. Any new wells, pumps, pipelines, and other changes to the existing water supply systems, made necessary by the replacement of the wells specified above, shall be made such that the systems can continue to provide at least the same quantity of water as the existing systems. The new wells shall be located so that the water quality at each individual well head does not exceed the EPA's primary and secondary drinking water standards, and does not exceed a concentration of 0.44 mg/L (300 pCi/L) uranium, as a result of *in situ* leach uranium extraction activities at the Unit 1 and Crownpoint sites. To determine the appropriate placement of the new wells, the licensee shall coordinate with the appropriate agencies and regulatory authorities, including BIA, NTUA, the Navajo Nation Department of Water Development and Water Resources, and the Navajo Nation EPA.

B) Abandon and seal wells NTUA-1, NTUA-2, BIA-3, BIA-5, and BIA-6 in accordance with applicable requirements so these wells cannot become future pathways for the vertical movement of contaminants.

10.28 Prior to the injection of lixiviant at either the Unit 1 or Crownpoint site, the licensee shall submit NRC-approved results of a groundwater restoration demonstration conducted at the Church Rock site. The demonstration shall be conducted on a large enough scale, acceptable to the NRC, to determine the number of pore volumes that shall be required to restore a production-scale well field.

10.29 Before starting uranium extraction operations beyond the first well field at the Church Rock site, the licensee shall submit an NRC-approved groundwater restoration plan for the entire project. At a minimum, this plan shall include: (a) a proposed restoration schedule; (b) a general description of the restoration methodology; and (c) a description of post-restoration groundwater monitoring.

10.30 Prior to injecting lixiviant at any of the sites, the licensee shall submit an NRC-approved procedure-level, detailed effluent and environmental monitoring program. In addition, the licensee shall develop and administer its radiological effluent and environmental monitoring program consistent with Regulatory Guide 4.14. The licensee shall maintain, at a minimum, three airborne effluent monitoring stations at each site, at the locations described in COP (Rev.2.0) Table 9.5-1.

10.31 Prior to the injection of lixiviant at the Church Rock site, the licensee shall conduct a Westwater Canyon aquifer step-rate injection (fracture) test within the Church Rock site boundaries, but outside future well field areas. One such test at the Unit 1 or Crownpoint site shall also be performed before lixiviant injection begins at either of these sites.

10.32 Prior to the injection of lixiviant at any of the sites, the licensee shall: (a) collect sufficient water quality data to generally characterize the water quality of the Cow Springs aquifer beneath each of the project sites, by completing and sampling wells for the following water quality parameters: alkalinity, ammonium, arsenic, barium, bicarbonate, boron, cadmium, calcium, carbonate, chloride, chromium, copper, fluoride, electrical conductivity, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, nitrate, pH, potassium, combined radium-226 and radium-228, selenium, sodium, silver, sulfate, total dissolved solids, uranium, vanadium, zinc, gross Beta and gross Alpha (excluding radon, uranium, and radium); and (b) conduct sufficient pumping tests to determine if the Cow Springs aquifer beneath each of the sites is hydraulically confined from the Westwater Canyon aquifer.

SECTION 11: MONITORING, RECORDING AND BOOKING REQUIREMENTS

11.1 The results of the following activities, operations, or actions shall be documented: sampling; analyses; surveys or monitoring; survey/ monitoring equipment calibrations; reports on audits and inspections; emergency generator use and maintenance records; all meetings and training courses required by this license; and any subsequent reviews, investigations, or corrective actions. Unless otherwise specified in a license condition or applicable NRC regulation, all documentation required by this license shall be maintained for a period of at least five (5) years by the licensee at its facility, and is subject to NRC review and inspection.

11.2 Flow rates on each injection and production well, and injection manifold pressures on the entire system, shall be measured and recorded daily.

11.3 Formation water, from monitoring wells at well fields undergoing uranium extraction or groundwater restoration activities, shall be sampled for upper control limit parameters at least once every 14 days, and the results documented pursuant to LC 11.1. During corrective action for a confirmed excursion, sample frequency shall be increased to once every seven days for the upper control limit parameters until the excursion is concluded. An excursion shall be considered corrected when all upper control limit parameters are reduced to their upper control limits.

11.4 Radiation Work Permits shall include, at a minimum, the information described in Section 2.2 of Regulatory Guide 8.31.

11.5 Site inspections and reviews shall be completed and documented by the licensee as described in Section 2.3.1 and 2.3.2 of Regulatory Guide 8.31.

11.6 The licensee shall implement a comprehensive bioassay sampling program that conforms to Regulatory Guide 8.22.

11.7 Until license termination, the licensee shall maintain documentation on all spills of source or 11e.(2) byproduct materials, and all spills of process chemicals. Documented information shall include date, volume of spill, total activity, survey results, corrective actions, results of remediation surveys, and a map showing spill location and impacted area. After any spill the licensee shall also determine whether the NRC must be notified, pursuant to LC 12.4.

11.8 Prior to land application of waste water, the licensee shall submit and receive NRC acceptance of a plan outlining how the licensee will monitor constituent buildup in soils resulting from the land application. The plan should identify the constituents resulting from land application that will be monitored, constituent threshold values for discontinuing land application and justification for the values selected.

License Number
SUA-1508

Docket or Reference Number
40-8968

MATERIALS LICENSE
SUPPLEMENTARY SHEET

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SECTION 12: REPORTING REQUIREMENTS

12.1 The licensee shall notify the NRC by telephone within 24 hrs of confirming a lixiviant excursion, and by letter within 7 days from the time the excursion is confirmed, pursuant to LC 10.12. A written report describing the excursion event, corrective actions taken, and the corrective action results shall be submitted to NRC within 60 days of the excursion confirmation. If wells are still on excursion when the report is submitted, the report shall also contain a schedule for submitting additional reports to the NRC describing the excursion event, corrective actions taken, and results obtained. In the case of a confirmed vertical excursion, the report shall also contain a projected completion date for characterization of the extent of the vertical excursion.

12.2 The licensee shall notify the NRC by telephone within 48 hours of confirming a retention pond liner leak, pursuant to LC 10.5. A written report shall be submitted to the NRC within 30 days of the leak confirmation. This report shall include analytical data, describe the corrective action taken, and discuss the results of that action.

12.3 The licensee shall submit the required effluent reports in accordance with 10 CFR Part 40.65. The licensee shall submit the information specified in Section 7 of Regulatory Guide 4.14, in addition to the reports required by 10 CFR Part 40.65.

12.4 The licensee shall notify the NRC by telephone within 48 hours of any spill of source or 11e.(2) byproduct materials, and all spills of process chemicals, that might have a radiological impact on the environment. The notification shall be followed, within 7 days, by submittal of a written report detailing the conditions leading to the spill, corrective actions taken, and results achieved. This shall be done in addition to meeting the requirements of 10 CFR Part 20 and 40.

12.5 In addition to reporting exposures of individuals to radioactive material in accordance with 10 CFR Part 20.2202, the licensee shall submit to the NRC a written report within 30 days of such reportable incidents, detailing the conditions leading to the incident, corrective actions taken, and results achieved.

12.6 In the event the licensee's approved waste disposal agreement expires or is terminated, the licensee shall notify the NRC in writing within 7 working days after the expiration date.

12.7 As part of the licensee's decommissioning activities for a site, the licensee shall submit to the NRC for review and approval a detailed site reclamation plan. The plan shall be submitted at least 12 months prior to the planned final shutdown of uranium extraction operations at the site. If depressions appear at the land surface due to subsurface collapse from *in situ* leach uranium extraction activities, the licensee shall return the land surface to its general contour as part of the surface reclamation activities. Before release of any site to unrestricted use, the licensee shall provide information to the NRC verifying that radionuclide concentrations, due to licensed materials, meet radiation standards for unrestricted release.

12.8 The licensee shall provide in an annual report to NRC, a description of all changes, tests, and experiments made or conducted pursuant to LC 9.4, including a summary of the safety and environmental evaluation of each such action. As part of this annual report, the licensee shall include any COP pages revised pursuant to LC 9.4.

License Number

SUA-1508

Docket or Reference Number

40-8968

MATERIALS LICENSE
SUPPLEMENTARY SHEET

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FOR THE NUCLEAR REGULATORY COMMISSION

Date: Dec. 5, 1995

Joseph J. Holonich, Chief
Uranium Recovery Branch
Division of Waste Management
Office of Nuclear Material Safety
and Safeguards

ATTACHMENT A

The licensee shall conduct its operations in accordance with all commitments, representations, and statements made in the following submittals, which are hereby incorporated by reference, except where superseded by license conditions in this license:

- May 8, 1989 (Crownpoint Facility Supplemental Environmental Report)
- July 13, 1989 (Crownpoint Cultural Resources Survey)
- January 6, 1992 (Unit 1 Allotted Lease Program Environmental Assessment (EA))
- July 31, 1992 (Unit 1 and Crownpoint Project Environmental Reports)
- October 9, 1992 (Unit 1 Underground Injection Control (UIC) Application)
- October 30, 1992 (Cultural Resources-Environmental Assessment and Management Plan for Crownpoint, NM)
- March 16, 1993 (Churchrock Project Revised Environmental Report)
- March 16, 1993 (Section 9 Pilot Summary Report)
- April 5, 1993 (page changes)
- April 6, 1993 (page changes)
- July 26, 1993 (page changes)
- October 11, 1993 (page changes)
- October 18, 1993 (Analysis of Hydrodynamic Control at Crownpoint and Churchrock)
- October 19, 1993 (Churchrock Surface Hydrology Analysis)
- October 19, 1993 (Churchrock and Crownpoint Aquifer Modeling Supplement)
- November 11, 1993 (page changes)
- January 24, 1994 (page changes)
- November 20, 1993 (Response to NRC Request for Additional Information)
- February 23, 1994 (Description of Radon Emission Controls)
- January 6, 1995 (EA Allotted Lease Program Unit 1)
- October 9, 1995 (Unit 1 UIC Application)
- February 20, 1996 (Response to NRC Comments)
- April 10, 1996 (Response to NRC Comments)
- May 3, 1996 (Response to NRC Comments)
- June 18, 1996 (Unit 1 Water Quality Information)
- August 15, 1996 (Response to NRC Comments)
- August 16, 1996 (Response to NRC Comments)
- August 21, 1996 (page changes)
- August 30, 1996 (Response to NRC Comments)
- September 5, 1996 (Surface Water Drainage Analysis at Churchrock)
- September 6, 1996 (page changes)
- September 13, 1996 (Response to NRC Comments)
- September 27, 1996 (Response to NRC Comments)
- September 30, 1996 (Crownpoint Uranium Project COP, Rev. 0.0)
- October 15, 1996 (Response to NRC Comments)
- October 18, 1996 (Restoration Standards Commitment)
- October 20, 1996 (Response to NRC Comments)
- October 29, 1996 (Response to NRC Comments)
- November 18, 1996 (Response to NRC Comments)
- November 26, 1996 (Response to NRC Comments)
- December 20, 1996 (NRC Proposed Requirements and Recommendations)
- December 26, 1996 (HRI Acceptance Letter to NRC Proposed Requirements and Recommendations)
- April 1, 1997 (NRC Proposed Requirements)
- April 25, 1997 (HRI Acceptance Letter to NRC Proposed Requirements)
- May 15, 1997 (Crownpoint Uranium Project COP, Rev 1.0)
- June 16, 1997 (Churchrock Design Specifications for Surface Water Diversion Channel)
- July 9, 1997 (HRI Electric Power Supply Commitment)
- August 18, 1997 (Response to NRC Comments)
- October 24, 1997 (HRI Commitment on Groundwater Baseline Sampling)

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE COMMISSION

In the matter of	)	
HYDRO RESOURCES, INC.	)	Docket No. 40-8968-ML
2929 Coors Road, Suite 101	)	ASLBP No. 95-706-01-ML
Albuquerque, NM 87120	)	
	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing documents in the above-captioned proceeding have been served on the following by First-Class Mail, Return Receipt Requested, on this 23rd day of April, 1998:

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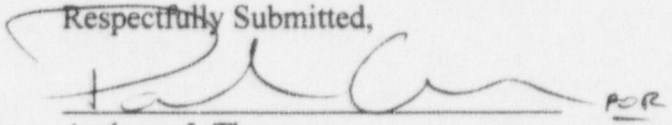
Respectfully Submitted,



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APRIL 23, 1998

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